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ATSSA/FHWA
Work Zone Safety Grant
focus
Fall 2008

ATSSA's Work Zone Safety Grant Newsletter

ATSSA's "Roadway Safety Training Institute" to Receive Prestigious ARTBA Award

ATSSA representatives will be presented an American Road and Transportation Builders Association (ARTBA) 2008 Work Zone Safety Awareness Award at an awards luncheon in Chicago, Ill. on Oct. 22. The nomination for the award was submitted under the category "National Training" and read, in part, "ATSSA's roadway safety training efforts are indeed delivered on a national scope, each course deeply rooted primarily in safety for our nation's roadway workers. ATSSA's core purpose - "To Advance Roadway Safety" - is the underlying theme of ATSSA training courses that are delivered coast-to-coast by highly qualified, experienced and dedicated instructors. Countless lives are saved through ATSSA's effective, challenging training. Likewise, roadway work zones, designed in accordance with approved guidelines, add to mobility and convenience for all road users. ATSSA trained workers are recognized in the roadway safety industry as the 'best of the best.'" The recommendation package included the wide-scope of training ATSSA delivered as one of the four grantees under the FHWA training grant. ATSSA was awarded this four-year, $11.9 million grant from the FHWA two years ago to provide roadway safety training nationwide for workers and others who make their livelihood on America's roadways.

My name is Angela Roper, I am CoOwner of Team Towing in Chicago, IL. I have one daughter, Lisa and two grandchildren, Dalton and Dylan. They live in Oklahoma. I have been active in the towing industry for eleven years.

I am a TRAA Nationally Certified Level 1 Towing and Recovery Operator and I have attended many training seminars around the country given by the industry's top instructors.

I currently serve as Secretary for the Women of the Towing and Recovery Association of America (WTRAA). I was elected Third Vice President of the Towing & Recovery Association of America n 2007. I also serve on the Education Foundation Board for the TRAA, Chair person for the new TRAA Safety video committee and a member of the ITRHFM Survivor fund committee. I am proud to be a member of the WTRAA Scholarship committee as well. I, along with several others formed the Towing Education Council (TEC) this year to educate towers all over. In the past, I served as Treasurer of the Texas Towing and Storage Association, and was later employed by them as the Executive Director for three years.

I am a Certified American Traffic Safety Services Association (ATSSA) instructor for ITC and LEC courses.

VIDEO TELECONFERENCE!

Under the grant, ATSSA will present the following video teleconferences in partnership with the NDLTAP.

October 16, 2008: Incident Traffic Control for Responders Course-Grant

(See website for details) www.atssa.com

Work Zone Safety Grant Information

OBJECTIVES

The objective of the Work Zone Safety Grant Program is to develop guidelines and provide training to improve highway work zone safety.

STATEMENT OF WORK

ATSSA shall perform tasks within the following work areas: Highway Work Zone Worker Safety Training; Highway Work Zone Safety Guidelines Development; and Highway Work Zone Safety Guidelines Training.

AREA 1: **Highway Work Zone Worker Safety Training**

Course Schedule

Course #	State	City	Course	Course Start Date	Course End Date	Register By:
14479	**AK**	Fairbanks	Traffic Control Technician-Grant	2/9/09	2/9/09	1/8/09
14480		Fairbanks	Traffic Control Supervisor-Grant	2/10/09	2/11/09	1/8/09
14481		Fairbanks	Flagger Instructor Training-Grant	2/12/09	2/13/09	1/8/09
14482		Fairbanks	Nighttime Traffic Control for Work Zones-Grant	2/16/09	2/16/09	1/8/09
14469	**AL**	Birmingham	Traffic Control Technician-Grant	11/3/08	11/3/08	10/20/08
14470		Birmingham	Traffic Control Supervisor-Grant	11/4/08	11/5/08	10/20/08
14471		Birmingham	Flagger Instructor Training-Grant	11/6/08	11/7/08	10/20/08
14472		Birmingham	Traffic Control Technician-Grant	2/2/09	2/2/09	1/19/09
14473		Birmingham	Traffic Control Supervisor-Grant	2/3/09	2/4/09	1/19/09
14477		Mobile	Traffic Control Technician-Grant	2/9/09	2/9/09	1/26/09
14478		Mobile	Traffic Control Supervisor-Grant	2/10/09	2/11/09	1/26/09
14722	**AR**	Little Rock	Incident Traffic Control for Responders-Grant	2/3/09	2/3/09	1/16/09
14723		Little Rock	Law Enforcement Train-the-Trainer Course-Grant	2/3/09	2/3/09	1/16/09
14344		Springdale	Traffic Control Technician-Grant	1/5/09	1/5/09	12/5/08
14345		Springdale	Traffic Control Supervisor-Grant	1/6/09	1/7/09	12/5/08
14346		Springdale	Flagger Instructor Training-Grant	1/8/09	1/9/09	12/5/08
14393	**AZ**	Flagstaff	Traffic Control Technician-Grant	2/24/09	2/24/09	1/23/09
14394		Flagstaff	Traffic Control Supervisor-Grant	2/25/09	2/26/09	1/23/09
14453		Phoenix	Traffic Control Technician-Grant	11/17/08	11/17/08	10/17/08
14454		Phoenix	Traffic Control Supervisor-Grant	11/18/08	11/19/08	10/17/08
14455		Phoenix	Flagger Instructor Training-Grant	11/20/08	11/21/08	10/17/08
14456		Phoenix	Traffic Control Technician-Grant	1/26/09	1/26/09	12/26/08
14457		Phoenix	Traffic Control Supervisor-Grant	1/27/09	1/28/09	12/26/08
14458		Phoenix	Nighttime Traffic Control for Work Zones-Grant	1/29/09	1/29/09	12/26/08
14391		Tucson	Traffic Control Technician-Grant	12/16/08	12/16/08	11/14/08
14392		Tucson	Traffic Control Supervisor-Grant	12/17/08	12/18/08	11/14/08
14495	**CA**	Bakersfield	Traffic Control Technician-Grant	1/12/09	1/12/09	12/29/08
14496		Bakersfield	Traffic Control Supervisor-Grant	1/13/09	1/14/09	12/28/08

Course Schedule

14497		Bakersfield	Flagger Instructor Training-Grant	1/15/09	1/16/09	12/28/08
14509		Fresno	Traffic Control Technician-Grant	12/9/08	12/9/08	11/9/08
14510		Fresno	Traffic Control Supervisor-Grant	12/10/08	12/11/08	11/9/08
14511		Fresno	Traffic Control Technician-Grant	2/10/09	2/10/09	1/10/09
14512		Fresno	Traffic Control Supervisor-Grant	2/11/09	2/12/09	1/10/09
14465		Sacramento	Traffic Control Technician-Grant	12/16/08	12/16/08	11/16/08
14466		Sacramento	Traffic Control Supervisor-Grant	12/17/08	12/18/08	11/16/08
14789		Sacramento	Incident Traffic Control for Responders-Grant	1/13/09	1/13/09	12/13/08
14790		Sacramento	Law Enforcement Train-the-Trainer Course-Grant	1/13/09	1/13/09	12/13/08
14467		Sacramento	Traffic Control Technician-Grant	2/24/09	2/24/09	1/24/09
14468		Sacramento	Traffic Control Supervisor-Grant	2/25/09	2/26/09	1/24/09
14651		San Diego	Nighttime Traffic Control for Work Zones-Grant	11/24/08	11/24/08	11/3/08
14608		San Diego	Traffic Control Technician-Grant	12/1/08	12/1/08	11/14/08
14609		San Diego	Traffic Control Supervisor-Grant	12/2/08	12/3/08	11/14/08
14931		San Jose	Traffic Control Technician-Grant	1/26/09	1/26/09	12/26/08
14932		San Jose	Traffic Control Supervisor-Grant	1/27/09	1/28/09	12/26/08
14933		San Jose	Flagger Instructor Training-Grant	1/29/09	1/30/09	12/26/08
14935		San Jose	Incident Traffic Control for Responders-Grant	2/6/09	2/6/09	1/6/09
14936		San Jose	Law Enforcement Train-the-Trainer Course-Grant	2/6/09	2/6/09	1/6/09
14934		San Jose	Nighttime Traffic Control for Work Zones-Grant	2/6/09	2/6/09	1/6/09
14613		Santa Ana	Traffic Control Technician-Grant	1/20/09	1/20/09	12/22/08
14614		Santa Ana	Traffic Control Supervisor-Grant	1/21/09	1/22/09	12/22/08
14642	**CO**	Colorado Spri	Incident Traffic Control for Responders-Grant	2/17/09	2/17/09	12/17/08
14643		Colorado Spri	Law Enforcement Train-the-Trainer Course-Grant	2/17/09	2/17/09	12/17/08
15009		Glendale	Traffic Control Technician-Grant	12/8/08	12/8/08	11/8/08
15010		Glendale	Traffic Control Supervisor-Grant	12/9/08	12/10/08	11/8/08
15011		Glendale	Nighttime Traffic Control for Work Zones-Grant	12/11/08	12/11/08	11/8/08
15012		Glendale	Incident Traffic Control for Responders-Grant	2/24/09	2/24/09	1/24/09
15013		Glendale	Law Enforcement Train-the-Trainer Course-Grant	2/24/09	2/24/09	1/24/09
14545	**FL**	Brandon	Florida Intermediate Training-Grant	2/2/09	2/3/09	1/19/09
14546		Brandon	Florida Advanced Training-Grant	2/4/09	2/6/09	1/19/09
14560		Fort Lauderda	Florida Intermediate Training-Grant	2/9/09	2/10/09	1/26/09
14561		Fort Lauderda	Florida Advanced Training-Grant	2/11/09	2/13/09	1/26/09
14534		Kissimmee	Florida Intermediate Training-Grant	1/26/09	1/27/09	12/26/08
14535		Kissimmee	Florida Advanced Training-Grant	1/28/09	1/30/09	12/26/08
14537		Kissimmee	Nighttime Traffic Control for Work Zones-Grant	2/3/09	2/3/09	1/3/09
14816		Kissimmee	Incident Traffic Control for Responders-Grant	2/5/09	2/5/09	1/5/09
14817		Kissimmee	Law Enforcement Train-the-Trainer Course-Grant	2/5/09	2/5/09	1/5/09
14989		Tallahassee	Incident Traffic Control for Responders-Grant	1/27/09	1/27/09	1/5/09
14991		Tallahassee	Law Enforcement Train-the-Trainer Course-Grant	1/27/09	1/27/09	1/5/09
14522		West Palm Be	Florida Intermediate Training-Grant	2/23/09	2/24/09	1/23/09
14523		West Palm Be	Florida Advanced Training-Grant	2/25/09	2/27/09	1/23/09
14556	**GA**	Atlanta	Traffic Control Technician-Grant	12/8/08	12/8/08	11/7/08
14557		Atlanta	Traffic Control Supervisor-Grant	12/9/08	12/10/08	11/7/08
14558		Atlanta	Flagger Instructor Training-Grant	12/11/08	12/12/08	11/7/08
15387	**IA**	Des Moines	Traffic Control Technician-Grant	2/23/09	2/23/09	1/23/09
15388		Des Moines	Traffic Control Supervisor-Grant	2/24/09	2/25/09	1/23/09
15389		Des Moines	Flagger Instructor Training-Grant	2/26/09	2/27/09	1/23/09
14923	**IL**	Springfield	Traffic Control Technician-Grant	1/5/09	1/5/09	12/5/08
14924		Springfield	Traffic Control Supervisor-Grant	1/6/09	1/7/09	12/5/08

Course Schedule

14925		Springfield	Flagger Instructor Training-Grant	1/8/09	1/9/09	12/5/08
14618	**IN**	Evansville	Traffic Control Technician-Grant	2/3/09	2/3/09	1/2/09
14619		Evansville	Traffic Control Supervisor-Grant	2/4/09	2/5/09	1/2/09
14426		Indianapolis	Traffic Control Technician-Grant	1/26/09	1/26/09	12/24/08
14427		Indianapolis	Traffic Control Supervisor-Grant	1/27/09	1/28/09	12/24/08
14428		Indianapolis	Flagger Instructor Training-Grant	1/29/09	1/30/09	12/24/08
14450		Richmond	Traffic Control Technician-Grant	2/23/09	2/23/09	12/18/08
14451		Richmond	Traffic Control Supervisor-Grant	2/24/09	2/25/09	12/18/08
14452		Richmond	Flagger Instructor Training-Grant	2/26/09	2/27/09	12/18/08
14493		South Bend	Traffic Control Technician-Grant	2/10/09	2/10/09	1/10/09
14494		South Bend	Traffic Control Supervisor-Grant	2/11/09	2/12/09	1/10/09
14459	**KY**	Bowling Greer	Traffic Control Technician-Grant	12/16/08	12/16/08	11/16/08
14460		Bowling Greer	Traffic Control Supervisor-Grant	12/17/08	12/18/08	11/16/08
15201		Covington	Traffic Control Technician-Grant	2/17/09	2/17/09	1/17/09
15202		Covington	Traffic Control Supervisor-Grant	2/18/09	2/19/09	1/17/09
15203		Covington	Nighttime Traffic Control for Work Zones-Grant	2/20/09	2/20/09	1/17/09
15131		Owensboro	Traffic Control Technician-Grant	1/12/09	1/12/09	12/29/08
15132		Owensboro	Traffic Control Supervisor-Grant	1/13/09	1/14/09	12/29/08
15133		Owensboro	Nighttime Traffic Control for Work Zones-Grant	1/15/09	1/15/09	12/29/08
14821	**LA**	Baton Rouge	Traffic Control Technician-Grant	1/12/09	1/12/09	12/12/08
14822		Baton Rouge	Traffic Control Supervisor-Grant	1/13/09	1/14/09	12/12/08
14823		Baton Rouge	Flagger Instructor Training-Grant	1/15/09	1/16/09	12/12/08
14824		Baton Rouge	Incident Traffic Control for Responders-Grant	2/2/09	2/2/09	1/2/09
14825		Baton Rouge	Law Enforcement Train-the-Trainer Course-Grant	2/2/09	2/2/09	1/2/09
14890		Lafayette	Traffic Control Technician-Grant	12/1/08	12/1/08	11/3/08
14891		Lafayette	Traffic Control Supervisor-Grant	12/2/08	12/3/08	11/3/08
14892		Lafayette	Nighttime Traffic Control for Work Zones-Grant	12/4/08	12/4/08	11/3/08
14893		Monroe	Traffic Control Technician-Grant	2/23/09	2/23/09	1/23/09
14894		Monroe	Traffic Control Supervisor-Grant	2/24/09	2/25/09	1/23/09
14895		Monroe	Nighttime Traffic Control for Work Zones-Grant	2/26/09	2/26/09	1/23/09
15127	**ME**	Augusta	Traffic Control Technician-Grant	12/8/08	12/8/08	11/7/08
15128		Augusta	Traffic Control Supervisor-Grant	12/9/08	12/10/08	11/7/08
15129		Augusta	Flagger Instructor Training-Grant	12/11/08	12/12/08	11/7/08
15130		Augusta	Nighttime Traffic Control for Work Zones-Grant	1/26/09	1/26/09	12/26/08
14807	**MO**	Jefferson City	Traffic Control Technician-Grant	2/17/09	2/17/09	1/17/09
14808		Jefferson City	Traffic Control Supervisor-Grant	2/18/09	2/19/09	1/17/09
14809		Jefferson City	Nighttime Traffic Control for Work Zones-Grant	2/20/09	2/20/09	1/17/09
14882		Kansas City	Traffic Control Technician-Grant	1/5/09	1/5/09	12/22/08
14883		Kansas City	Traffic Control Supervisor-Grant	1/6/09	1/7/09	12/22/08
14884		Kansas City	Flagger Instructor Training-Grant	1/8/09	1/9/09	12/22/08
14904	**MS**	Hattiesburg	Traffic Control Technician-Grant	1/5/09	1/5/09	12/22/08
14905		Hattiesburg	Traffic Control Supervisor-Grant	1/6/09	1/7/09	12/22/08
14906		Hattiesburg	Flagger Instructor Training-Grant	1/8/09	1/9/09	12/22/08
14907		Jackson	Traffic Control Technician-Grant	1/20/09	1/20/09	12/20/08
14908		Jackson	Traffic Control Supervisor-Grant	1/21/09	1/22/09	12/20/08
14909		Jackson	Nighttime Traffic Control for Work Zones-Grant	1/23/09	1/23/09	12/20/08
14974	**NC**	Raleigh	Traffic Control Technician-Grant	2/2/09	2/2/09	1/19/09
14975		Raleigh	Traffic Control Supervisor-Grant	2/3/09	2/4/09	1/19/09
14976		Raleigh	Flagger Instructor Training-Grant	2/5/09	2/6/09	1/19/09

Course Schedule

14803	**NM**	Albuquerque	Traffic Control Technician-Grant	12/8/08	12/8/08	11/24/08
14804		Albuquerque	Traffic Control Supervisor-Grant	12/9/08	12/10/08	11/24/08
14805		Albuquerque	Nighttime Traffic Control for Work Zones-Grant	12/11/08	12/11/08	11/24/08
14806		Albuquerque	Flagger Instructor Training-Grant	1/12/09	1/13/09	12/29/08
14646		Albuquerque	Traffic Control Technician-Grant	2/9/09	2/9/09	1/9/09
14647		Albuquerque	Traffic Control Supervisor-Grant	2/10/09	2/11/09	1/9/09
14648		Albuquerque	Nighttime Traffic Control for Work Zones-Grant	2/12/09	2/12/09	1/9/09
14513	**OH**	Cincinnati	Traffic Control Technician-Grant	12/16/08	12/16/08	11/14/08
14514		Cincinnati	Traffic Control Supervisor-Grant	12/17/08	12/18/08	11/14/08
14636		Columbus	Traffic Control Technician-Grant	2/23/09	2/23/09	1/23/09
14637		Columbus	Traffic Control Supervisor-Grant	2/24/09	2/25/09	1/23/09
14639		Columbus	Flagger Instructor Training-Grant	2/26/09	2/27/09	1/23/09
15058	**OK**	Oklahoma City	Nighttime Traffic Control for Work Zones-Grant	11/12/08	11/12/08	10/29/08
14818	**OR**	Salem	Incident Traffic Control for Responders-Grant	1/29/09	1/29/09	12/29/08
14819		Salem	Law Enforcement Train-the-Trainer Course-Grant	1/29/09	1/29/09	12/29/08
14793	**PA**	Harrisburg	Traffic Control Technician-Grant	1/26/09	1/26/09	12/26/08
14794		Harrisburg	Traffic Control Supervisor-Grant	1/27/09	1/28/09	12/26/08
14795		Harrisburg	Nighttime Traffic Control for Work Zones-Grant	1/29/09	1/29/09	12/26/08
14796		Harrisburg	Incident Traffic Control for Responders-Grant	2/17/09	2/17/09	1/17/09
14797		Harrisburg	Law Enforcement Train-the-Trainer Course-Grant	2/17/09	2/17/09	1/17/09
15195		Moon Townsh	Traffic Control Technician-Grant	2/23/09	2/23/09	1/23/09
15196		Moon Townsh	Traffic Control Supervisor-Grant	2/24/09	2/25/09	1/23/09
15197		Moon Townsh	Flagger Instructor Training-Grant	2/26/09	2/27/09	1/23/09
15191		State College	Traffic Control Supervisor-Grant	1/21/09	1/22/09	12/20/08
15192		State College	Nighttime Traffic Control for Work Zones-Grant	1/23/09	1/23/09	12/20/08
15193		State College	Traffic Control Technician-Grant	2/17/09	2/17/09	1/17/09
15194		State College	Traffic Control Supervisor-Grant	2/18/09	2/19/09	1/17/09
14718	**RI**	Providence	Incident Traffic Control for Responders-Grant	2/3/09	2/3/09	12/31/08
14719		Providence	Law Enforcement Train-the-Trainer Course-Grant	2/3/09	2/3/09	12/31/08
14830	**TN**	Lebanon	Incident Traffic Control for Responders-Grant	12/16/08	12/16/08	11/26/08
14831		Lebanon	Law Enforcement Train-the-Trainer Course-Grant	12/16/08	12/16/08	11/26/08
14998	**TX**	Houston	Traffic Control Technician-Grant	1/20/09	1/20/09	12/12/08
15000		Houston	Nighttime Traffic Control for Work Zones-Grant	1/23/09	1/23/09	12/20/08
15001		San Antonio	Incident Traffic Control for Responders-Grant	2/10/09	2/10/09	1/21/09
15002		San Antonio	Law Enforcement Train-the-Trainer Course-Grant	2/10/09	2/10/09	1/21/09
14939	**VA**	Richmond	Incident Traffic Control for Responders-Grant	1/30/09	1/30/09	12/30/08
14940		Richmond	Law Enforcement Train-the-Trainer Course-Grant	1/30/09	1/30/09	12/30/08
14899	**WI**	Milwaukee	Traffic Control Technician-Grant	1/12/09	1/12/09	12/12/08
14900		Milwaukee	Traffic Control Supervisor-Grant	1/13/09	1/14/09	12/12/08
14901		Milwaukee	Nighttime Traffic Control for Work Zones-Grant	1/15/09	1/15/09	12/12/08
14902		Milwaukee	Incident Traffic Control for Responders-Grant	1/27/09	1/27/09	12/27/08
14903		Milwaukee	Law Enforcement Train-the-Trainer Course-Grant	1/27/09	1/27/09	12/27/08
14835	**WV**	Charleston	Law Enforcement Train-the-Trainer Course-Grant	1/27/09	1/27/09	12/27/08
14623	**WY**	Cheyenne	Traffic Control Technician-Grant	12/8/08	12/8/08	11/8/08
14624		Cheyenne	Traffic Control Supervisor-Grant	12/9/08	12/10/08	11/8/08
14625		Cheyenne	Flagger Instructor Training-Grant	12/11/08	12/12/08	11/8/08
14626		Cheyenne	Nighttime Traffic Control for Work Zones-Grant	12/15/08	12/15/08	11/8/08

AREA 2: **The Highway Work Zone Safety Guidelines Development**

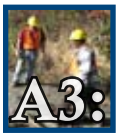
Area 2 Products Now Available

The ATSSA Area 2 Team and the product reviewers from the Practitioner Working Group and FHWA have been busy developing, reviewing, and revising Highway Work Zone Safety Guideline Products. Four of these products are now available on ATSSA's website at http://www.atssa.com/cs/Federal-Highway-Administration-work-zone-safety under Area 2 Products. The remaining nine products will be placed on the site over the next two or three months.

The Products that are currently available online include:

- High Visibility Safety Apparel in Highway Work Zones (Brochure)
- Work Zone Positive Protection Toolbox (Booklet)
- Temporary Traffic Control Zone Pedestrian Access Considerations (Guidance Sheet)
- Considering Work Zone Impacts (Brochure)

Hard copies of these four products are currently available through ATSSA's website. When all 13 products are available, ATSSA will be making an order form available online.



AREA 3: **Highway Work Zone Safety Guidelines Training**

Grant Courses

Traffic Control Design Specialist-Grant Course – 2 day course *

This course is for individuals charged with the evaluation, development and implementation of a traffic control plan (TCP). The intended audiences are engineers and/or anyone responsible for designing a TCP. Previous work zone experience is not required. Topics include introduction to work zone safety, applicable standards and guidelines, fundamental principles of temporary traffic control, human factors, the component parts of a traffic control zone, traffic control devices, constructability, and development of a transportation management plan (TMP). Students will breakout into small groups for hands-on exercises. A certification program is available for this course.

For those individuals, who are already TCS certified, a one-day TCDS course is available.*

Work Zone Strategies-Grant Course – 2 day course

This course will discuss non-typical strategies available to work zone designers. It will focus on strategies specifically designed to improve work zone safety and mobility, such as work zone full closures, variable speed limits, impact analysis, and enforcement. The FHWA Work Zone Safety and Mobility Final Rule will be discussed. The intended audiences are engineers and/or anyone responsible for planning and designing a traffic control plan (TCP).

Maintenance and Short Duration Activities-Grant Course – 1 day course

This course covers typical applications that apply to short duration activities including utility operations, moving operations, and other short duration maintenance operations. Emphasis will be placed on the use of simplified procedures and worker protection. The intended audience for this course is anyone involved in short duration activities within the roadway's right-of-way.

Urban Work Zone Design-Grant Course – 2 day course*

This course addresses "urban" work zones, particularly the enhancements and considerations ("substantive safety") necessary to address work zones in urban environments. These environments may involve restricted spaces, lack of space for buffer spaces, parking issues, limited sight distance, business access and pedestrians and bicyclist considerations, etc. The course will address instances when standards cannot be met and how to address these situations. Freeways will not be covered in this course. This course is intended for work zone designers and traffic control supervisors who may work in urban environments.

Tools for Work Zone Traffic Impact Analysis-Grant Course – 2 day course

This course provides guidance to agencies and/or individuals considering modeling and simulation tools for traffic impact analysis.
It also provides a broad, fundamental understanding of how these analytical tools can be used to support work zone design. The course discusses the classes of analytical tools available to support work zone analysis: the strengths, weaknesses, data requirements and level of detail. The course describes how these analytical tools can be used to support work zone design by exploring the factors to consider when selecting a model, including data availability and quality, work zone characteristics, measures of effectiveness and available resources.
The course is intended for engineers and others responsible deciding upon work zone strategies to implement, including decision-makers considering work zone analytical tools. Previous knowledge of work zone concepts is encouraged but not required.
The following modules will be covered:
-Overview of Work Zone Analysis
-Work Zone Analysis Approaches
-Tailoring Work Zone Analysis
-Work Zone Analysis Process
-Case Studies

AREA 3: **Highway Work Zone Safety Guidelines Training**

Course Schedule

Course #	State	City	Course	Course Start Date	Course End Date	Register By:
15376	**AL**	Birmingham	Traffic Control Design Specialist-Grant	02/09/09	02/10/09	01/09/09
15377		Birmingham	Tools for Work Zone Traffic Impact Analysis-Grant	02/11/09	02/12/09	01/09/09
15378		Birmingham	Maintenance and Short Duration Activities-Grant	02/13/09	02/13/09	01/09/09
15379		Birmingham	Urban Work Zone Design-Grant	02/17/09	02/18/09	01/17/09
15380		Birmingham	Work Zone Strategies-Grant	02/19/09	02/20/09	01/17/09
15263		Montgomery	Traffic Control Design Specialist-Grant	03/16/09	03/17/09	02/16/09
15264		Montgomery	Tools for Work Zone Traffic Impact Analysis-Grant	03/18/09	03/19/09	02/16/09
15265		Montgomery	Maintenance and Short Duration Activities-Grant	03/20/09	03/20/09	02/16/09
15269		Montgomery	Urban Work Zone Design-Grant	03/23/09	03/24/09	02/23/09
15270		Montgomery	Work Zone Strategies-Grant	03/25/09	03/26/09	02/23/09
15311	**AR**	Little Rock	Urban Work Zone Design-Grant	03/16/09	03/17/09	02/16/09
15274	**AZ**	Phoenix	Urban Work Zone Design-Grant	01/12/09	01/13/09	12/12/08
15275		Phoenix	Work Zone Strategies-Grant	01/14/09	01/15/09	12/12/08
15271		Phoenix	Traffic Control Design Specialist-Grant	01/20/09	01/20/09	12/20/08
15272		Phoenix	Tools for Work Zone Traffic Impact Analysis-Grant	01/21/09	01/22/09	12/20/08
15273		Phoenix	Maintenance and Short Duration Activities-Grant	01/23/09	01/23/09	12/20/08
15258		Tucson	Traffic Control Design Specialist-Grant	03/02/09	03/03/09	02/02/09
15259		Tucson	Tools for Work Zone Traffic Impact Analysis-Grant	03/04/09	03/05/09	02/02/09
15260		Tucson	Maintenance and Short Duration Activities-Grant	03/06/09	03/06/09	02/02/09
15261		Tucson	Urban Work Zone Design-Grant	03/09/09	03/10/09	02/09/09
15262		Tucson	Work Zone Strategies-Grant	03/11/09	03/12/09	02/09/09
15296	**CA**	San Diego	Traffic Control Design Specialist-Grant	03/23/09	03/24/09	03/09/09
15297		San Diego	Tools for Work Zone Traffic Impact Analysis-Grant	03/25/09	03/26/09	03/09/09
15298		San Diego	Maintenance and Short Duration Activities-Grant	03/27/09	03/27/09	03/09/09
15299		San Diego	Urban Work Zone Design-Grant	03/30/09	03/31/09	03/16/09
15300		San Diego	Work Zone Strategies-Grant	04/01/09	04/02/09	03/16/09
14938		San Jose	Traffic Control Design Specialist-Grant	02/09/09	02/10/09	01/09/09
15329	**CO**	Colorado Springs	Traffic Control Design Specialist-Grant	04/01/09	04/02/09	02/01/09
15330		Colorado Springs	Maintenance and Short Duration Activities-Grant	04/03/09	04/03/09	02/01/09
15331		Colorado Springs	Tools for Work Zone Traffic Impact Analysis-Grant	04/06/09	04/07/09	02/06/09
15332		Colorado Springs	Urban Work Zone Design-Grant	04/08/09	04/09/09	02/06/09
15333		Colorado Springs	Work Zone Strategies-Grant	04/14/09	04/15/09	02/14/09
15276		Grand Junction	Traffic Control Design Specialist-Grant	03/02/09	03/03/09	02/02/09

Course Schedule

15277		Grand Junction	Tools for Work Zone Traffic Impact Analysis-Grant	03/04/09	03/05/09	02/02/09
15278		Grand Junction	Urban Work Zone Design-Grant	03/23/09	03/24/09	02/23/09
15279		Grand Junction	Work Zone Strategies-Grant	03/25/09	03/26/09	02/23/09
15253	**FL**	West Palm Beach	Traffic Control Design Specialist-Grant	02/02/09	02/03/09	01/02/09
15254		West Palm Beach	Tools for Work Zone Traffic Impact Analysis-Grant	02/04/09	02/05/09	01/02/09
15255		West Palm Beach	Maintenance and Short Duration Activities-Grant	02/06/09	02/06/09	01/02/09
15256		West Palm Beach	Urban Work Zone Design-Grant	02/09/09	02/10/09	01/09/09
15257		West Palm Beach	Work Zone Strategies-Grant	02/11/09	02/12/09	01/09/09
15352	**GA**	Atlanta	Traffic Control Design Specialist-Grant	04/20/09	04/21/09	03/20/09
15353		Atlanta	Tools for Work Zone Traffic Impact Analysis-Grant	04/22/09	04/23/09	03/20/09
15354		Atlanta	Maintenance and Short Duration Activities-Grant	04/24/09	04/24/09	03/20/09
15355		Atlanta	Urban Work Zone Design-Grant	04/27/09	04/28/09	03/27/09
15356		Atlanta	Work Zone Strategies-Grant	04/29/09	04/30/09	03/27/09
15363		Atlanta	Traffic Control Design Specialist-Grant	09/14/09	09/15/09	08/14/09
15364		Atlanta	Tools for Work Zone Traffic Impact Analysis-Grant	09/16/09	09/17/09	08/14/09
15365		Atlanta	Maintenance and Short Duration Activities-Grant	09/18/09	09/18/09	08/14/09
15366		Atlanta	Urban Work Zone Design-Grant	09/21/09	09/22/09	08/21/09
15367		Atlanta	Work Zone Strategies-Grant	09/23/09	09/24/09	08/21/09
15240	**IN**	Indianapolis	Traffic Control Design Specialist-Grant	03/09/09	03/10/09	02/09/09
15241		Indianapolis	Tools for Work Zone Traffic Impact Analysis-Grant	03/11/09	03/12/09	02/09/09
15242		Indianapolis	Maintenance and Short Duration Activities-Grant	03/13/09	03/13/09	02/09/09
15237		Indianapolis	Urban Work Zone Design-Grant	03/16/09	03/17/09	02/16/09
15239		Indianapolis	Work Zone Strategies-Grant	03/18/09	03/19/09	02/16/09
15248		South Bend	Maintenance and Short Duration Activities-Grant	02/13/09	02/13/09	01/13/09
15249		South Bend	Traffic Control Design Specialist-Grant	02/17/09	02/18/09	01/17/09
15250		South Bend	Tools for Work Zone Traffic Impact Analysis-Grant	02/19/09	02/20/09	01/17/09
15251		South Bend	Urban Work Zone Design-Grant	02/23/09	02/24/09	01/23/09
15252		South Bend	Work Zone Strategies-Grant	02/25/09	02/26/09	01/23/09
15381	**KY**	Bowling Green	Traffic Control Design Specialist-Grant	06/08/09	06/09/09	05/08/09
15383		Bowling Green	Tools for Work Zone Traffic Impact Analysis-Grant	06/10/09	06/11/09	05/08/09
15384		Bowling Green	Maintenance and Short Duration Activities-Grant	06/12/09	06/12/09	05/08/09
15385		Bowling Green	Urban Work Zone Design-Grant	06/15/09	06/16/09	05/15/09
15386		Bowling Green	Work Zone Strategies-Grant	06/17/09	06/18/09	05/15/09
15305	**LA**	Alexandria	Tools for Work Zone Traffic Impact Analysis-Grant	02/23/09	02/24/09	01/23/09
15306		Alexandria	Tools for Work Zone Traffic Impact Analysis-Grant	04/16/09	04/17/09	03/16/09
15307		Alexandria	Urban Work Zone Design-Grant	05/04/09	05/05/09	04/04/09
15236		Monroe	Maintenance and Short Duration Activities-Grant	02/27/09	02/27/09	02/12/09
15372	**MO**	Jefferson City	Traffic Control Design Specialist-Grant	02/09/09	02/10/09	01/26/09
15373		Jefferson City	Tools for Work Zone Traffic Impact Analysis-Grant	02/11/09	02/12/09	01/26/09
15374		Jefferson City	Urban Work Zone Design-Grant	03/02/09	03/03/09	02/16/09
15375		Jefferson City	Work Zone Strategies-Grant	03/04/09	03/05/09	02/26/09
15316		Kansas City	Urban Work Zone Design-Grant	04/27/09	04/28/09	03/27/09
15317		Kansas City	Work Zone Strategies-Grant	04/29/09	04/30/09	03/27/09
15334	**MS**	Gulfport	Traffic Control Design Specialist-Grant	04/14/09	04/15/09	03/14/09
15335		Gulfport	Tools for Work Zone Traffic Impact Analysis-Grant	04/16/09	04/17/09	03/14/09
15336		Gulfport	Urban Work Zone Design-Grant	04/20/09	04/21/09	03/20/09
15337		Gulfport	Maintenance and Short Duration Activities-Grant	04/22/09	04/22/09	03/20/09
15338		Gulfport	Work Zone Strategies-Grant	04/23/09	04/24/09	03/20/09
15312		Jackson	Tools for Work Zone Traffic Impact Analysis-Grant	01/26/09	01/27/09	12/26/09
15313		Jackson	Urban Work Zone Design-Grant	01/28/09	01/29/09	12/26/08
15314		Jackson	Maintenance and Short Duration Activities-Grant	01/30/09	01/30/09	12/26/08
15315		Jackson	Work Zone Strategies-Grant	02/09/09	02/10/09	01/09/09
15228	**NC**	Charlotte	Traffic Control Design Specialist-Grant	04/27/09	04/28/09	04/10/09
15229		Charlotte	Tools for Work Zone Traffic Impact Analysis-Grant	04/29/09	04/30/09	04/10/09
15230		Charlotte	Urban Work Zone Design-Grant	05/04/09	05/05/09	04/17/09
15231		Charlotte	Work Zone Strategies-Grant	05/18/09	05/19/09	05/01/09
15323		Raleigh	Traffic Control Design Specialist-Grant	02/09/09	02/10/09	01/09/09
15324		Raleigh	Tools for Work Zone Traffic Impact Analysis-Grant	02/11/09	02/12/09	01/09/09
15326		Raleigh	Maintenance and Short Duration Activities-Grant	02/13/09	02/13/09	01/09/09
15327		Raleigh	Urban Work Zone Design-Grant	02/17/09	02/18/09	01/17/09
15328		Raleigh	Work Zone Strategies-Grant	02/19/09	02/20/09	01/17/09

Course Schedule

14944	**NM**	Albuquerque	Work Zone Strategies-Grant	11/12/08	11/13/08	10/29/08
14945		Albuquerque	Maintenance and Short Duration Activities-Grant	12/02/08	12/02/08	11/17/08
14973		Albuquerque	Traffic Control Design Specialist-Grant	01/26/09	01/27/09	01/12/09
15235		Albuquerque	Tools for Work Zone Traffic Impact Analysis-Grant	02/10/09	02/11/09	01/26/09
15095		Las Cruces	Maintenance and Short Duration Activities-Grant	01/14/09	01/14/09	12/29/08
15404		Santa Fe	Maintenance and Short Duration Activities-Grant	11/13/08	11/13/08	10/30/08
15285	**NY**	Albany	Urban Work Zone Design-Grant	03/23/09	03/24/09	02/23/09
15246	**OH**	Kettering	Urban Work Zone Design-Grant	03/18/09	03/19/09	03/02/09
15247		Kettering	Maintenance and Short Duration Activities-Grant	04/08/09	04/08/09	03/23/09
15339	**PA**	Harrisburg	Traffic Control Design Specialist-Grant	03/16/09	03/17/09	02/16/09
15340		Harrisburg	Tools for Work Zone Traffic Impact Analysis-Grant	03/18/09	03/19/09	02/16/09
15341		Harrisburg	Maintenance and Short Duration Activities-Grant	03/20/09	03/20/09	02/16/09
15342		Harrisburg	Urban Work Zone Design-Grant	03/23/09	03/24/09	02/23/09
15343		Harrisburg	Work Zone Strategies-Grant	03/25/09	03/26/09	02/23/09
15280		Moon Township	Traffic Control Design Specialist-Grant	04/01/09	04/01/09	03/01/09
15281		Moon Township	Tools for Work Zone Traffic Impact Analysis-Grant	04/02/09	04/03/09	03/01/09
15282		Moon Township	Urban Work Zone Design-Grant	04/06/09	04/07/09	03/06/09
15283		Moon Township	Maintenance and Short Duration Activities-Grant	04/08/09	04/08/09	03/06/09
15284		Moon Township	Work Zone Strategies-Grant	04/09/09	04/10/09	03/06/09
15212	**TN**	Knoxville	Maintenance and Short Duration Activities-Grant	05/08/09	05/08/09	05/04/09
15301		Knoxville	Traffic Control Design Specialist-Grant	05/11/09	05/12/09	04/11/09
15302		Knoxville	Tools for Work Zone Traffic Impact Analysis-Grant	05/13/09	05/14/09	04/11/09
15303		Knoxville	Urban Work Zone Design-Grant	05/18/09	05/19/09	04/18/09
15304		Knoxville	Work Zone Strategies-Grant	05/20/09	05/21/09	04/18/09
15344		Memphis	Traffic Control Design Specialist-Grant	09/08/09	09/09/09	08/08/09
15345		Memphis	Tools for Work Zone Traffic Impact Analysis-Grant	09/10/09	09/11/09	08/08/09
15346		Memphis	Maintenance and Short Duration Activities-Grant	09/14/09	09/14/09	08/14/09
15350		Memphis	Urban Work Zone Design-Grant	09/15/09	09/16/09	08/14/09
15351		Memphis	Work Zone Strategies-Grant	09/17/09	09/18/09	08/14/09
15291		Nashville	Traffic Control Design Specialist-Grant	07/20/09	07/21/09	06/20/09
15292		Nashville	Tools for Work Zone Traffic Impact Analysis-Grant	07/22/09	07/23/09	06/20/09
15293		Nashville	Maintenance and Short Duration Activities-Grant	07/24/09	07/24/09	06/20/09
15294		Nashville	Urban Work Zone Design-Grant	07/27/09	07/28/09	06/27/09
15295		Nashville	Work Zone Strategies-Grant	07/29/09	07/30/09	06/27/09
15286	**TX**	Houston	Traffic Control Design Specialist-Grant	02/09/09	02/10/09	01/09/09
15287		Houston	Tools for Work Zone Traffic Impact Analysis-Grant	02/11/09	02/12/09	01/09/09
15288		Houston	Maintenance and Short Duration Activities-Grant	02/13/09	02/13/09	01/09/09
15289		Houston	Urban Work Zone Design-Grant	02/17/09	02/18/09	01/17/09
15290		Houston	Work Zone Strategies-Grant	02/19/09	02/20/09	01/17/09
15321		San Antonio	Urban Work Zone Design-Grant	05/04/09	05/05/09	04/20/09
15322		San Antonio	Work Zone Strategies-Grant	05/06/09	05/07/09	04/20/09
15320		San Antonio	Maintenance and Short Duration Activities-Grant	05/15/09	05/15/09	04/24/09
15318		San Antonio	Traffic Control Design Specialist-Grant	05/18/09	05/19/09	04/18/09
15319		San Antonio	Tools for Work Zone Traffic Impact Analysis-Grant	05/20/09	05/21/09	04/18/09

Grant Summary

By, Dr. Morris Oliver, FHWA

In 2005 the Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) was signed into law. SAFETEA-LU authorizes the Federal surface transportation programs for a 4 year period (2006-2009). The Work Zone Safety Grant, established by Section 1409 of SAFTEA-LU, provides $5 million a year for fiscal years 2006 through 2009 to non-profit organizations to provide assistance for highway work zone safety training and guideline development towards the improvement of highway work zone safety. The grantees provide a 20 percent match of all funds received from the FHWA. Grantees include the American Traffic Safety Services Association, Laborers Health and Safety Fund of North America/the American Road and Transportation Builders Association, Wayne State University, and the Illinois Institute of Technology. Overall, the Grant program will:

- facilitate compliance with the Work Zone Safety and Mobility Rule,
- provide training resources for line workers and traffic control specialists, and
- develop guidance for assessing the effectiveness of work zone design and layout.

To date the Work Zone Safety Grant has provided a wealth of products, publications, and training resources for roadway construction industry practitioners. Many of the resources are posted on the National Work zone Safety Information Clearinghouse (www.workzonesafety.org) which is funded by Section 1410 of SAFTEA-LU, at $1 million a year for 2006 through 2009. The Clearinghouse also serves as a portal for a work zone blog, listserv, and a wealth of information about work zone safety and mobility. The Work Zone Clearinghouse typically achieves about 7,400 visitors a month, and more than 35,000 page views. As of September 2008 there were 571 registered users of the Clearinghouse listserv.

Guideline development is a key part of the Work Zone Safety Grant. Grantees are developing guidelines to help transportation agencies improve safety and mobility in work zones and meet new federal work zone legislation. Some of the guidelines being developed include the use of positive protection devices, high visibility garments, work zone planning, impact analysis, pedestrian and bicycle safety in work zones, maintenance and utility work zone safety, American National Standards Institute Standards (ANSI), and positive separation and protection of workers. More than 20 guideline publications are being developed and will be made available to practitioners.

One of the main objectives of the Grant is to provide training resources, programs, and products to construction craft workers and traffic control designers, planners, and inspectors. The training programs promote best practices and provide guidance to prevent work zone injuries, crashes, and fatalities and assist agencies with implementing Federal regulations, policies, standards, and guidelines. To date more than 11,500 craft workers and practitioners have received training made available through the Grant. The Roadway Safety + CDROM is a resource designed to provide an overview of hazards in highway and road construction along with simple prevention measures. A software program has also been developed to help utility workers determine the optimal set up for short-term utility work zones. These electronic resources, and the train-the-trainer courses, will continue to provide benefits and positive impacts long after the Grant is completed.

Preliminary numbers recently released through the Fatality Analysis Reporting System indicate that work zones account for 835 or 2 percent of the 41,059 fatalities realized 2007 on U.S. Roadways. The number for 2006 was 1,010 of the 42, 642 or approx 2.4% of the total. This decrease can be attributed in part to additional attention, research, worker protection fines, and training including the Work Zone Safety Grant and similar programs.

"Utility Work Zone Traffic Control" Guideline and Training Program Development

Prepared by WSU-TRG

The Wayne State University Transportation Research Group (WSU-TRG) sought and received a two-year grant to develop guidelines and a training program for "Utility Work Zone Traffic Control" in September of 2006. This project is a part of the Federal Highway Administration (FHWA) Work Zone Safety Grant initiative. Utility work zones are an important focus area as they are fundamentally different from most highway construction work zones. Utility work is often of a shorter duration and involves smaller crew sizes, which makes a traffic control plan such as that utilized in highway construction sometimes impractical. These and other unique aspects of utility work were addressed as a part of the FHWA Work Zone Safety Grant.

As a part of the guideline development process, the WSU-TRG conducted a gap study and needs assessment, which included a state-of-the-art literature review, a state-of-the-practice survey, and field observation of various utility work zone operations. The findings that resulted from these activities led to the development of the "*Utility Work Zone Traffic Control Guidelines"*. This guideline document provides an introduction to utility work zone operations and presents recommendations for several important aspects of safety related to utility work, including the establishment of a safety culture in the organization, the use of uniform and consistent traffic control devices and systems, and the development of a set of typical temporary traffic control plans (TTCP) that are appropriate for specific types of work sites. As a part of the "*Utility Work Zone Traffic Control Guidelines",* twenty-seven typical TTCPs were developed based upon site-specific work site factors that include the work location, type of roadway, and the speed limit and traffic volume of the adjacent roadway.

In addition to the guidelines, a two-part training program was developed specific to utility work zone traffic control operations. This training program provides reasons for specific recommendations. It presents background on the importance of establishing appropriate policies and procedures to promote safe practices appropriate for utility work zones. The second part of the training program is aimed at utility workers, foremen, and supervisors and provides instructions on how to assess the risk level posed by a specific work location and use this information to develop an appropriate TTCP. As a part of this module, participants are able to demonstrate the real-world application of the skills learned in the course through case studies which utilize a drag-and-drop software that allows them to develop appropriate TTCPs for several distinct scenarios. In addition to this learning tool, a software program has been developed that allows for the automated selection of any one of the typical TTC plans which is most appropriate for the site-specific conditions of a particular utility work zone.

Two pilot training programs have been conducted in Detroit, MI and Hanover, MD and four train-the-trainer programs have been conducted in Tempe, AZ, Dallas, TX, West Conshohocken, PA, and Gahanna, OH as a part of this work zone safety grant. To date, over 250 participants have completed the training program.

It is anticipated that the "*Utility Work Zone Traffic Control Guidelines"* and each of the software programs will be made available at no cost through the FHWA Work Zone Safety Clearinghouse. The State-of-the-Art Synthesis and State-of-the-Practice Synthesis is currently available through the Clearinghouse, in addition to the Gap Study and Needs Assessment, at http://www.workzonesafety.org/training/fhwa_wz_grant.

Work Zone Safety Audit Guidelines Development

By Jonathan Shi, Ph.D., P.E., Professor and Chair of the Department of Construction Management, University of Nebraska Lincoln

This grant aims at developing the national work zone safety audit guidelines and training materials. The entire guidelines are structured in five modules: Module 1 - Fundamental principles of work zone safety audits, Module 2 - Guidelines for auditing work zone impacts assessment, Module 3 - Guidelines for auditing work zone transportation management plans (TMP), Module 4 - Guidelines for conducting work zone safety audits during the construction stage, and Module 5 - Guidelines for auditing work zone performance assessment at the post-construction stage.

The first draft of Module 4 was completed in April 2008. It was then extensively reviewed by work zone experts from FHWA, state DOTs, and the private sector. A revised version was completed in July 2008. This module outlines a work zone safety audit at the construction stage in eight steps as follows:

- **Step 1: Project Identification**. A candidate work zone is selected.
- **Step 2: Audit Team Selection**. An independent audit team and team leader are selected by the owner agency with representation from FHWA, state DOT, law enforcement and owner's agency.
- **Step 3: Pre-Audit Review**. The audit team reviews the project information before the site audit visit.
- **Step 4: Audit Meetings**. Formal meetings are scheduled for the key parties in the project to make presentations about the project design and construction strategies, transportation management plan (TMP) development and implementation, and work zone operations to date to assist the audit team in better understanding the project and its work zone operations.
- **Step 5: Audit Inspections**. The audit team drives through the work zone and construction activity area several times including at least one at night in order to understand the traffic conditions in the work zone and to observe the behavior of drivers, pedestrians, and workers, as well as the use of law enforcement.
- **Step 6: Audit Analysis**. Based on the information collected from the pre-audit reviews, audit meetings, and audit inspections, the audit team assesses potential risks facing road users and construction workers in the work zone and brainstorms on practical measures that could be implemented to improve the work zone safety and mobility performance.
- **Step 7: Audit Findings**. The audit team presents its findings and recommendations to the project owner and other key parties in the project.
- **Step 8: Final Report on Implementation**. The audit team leader submits a final confidential report on its findings and implementation of the recommendations.

Through a joint effort of the FHWA and Illinois Department of Transportation (IDOT), a first case study was conducted by applying the new guidelines in auditing a 5-mile active work zone involving milling, hot mix asphalt surface, striping, dip correction and traffic signal modernization for an urban multi-lane highway with Average Daily Traffic (ADT) over 20,000 in Central Illinois during September 17 to 19, 2008. The audit team consisted of five members: Jim Allen (team leader, IDOT), Rick Price (Illinois State Police), Kim Cummins (IDOT, District 6), Marshall Metcalf (IDOT), and Larry Simon (IDOT). Seven people observed the case study including 3 FHWA staff, one representative from WisDOT, and

Work Zone Safety Audit guidelines Development *Continued from page 12*

three members of the research team. Seven key personnel from the project owner's agency (District 6 of IDOT) and the general contractor participated in the exercise. Ms. Priscilla Tobias, State Safety Engineer of IDOT, kicked off the case study and participated in the discussion of the new work zone safety audit guidelines. Dr. Morris Oliver, FHWA work zone safety program manager, and Mr. Brett Graves, SAIC support contractor to FHWA work zone grants, observed the entire process in the field. After the closeout meeting, there was a special feedback session for the auditors to suggest how the guidelines can be further modified or enhanced to make it a truly useful and practical safety tool for improving work zone safety across the country. It was widely agreed that the case study was very successful.

The audit team, together with the observers, conducted a series of meetings, careful reviews of available project information, several rounds of drive-through inspections of the work zone and two half-day brainstorming discussions in the three days. By following the format described in the new guidelines, the audit team

formulated its audit findings and recommendations at the project level, procedural level and policy level respectively.

Three project-level best practices were discovered in the project including use of balloon lighting for nighttime construction, proactive incident management and safety programs of the contractor, and use of stop bars at intersections and shoulder diagonals as temporary pavement markings. A total of seventeen project-level findings were reported. These included worker exposure to traffic, clarity of advance warning signs, clarity of guidance on lane use, minimizing drop-offs, and clarity of intersection traffic control, etc., were identified and corresponding recommendations were presented to and discussed at the closeout meeting with the key parties in the project.

At the procedural level, the audit team discovered six best practices including weekly partnering meetings and communications, broad-based design and review coordination at the district level, use of balloon lighting provision for nighttime construction, proactive public information effort, use of project completion date instead of working days, and use of limited working hours for minimizing traffic congestion. Three procedural level findings were also identified including difficulty to manage traffic control deficiencies with the sub-contractor in the current contract structure, presence of non-contractor personnel not utilizing personal protective equipment, and existing pavement markings condition.

At the policy level, two best practices were discovered including CMS (changeable message sign) information in place two weeks prior to construction and use of enforcement in work zones for slowing traffic. The audit team also identified seven policy-level findings including clarifying utilization of hire back police forces for either writing tickets or slowing down traffic, clarifying work zone speed limit guidance to motorists, need for more training on the FHWA Rule on WZ Safety and Mobility and Work Zone Traffic Control, consistent lane use practices, compliance of sign supports and bracing specifications, and how to update project TMP components when the project is finally moved to Phase II and letting in cases where the Phase I was done many years prior.

On behalf of the research team, I would like to congratulate the audit team for its successful application of the new guidelines in the first case study. Contact the author for more info at jshi3@unl.edu.