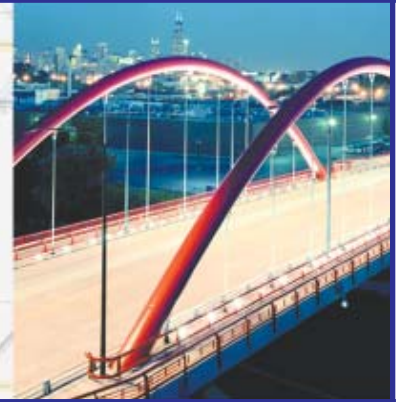




Illinois Interchange



Illinois Technology Transfer Center

Vol. 14 No. 1 Spring 2006

Performance of Interlayer Stress Absorbing Composite (ISAC) In Illinois AC Overlays

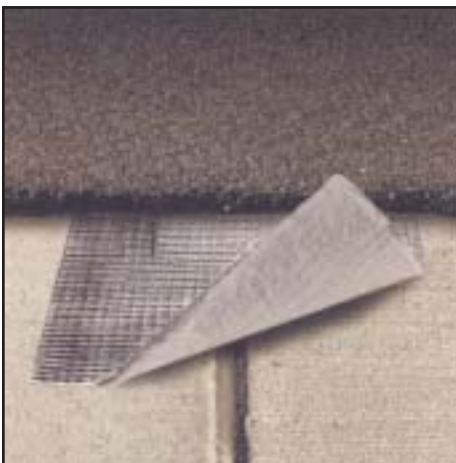
by Professor Barry Dempsey, University of Illinois at Urbana-Champaign

It has been over 10 years since the first Interlayer Stress Absorbing Composite (ISAC) was placed on a small section of FA Route 567 (IL 38) west of Rochelle, Illinois for the purpose of mitigating reflective cracking in a 2.5 inch AC overlay. ISAC was developed at the University

of Illinois at Champaign-Urbana through financial and technical support from the Illinois Department of Transportation. The purpose of ISAC is to eliminate or mitigate the formation of reflective cracks in AC overlays. The research to develop ISAC was conducted from July 1, 1992 through June 30, 1994. The first ISAC was placed on IL 38 in August 1994. A patent for ISAC under the title "Stress Absorbing Composite for Road Repair and Method", United States Patent Number 5,513,925 was issued on May 7, 1996. ISAC also carries foreign patents in Europe and Japan.

Since 1994 ISAC has been used on a number of highway pavement and airport pavement projects in Illinois. Some of the earlier projects included:

(continued on page 6)



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Please pass this on to other interested parties in your office.



Illinois Department of Transportation
Bureau of Local Roads and Streets



Federal Highway Administration



From the Desk of . . .

The Illinois Department of Transportation's Central Bureau of Construction and Bureau of Accounting and Auditing routinely perform random audits of required documentation on federally funded local agency highway projects. The audits ensure that a local highway agency or its representative is conducting, maintaining, and documenting proper construction inspections. Recent audits have found deficiencies in the following key areas: Daily Diary Entries, Traffic Control Inspections, and Evidence of Material Inspection. The IDOT Construction Manual contains all of the requirements. This manual is available electronically at www.dot.il.gov/constructionmanual/manualtoc.html.

According to the Documentation Section of the IDOT Construction Manual, the project diary is one of the most essential records kept on the job. The resident or a designated representative is required to keep a daily diary on each contract. The diary must be a bound hardback book (unless the use of the ICORS system is allowed on the local agency contract) and the first entry in the diary must include the year, the name and signature of the resident (and designated representative, if applicable), the complete official designation of the section, and

the name of the contractor. A list of all personnel assigned inspection and/or documentation duties on the job shall be entered in front of the diary. Each person shall put his/her initials after his/her name. An entry must be made in the project diary for each day of the project, including weekends and holidays, except when the project is officially suspended.

Section 700 of the IDOT Construction Manual details the traffic control inspection requirements. The importance of correctly placed and maintained traffic control devices in construction work zones cannot be overstressed. This importance does not diminish when the day's activities are completed and the workforce leaves the jobsite. When temporary traffic control devices are in place, the Resident Engineer, or appropriate designee, shall routinely drive through the jobsite, and document the drive through in writing in the project diary or elsewhere. Any traffic control deficiency should be corrected. Section 700 of the Construction Manual outlines the minimum inspection frequencies and necessary corrective actions. Form BC 726 Traffic Control Inspection Report is for traffic control documentation purposes. These reviews are especially critical before weekends and/or holiday periods. With routine inspection of traffic control, work zones will be safe for both the motoring public and individuals working within the work zone.

Form BC 625 Quantity sheet is used to verify proper evidence of material inspection. An entry must be made in the evidence of material inspection column each time an entry

is made in the quantity column. Evidence of material inspection, as described in the *Project Procedures Guide*, Attachment 3, shall be such items as a State of Illinois stamp number, inspection report, plant report, or other information, written or verbal, to indicate that the material is satisfactory. When the information is verbal, it should be recorded in the Project Diary. The evidence of material inspection required in the *Project Procedures Guide* should be strictly adhered to for both Progress and Final Documentation and must lead to a verifiable source of the information required. All delivery tickets shall be retained in the project files. The *Project Procedures Guide* is available at www.dot.il.gov/materials/projectproceduresguide.html.

While these items are only required on federally funded local highway projects, it is highly recommended that the same procedures be used on projects locally let with state or local funds. Proper documentation allows the local highway agency to better defend itself against lawsuits and/or public inquiries. The IL Technology Transfer Center conducts Documentation of Contract Quantities and Construction Material Inspection Documentation training courses. Please fill out the training survey in this issue if your agency would like either of these courses offered in your area.

Kevin Burke III, P.E.
T² Program Manager

Illinois GIS Transportation Coalition

A Geographic Information System (GIS) is a computer system capable of analyzing and displaying geographically referenced information. GIS makes it possible to link or integrate layers of information. The value of GIS to the Illinois Department of Transportation is in the automation benefits it produces. A critical component of a GIS is its ability to produce a map which conveys results of data analysis to the people who make decisions about resources. The foundations of IDOT's GIS base maps are county maps digitized at a scale of 1:64,000, using Illinois state plane coordinates. The following IDOT databases are directly related to the base maps using a link/node spatial reference: Illinois Roadway Information System, Railroad Crossing

Information System, Illinois Structure Information System, and Highway Performance Monitoring System.

The Illinois Transportation Coalition is a cooperative working and data sharing agreement between state and local agencies and our business partners NAVTEQ and GIS Solutions.

IDOT is taking a leadership role in Illinois government to develop a GIS group focused on transportation. The State of Illinois GIS Transportation Coalition will be a focal point for all GIS users as well as other GIS Data Providers. The State of Illinois GIS Transportation Coalition will provide and share data from local and state entities to support a comprehensive source for base map information for location, routing, and decision-support to all persons requiring information

about travel and business in Illinois.

In order for local agencies to participate in the coalition, a

representative with legal signature authority must sign the Intergovernmental Agreement for Sharing NAVTEQ Proprietary Data. For complete details on the data registration process, visit the State of Illinois GIS Transportation Coalition website at www.dot.il.gov/giscoalition.html.

For more information, see Frequently Asked Questions on page 4. *(Adapted from IDOT's GIS Brochure)*



Calendar of Events

East Central Illinois Highway Commissioners Spring Seminar	March 27-28, 2006	Decatur, Illinois
National Work Zone Awareness Week	April 3-9, 2006	Nationwide
7th Structural Engineering Conference	April 6, 2006	Champaign, Illinois
NACE Annual Meeting	April 9-13, 2006	Grand Rapids, Michigan
2006 Asphalt Pavement Innovations Conference	April 11-12, 2006	Peoria, Illinois
APWA North American Snow Conference	April 30 - May 3 2006	Peoria, Illinois
APWA Illinois Chapter Conference	May 3-5, 2006	Peoria, Illinois
North Western Illinois Highway Commissioners Spring Meeting	May 5, 2006	Rock Falls, Illinois

Illinois GIS Transportation Coalition

Frequently Asked Questions

What are some of NAVTEQ's key database attributes?

NAVTEQ contains GIS data on Waterway Polygons; Waterway Segments; Building/Landmark Features; Land Use Features (A,B); Islands; Named Places; Hamlets; Hospitals; Parks and Recreation; Transportation Hubs; Travel Destinations; Shopping; Restaurants; Entertainment; Auto Maintenance, Service, and Petrol; Financial Institutions; Business Facilities; Community Service Centers; Educational Institutions; and Parking.

Is there metadata with the data?

The NAVSTREETS Product Guide will be delivered in Adobe PDF format with the data to provide NAVTEQ data structure and content. IDOT metadata will be provided for IDOT integrated data.

What projection is the data in?

Geographic data coordinates [Latitude/Longitude]

What are the legal license restrictions regarding the data?

The Intergovernmental Agreement for Sharing NAVTEQ Proprietary Data dictates appropriate distribution and usage of the data. You are allowed to use the data from the coalition as you use your current GIS data within your agency. The coalition data may not be distributed or shared with any business or entity that is not a member of the coalition. The data may be used for maps and business decision-making applications used within your agency. Additional steps to create security for the data may be necessary if it is used for public web-based geospatial applications or services. Information for creating secure map services is available from your software provider.

How often will updates be available?

Quarterly updates will be available by contacting IDOT and requesting the updates. The updates can be delivered in the same formats and delivery methods as the original data.

What are some of IDOT's key database attributes?

IDOT database attributes include IDOT Key Route; IDOT Key Route Begin Station; IDOT Key Route End Station; Average Daily Traffic Count Year; Annual Average Daily Traffic; Heavy Commercial Volume Count; Multi-Unit Volume Count; Heavy Commercial/Multi-Unit Count Year; IDOT District; Functional Class Number; Marked Route; Municipality Number; Number of Through Lanes; Street Name; Length; County Highway Number; County; Township Road District; Functional Class Name; County Name; Township Name; and Municipality Name

How can I obtain technical support?

To obtain technical support, please contact:

GIS Transportation Coalition
Illinois Department of Transportation
Bureau of Information Processing
2300 South Dirksen Parkway
Springfield, IL 62764
Direct: 217-785-2400
Email: gistranscoalition@dot.il.gov

Illinois Department of Transportation Achieves ISO 9001:2000 Registration

The Illinois Department of Transportation (IDOT) has received international recognition of quality excellence in its process management system for the planning and design of road and bridge improvements. The Department received its ISO 9001:2000 Registration certificate in 2005 from NSF International Strategic Registrations, Ltd. (NSF-ISR), and retained its certification through its first surveillance audit in January 2006.

The ISO 9001:2000 certification, based on standards developed by the International Organization on Standards (ISO), recognizes IDOT for the quality of key processes involved in and supporting its road and bridge planning and design work.

“We sought ISO certification to demonstrate that IDOT pays attention to detail and provides Illinois taxpayers a quality product,” said Timothy W. Martin, Illinois Secretary of Transportation. “It shows a higher level of accountability, and in order to ensure quality, we bring in outside auditors from the business world to examine our work and certify that we are meeting international business standards on process management. This registration recognizes that IDOT’s process management system meets recognized business tests for effectiveness and efficiency, along with excellence in areas such as training, communications, customer satisfaction and document control.”

NSF-ISR, an NSF International

company, thoroughly assessed the IDOT quality management system and found it to be in compliance with ISO 9001:2000, an international standard that provides a universal baseline for quality process management. This registration will help IDOT maintain quality planning and design throughout the development process and maintain a high level of accountability to the public it serves.

*Excellence of IDOT
Planning and Design
processes ensure
quality product for
taxpayers*

To obtain ISO 9001:2000 certification, the Department has committed to provide the necessary resources to properly manage and execute its certified processes based on documented customer requirements. IDOT must show evidence during rigorous audits that employees involved in the planning and design of roads and bridges are qualified and proficient in the work they do, that they follow and execute the processes as they are spelled out in IDOT procedural manuals, and that IDOT staff strives to continually improve process

efficiency and effectiveness to ensure a quality end product.

“Not only does ISO 9001:2000 registration confirm that all employees involved in the planning and design of roads and bridges were competent in the work they do, but it shows IDOT’s continued commitment as they will be expanding their registration in the future,” said Christian Lupo, general manager, NSF-ISR, a global leader in management system registrations.

In order to maintain the ISO certification, IDOT will be audited internally or externally each quarter over the next two years. IDOT will perform internal audits every six months to make sure the quality management system remains effective, and external auditors will come into the Department every six months as well to verify the system’s continuing effectiveness. The Department is working toward expanding its ISO certification in 2006 to include all aspects of planning, design and construction along with support services involving purchasing, training and personnel management.

“This certification shows that the men and women of IDOT are dedicated to meeting customer requirements and making sure we do it right, and do it right the first time,” Secretary Martin said. “We are opening our management processes up to the public for scrutiny and to guarantee consistency and quality in our roads and bridges.”

ISAC in Illinois AC Overlays . . .

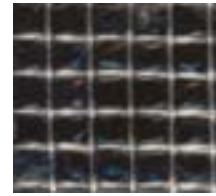
(continued from page 1)

Route 29 near Peoria (1997), FAP Route 10 (US 67) south of Jacksonville (1998), DeKalb Airport Apron (1998), Willard Airport Runway 14-32 (1999), Rantoul Airport Runway 18-36 (1999), and Mattis Avenue in Champaign (2000). In more recent times, ISAC has been used on Illinois projects that include the East-West Tollway I90 in 2003, Willard Airport Taxiway in 2003, I72 near Decatur in 2005, Pekin Airport in 2005, and Staley Road which was constructed during the Summer 2005. In addition to Illinois, ISAC has been successfully used by numerous other states as part of their AC overlay construction.

An extensive review of the performance of five ISAC highway pavement sections was conducted by IDOT and reported in Physical Research Report No. 150 entitled "An Evaluation of Interlayer Stress Absorbing Composite (ISAC) Reflective Crack Relief System" in March 2005. It was concluded that the formation of reflective cracks and the subsequent deterioration of these cracks were delayed at ISAC treated joints and cracks. It was stated that this was true for all five test sites. The delay in reflective cracks ranged from

one year to close to three years when compared to the untreated and other crack control methods. There appeared to be some evidence on I-55 that when ISAC was placed on pavement patches prior to overlay that there was improvement in the AC overlay performance over the patched sections. IDOT recommended approval of ISAC as a crack control system in the report.

ISAC functions as a base isolation material that prevents the AC overlay from experiencing movement at the joints and cracks in the underlying pavement. It is a three layered composite with a low stiffness geo-textile at the bottom, a viscoelastic membrane layer, and a high stiffness woven geo-textile at the top. The low stiffness bottom geo-textile functions to contain the membrane interlayer, bond to the existing pavement through a tack coat, and accommodate the underlying pavement movement without breaking its bond to the slab. The viscoelastic membrane layer provides a flexible bond between the two geo-textile layers, acts as a stress absorbing layer that dissipates the strains caused by movements in the underlying layers, and prevents water from entering the pavement base should a crack develop in the AC overlay. The high modulus, high



Top Layer



Bottom Layer

stiffness woven geo-textile at the top functions to contain the membrane interlayer, fully bonds with the AC overlay, and provides high stiffness reinforcement to the AC overlay. The function of ISAC is to isolate the AC overlay so that it is not impacted by any of the underlying pavement movements.

ISAC is distributed by Crafcro, Inc., which is located in Chandler, Arizona and has been a manufacturer of pavement products for 30 years. ISAC is generally distributed in a roll which is 36 in. wide by 50 ft long and a thickness of 0.15 inches. Lay down of the product can be accomplished by simple hand procedures or by more advanced mechanical procedures.

Editor's Note: The cost of ISAC is approximately \$10-\$14 per lineal foot



ISAC Installation

Newly Designed T2 Website

by Amy Neale, Training and Graphics Specialist, IDOT

The Illinois Technology Transfer Center's website has undergone many changes in the last few months. The website was redesigned to become more user friendly.

One of the newest features is the ability to access some of our videotapes and publications on-line. By obtaining these materials from the website, it allows the user instant access to the materials - no more waiting for the post office to deliver your requests. In the near future, all of the center's videotapes and publications will be available on-line.

Other new features include quick links on the right side of the web page and a new contact page. The quick links will allow users to navigate between different T² web pages without returning to our home page. The contact page provides users with information about the T² staff. Both of these resources should assist users while browsing our site.

By using our website, you can still obtain access to all of the great information that the Illinois Interchange Newsletter contains. Current and past issues of the newsletter as well as the training edition of the newsletter are available on the website.

LTAP Resources, the Research Information Library, T² Special Programs, and GIS Data may also be found on the website.

Check out the newly designed website at www.dot.il.gov/blr/t2center.html.



Breakaway or Yielding Supports in the Clear Zone

Breakaway supports have been required *on the NHS* since 1998 - that is not news.

However, the 2000 MUTCD, which of course applies to all roads in the United States revised the wording from “should” to “shall” regarding the use of breakaway supports for signs located within the clear zone.

This is spelled out in Section 2A.19:

Section 2A.19 Lateral Offset

Standard: For overhead sign supports, the minimum lateral offset from the edge of the shoulder (or if no shoulder exists, from the edge of the pavement) to the near edge of overhead sign supports (cantilever or sign bridges) shall be 1.8 m (6 ft). Overhead sign supports shall have a barrier or crash cushion to shield them if they are within the clear zone.

Ground-mounted sign supports



Breakaway sign support

shall be breakaway, yielding, or shielded with a longitudinal barrier or crash cushion if within the clear zone.

The 2003 MUTCD also establishes a target date for implementation on certain roads:

“Section 2A.19 Lateral Offset-crashworthiness of sign supports for roads with posted speed limit of 80 km/h (50 mph) or higher-January 17, 2013.”

On roads posted less than 50mph there is no target date, but a program to replace non-breakaway supports within the clear zone needs to be in the highway agency’s long term plans for complying with MUTCD changes. Highway agencies ought to consider installing breakaway supports at the same time that the sign faces are replaced to comply with retroreflectivity requirements.

We don’t want cities and counties complaining to their representatives that they went through all the effort to upgrade their sign faces and then were told to take them all down and put them back up on breakaway supports.

In order for the breakaway or yielding supports to be acceptable for use they must conform to the breakaway requirements of NCHRP Report 350 or the AASHTO Standard Specifications for Highway Signs, Luminaires, and Traffic Signals (1985 or 2001 editions.)

You may refer to the FHWA Office of Safety website for info on breakaway supports http://safety.fhwa.dot.gov/roadway_dept/



Non-breakaway sign support

[road hardware/breakaway.htm](http://roadhardware/breakaway.htm) and to the AASHTO Bookstore where they may purchase a copy of A Guide to Small Sign Support Hardware - 1998 edition at https://bookstore.transportation.org/item_details.aspx?ID=164

Finally, from our upcoming brochure on breakaway sign supports:

What does breakaway mean?

“Breakaway” refers to a sign support that, when struck by a vehicle, separates from its base and is knocked ahead of or up and over the errant vehicle. “Yielding” refers to a sign support that bends, allowing a vehicle to run over it. Many sign supports are yielding at low speeds and breakaway at high speeds.

(Adapted from an e-mail from Nicholas Artimovich, Office of Safety Design, Federal Highway Administration.)

SAFETY CORNER

Tips for Avoiding Poison Ivy

The construction season can present numerous hazards to employees who work outdoors. The following information may be useful in helping to avoid contact with poison ivy.

The best way to identify poison ivy (*Rhus radicans*) is by its characteristic compound leaf consisting of three leaflets. The leaflets are two to four inches long, dull or glossy green with pointed tips. The middle leaflet is generally larger than the two laterals. The margins of the leaflets are variable, appearing irregularly toothed, lobed, or smooth. The leaves are positioned alternately on the stems. In contrast, Virginia Creeper, a non-poisonous vine often mistaken for poison ivy, has five leaflets radiating from one point of attachment.

The blistering rash caused by poison ivy is the direct result of

contact with the oily toxicant, known as "urushiol." Urushiol is found in resin ducts within the plant's phloem. These ducts are found throughout the plant, including the roots, stems, bark, leaflets and certain flower parts. The plant has to be crushed, broken, or in some way injured to release the resin. The injury may be something as little as an insect chewing on the plant. Once urushiol is released, it can find its way to your skin by direct contact with the plant and then spread by touching other parts of the body. Because the sticky, oily substance is easily transmitted, there are indirect ways to contact it, for instance, from the fur of the family pet, garden tools, garden gloves, clothing, golf balls or other objects that have come in contact with an injured plant. Contrary to popular belief, the rash from poison ivy cannot be transmitted from touching the oozing blisters.

still get a rash, but at least you have contained the infected area. A visible reaction, redness and swelling may be apparent within 12 to 24 hours. Contact your family physician or pharmacist for recommendations for effective non-prescription medication.

One additional caution is that people can contract a rash by exposure to smoke of burning poison ivy; be careful not to burn wood with the poison ivy vine attached to it. Take extreme caution to avoid inhaling smoke or contact of smoke with skin and clothing.

(Adapted from a Fact Sheet by
Cindy Welyczkowsky and Jane C.
Martin <http://ohioline.osu.edu/hyg-fact/1000/1015.html>)



Poison Ivy

If you know you have contacted poison ivy, wash the area as soon as possible with soap and cool water. Warm water may cause the resin to penetrate the skin faster. Because urushiol can penetrate in a matter of minutes, you may



Rhus radicans

NIMS Alert

In Washington, DC, if a police officer says 10-50, he or she is talking about a car accident. Across the line in Montgomery County, Maryland, 10-50 means an officer needs help. And that's the way it is across much of the country, 10-codes used in one jurisdiction are not the same as those used in another. That's why it is important that responders and incident managers use common terminology. There simply is no room for misunderstanding in an emergency situation.

The use of plain language in emergency response is matter of public safety, especially the safety of first responders and those affected by the incident. It is critical that all local responders, as well as those coming into the impacted area from other jurisdictions and other states as well as the federal government, know and utilize commonly established operational structures, terminology, policies

and procedures. This is what NIMS and the Incident Command System (ICS) are all about - achieving interoperability across agencies, jurisdictions and disciplines.

The use of common terminology is about the ability of area commanders, state and local EOC personnel, federal operational coordinators, and responders to communicate clearly with each other and effectively coordinate response activities, no matter what the size, scope or complexity of the incident. The ability of responders from different jurisdictions and different disciplines to work together depends greatly on their ability to communicate with each other.

It is required that plain English be used for multi-agency, multi-jurisdiction and multi-discipline events, such as major disasters and exercises. Beginning in the fiscal year that starts

on Oct. 1, 2006, federal preparedness grant funding is contingent on the use of plain English in incidents requiring assistance from responders from other agencies, jurisdictions and functional disciplines.

While the NIMS Integration Center doesn't require plain English for internal operations, we strongly encourage it. We believe it is important to practice everyday terminology and procedures that will need to be used in emergency incidents and disasters. NIMS implementation is a long-term effort and it's probably not possible to persuade everyone to change ingrained habits overnight. But we do hope that over time, everyone will understand the importance of using common terminology, that is, plain English, every day.

*(Reprinted from NIMS ALERT 002-06,
The NIMS Integration Center,
February 8, 2006.)*



APWA Snow Conference Peoria, Illinois April 30 - May 3, 2006

Don't miss this year's APWA North American Snow Conference in Peoria on April 30-May 3, 2006. This year's Conference will include educational and technical sessions addressing a variety of topics including snowplowing operations, fuel alternatives, anti-icing and de-icing, salt management and winter

maintenance. The conference will also include a Technical Tour Program. The first tour includes two Caterpillar facilities - the Mapleton Foundry and Building SS, a track type tractor assembly plant in East Peoria. The second tour includes a tour of the City of Peoria's snow and ice fighting equipment supported by a 12,000 ton

salt storage dome and the IDOT District 4 Peoria West Service Center for a demonstration of their salt brine production and storage system.

Snow Conference exhibitors will also be displaying heavy equipment and motorized vehicles and you'll gain information on new technology from more than 100 companies.

T² Training Class Survey

It's Time to Plan the 2006-2007 Training Program

The Bureau of Local Roads and Streets' Technology Transfer Center is soliciting **local agency** interest in classes for the October 2006 to April 2007 training program. Please look over the list and indicate those classes of interest to you or your personnel by filling in the blank with an approximate number of attendees your agency would send if the classes were available in your area. This solicitation will be used by the Center in scheduling the 2006-2007 training program. Every effort will be made to locate specific classes in areas showing the most interest. Classes lacking in interest will be dropped from this year's schedule.

Please complete this class interest survey and mail or fax it to the Center at (217) 785-7296 by **April 28, 2006**. If you have questions regarding class content, please call the Center at (217) 785-2350.

cut here

	Approximate Number		Approximate Number
Bridge Construction Inspection (2 days)	_____	MUTCD (1 day)	_____
Bridge Inventory Documentation (1 day)	_____	OSHA 10-Hour General Industry (1½ days)	_____
Bridge Piling (1 day)	_____	Pavement Construction Inspection (3 days)	_____
Bridge Repair (1 day)	_____	Pavement Maintenance (1 day)	_____
Bridge Safety Inspection (1 day)	_____	Rehab of Streets & Highways Seminar (1 day)	_____
Colors (prerequisite before taking classes below)	_____	Response Handbook for Incidents, Disasters (½ day)	_____
• Managing People Effectively	_____	Seal Coats (1 day)	_____
• Team Building	_____	Small Drainage Structure Const. Insp. (2 days)	_____
• Cultural Diversity	_____	Snow & Ice Control (½ day)	_____
• Conflict Resolution	_____	Street Sweeping (1 day)	_____
Confined Space Awareness (2 hours)	_____	Structure Info & Management Systems (SIMS) (1day)	_____
Const. Materials Insp. Documentation (1day)	_____	Surveying I-Beginning (3 days)	_____
Culvert Hydraulics (1/2 day)	_____	Surveying II-Intermediate (4 days)	_____
Context Sensitive Solutions (1/2 day)	_____	Surveying III-Construction Staking (3 days)	_____
Documentation (3 days)	_____	Surveying IV-Map GPS & St. Pl. Coord. (2 days)	_____
Erosion Control (1 day)	_____	Team Building (1 day)	_____
Flagger Training (1/2 day)	_____	Traffic Signal Maintenance (1 day)	_____
Hazardous Material - First Responder (1 day)	_____	Trenching & Shoring Safety (2 hours)	_____
HEC-RAS (3 days)	_____	Work Zone Safety-Crews (1 day)	_____
Highway Jurisdiction/Transfers (1 day)	_____	Work Zone Safety-Design (1 day)	_____
Highway Signing (1 day)	_____	Understanding Specifications (1 day)	_____
Highway Engineering Principles (1 day)	_____	Urban Storm Mitigation/Tree Damage (1 day)	_____
Low Cost Safety Improvement Workshop (1 day)	_____	Additional Classes _____	_____
MFT Accounting and Auditing (1 day)	_____	_____	_____

Contact Person _____

Agency _____

Phone Number _____

Zip Code _____

The Technology Transfer (T²) Program is a nationwide effort financed jointly by the Federal Highway Administration and individual state departments of transportation. Its purpose is to transfer the latest state-of-the-art technology in the areas of roads and bridges by translating the technology into terms understood by local and state highway or transportation personnel.

The Illinois Interchange is published quarterly by the Illinois Technology Transfer Center at the Illinois Department of Transportation. Any opinions, findings, conclusions, or recommendations presented in this newsletter are those of the authors and do not necessarily reflect views of the Illinois Department of Transportation, or the Federal Highway Administration. Any product mentioned in the Illinois Interchange is for informational purposes only and should not be considered a product endorsement.

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Visit our website at www.dot.il.gov/blr/t2center.html



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