BUREAU OF LOCAL ROADS AND STREETS

L.T.A.P. QUARTERLY

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Work Zone Safety Task Force

by Eric Harm, Deputy Director of Project Implementation, IDOT

In 2004, Illinois experienced 30 fatal accidents resulting in 41 fatalities. Five of the fatalities were workers inside the work zone, three of which were flaggers.

Due to the tragic nature of these accidents, Governor Rod R.
Blagojevich directed the Illinois
Department of Transportation, Illinois
State Police, and the Illinois State Toll
Highway Authority to convene a task force to address the issue of safety within work zones.

The goal of the task force was to investigate and recommend actions that concentrated on measures to improve worker safety without compromising the safety of motorists and causing undue traffic congestion. This task force consisted of 29 members representing labor trades, contractor organizations, and various state and federal transportation, enforcement, and safety-related agencies.

The task force concentrated its efforts on high-speed, multi-lane facilities. The task force identified

three major areas needing to be addressed:

- voluntary compliance by the motorist to obey traffic laws in work zones.
- 2. the habitual violator or aggressive driver, and
- 3. improved physical protection for exposed workers.

Strategies and recommendations specific to these areas were developed with consideration of feasibility, cost, and ability to implement.

Under voluntary compliance, recommendations include better definition of work zones as well as more consistent looking work zones in terms of signing, increased fines for speeding in work zones, and increased police enforcement of work zone speed limits. Additional recommendations address improving driver education curriculum and revising the *Rules of the Road* manual to increase attention on work zones, increased emphasis on properly maintained work *(continued on page 2)*

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





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From the Desk of ...

Every year brings about changes, challenges, and opportunities -

2004 will be no different.

As for changes, the Illinois Technology Transfer Center is moving towards a full color newsletter. We will implement the changes in three steps. In this issue, you will notice that photographs and graphics are in full color. In the next issue, the banner on the front page will be updated. As a final step, a new color scheme will be applied. Another major change deals with the video/publication library (see page 8 for full details).

As for challenges, the Illinois Department of Transportation lost many employees due to a recent early retirement bill. With the current state budget not looking bright, there is a possibility of another early retirement bill; therefore, the T² Center may lose more instructors from our training program. As Illinois deals with its budget, the federal government is working on the new transportation bill – SAFETEA. Increased funding on the federal level is vital for Illinois to maintain a premier transportation system.

As for opportunities, technological advances make remote training feasible; allowing more individuals to be trained with fewer resources. Also, with legislative support, the department is trying to improve work zone safety (see front cover for full details) in order to protect workers and the motoring public.

With your ongoing support and participation, the Technology Transfer Center is ready to adapt to change, meet challenges that arise, and capitalize on new opportunities.

Kwin Burke

Kevin Burke T² Program Manager

Work Zone Safety Task Force

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zones during construction projects, and use of speed display units in work zones to inform drivers of their speed.

For the aggressive or habitual violator, the issues of driving while intoxicated and suspended drivers are very prevalent. The task force determined these issues are far reaching and recommended members of the Judicial Branch, Secretary of State, Attorney General, and State Police meet to consider the issue. Other recommendations included developing coalitions to foster public support for potential recommendations and legislation to address the aggressive and/or habitual violator.

The third area, "Improved Physi-

cal Protection for Exposed Workers," addressed reducing the risk of injury to the workers and flaggers. Recommendations included pursuing more use of positive barrier protection, exploring the use of remote-controlled flagger devices, increasing worker visibility, and designing work zones with more consideration to worker and flagger safety.

A total of 41 recommendations were presented, some of which have been previously noted. Five of the recommendations require state legislative action to implement. They are:

- 1. Increased penalties for work zone speeding with appropriations for increased patrols.
- Defining the physical limits of a work zone to enable enforcement of work zone traffic laws.
- 3. Strengthening judicial penalties

- for repeat offenders.
- Legislation enabling video enforcement of traffic laws in work zones.
- Legislation allowing impoundment of a motorist's vehicle when driving 20 miles per hour or more in excess of work zone speed limits.

The legislative initiatives are currently being pursued as well as the other recommendations. For most items, the goal is to have changes made to impact the 2004 construction season. For others, implementation will be ongoing.

Although addressing the highspeed, multi-lane facilities, many of the recommendations when implemented will also directly or indirectly improve work zone safety on other highway facilities.

New Local Roads Engineer Announced

Mr. Charles J. Ingersoll was appointed Bureau Chief of Local Roads and Streets effective January 16, 2004.

He holds a Bachelor of Science Degree in Civil Engineering from the University of Missouri-Rolla.

Mr. Ingersoll started his career by spending the first ten years working for the consulting firm of Caster, Houser and Hutchison in Jacksonville, Illinois.

He worked for Pike County as a Resident Engineer in 1982 & was appointed County Superintendent of Highways on March 1, 1986 and subsequently County Engineer on January 1, 1992.

In 2002 Chuck began his employment with the Department of Transportation, as the Bureau of Local Roads Field Engineer in the District 6 office.

Chuck and his wife Marsha reside in Pittsfield. They have one son C. J. who attends John Wood Community College in Quincy.

Chuck's primary objective in his new job is to maintain a close working relationship with local agencies and assist them in accomplishing their programs.



Charles J. Ingersoll



Spring 2004

Continuing Education Comes to Design Professions

by Zeyn Uzman, Bridges & Structures, and Diana Herrmann, Highways Administration, IDOT

Illinois laws governing design professionals were amended in 1999 to require continuing education for licensed land surveyors, structural engineers and professional engineers. The Department of Professional Regulations, working with the Structural Engineering Board, the Land Surveyors Licensing Board and the State Board of Professional Engineers has developed administrative rules to implement the new continuing education requirements. The Land Surveyors Licensing Board and the Structural Engineering Board passed new rules that became effective July 24, 2002. The State Board of Professional Engineers passed new rules that became effective July 16, 2003.

Beginning with the next renewal period, continuing education hours (CEHs) or professional development hours (PDHs) will be required for each design profession. The amount of hours and activities eligible are different for each. There will be a place on the renewal notice for the licensee to indicate that the continuing education requirements have been met. It is the responsibility of each licensee to maintain records and keep such records for a period of five years after the renewal, and the Department of Professional Regulations (DPR) will conduct random audits

All certificates of completion of classes or other proof of participation will be required at the audit.

Land Surveyors:

Beginning with the November 30, 2004, renewal, and every renewal after, 20 PDHs relevant to the practice of land surveying will be required to be taken during the renewal period. For more information, the new rules may be viewed on the Internet at:

www.dpr.state.il.us/WHO/lansv.asp.

Structural Engineers:

Beginning with the November 30, 2004, renewal and every renewal after, 30 CEHs relevant to the practice of structural engineering will be required to be taken during the renewal period. For more information, the new rules may be viewed on the Internet at:

www.dpr.state.il.us/WHO/se.asp.

Professional Engineers:

Beginning with the November 30, 2005, renewal, and every renewal after, 30 PDHs relevant to the practice of professional engineering will be required to be taken during the renewal period. For more information, the proposed rules may be viewed on the Internet at:

www.dpr.state.il.us/WHO/pe.asp.

What Qualifies for Professional Development Hours (PDHs)/Continuing Education Hours (CEHs)?

by Kevin Burke III, Illinois Technology Transfer Center, IDOT

Each licensing board - Professional Land Surveyors (PLS), Structural Engineers (SE), and Professional Engineers (PE) - has different eligibility criteria. For complete rules, visit the IL Department of Professional Regulation's web site (www.dpr.state.il.us).

The following items may be eligible for PDHs or CEHs:

- Relevant course work completed at an accredited college or university (PLS, SE, PE). Attend a course at a community college related to your license.
- Successful completion of relevant courses offering PDHs (PLS, SE, PE). For example, all IL Technology Transfer courses have been assigned PDHs. Do you take advantage of these free courses?
- Active participation and successful completion of relevant professional programs, seminars, tutorials, workshops, short courses, inhouse course, or self-study course (PLS, SE, PE). For example, invite manufacturers/vendors to provide technical presentations at staff meetings. Do you know your local sales representative?
- Attending program presentations at related technical or professional meetings (PLS, SE, PE). For

example, the T.H.E. Conference offered 10 PDHs. **Did you attend** the conference in Urbana on February 24-25, 2004?

- Teaching or instructing (PLS, SE, PE).
- Authoring papers or articles that appear in nationally circulated journals or trade magazines (PLS, SE, PE). Write articles on innovative projects that you have been involved.
- Receiving a patent (PE).
- Active participation on a commit-

tee or holding an office in a professional or technical society (SE, PE). Volunteer for committees in your state or local associations. Are you an active member in IAHE, IACE, IML, APWA, or TOI?

Individuals have a variety of opportunities to receive PDHs/CEHs. Many of the opportunities are either no cost or low cost options.

Please contact the IL Technology Transfer Center with questions:

Phone: (217) 785-5048 Fax: (217) 785-7296

E-mail: T2LRSDOT@nt.dot.state.il.us



Vegetation Control For Safety

During the growing season, grass, weeds, and brush often limit a driver's view of approaching vehicles. Likewise, lush vegetation can act as a screen that hides pedestrians and bikers from drivers and vice versa. Be alert for places where vegetation needs to be cut back.

Goals for Vegetation Control

The main goals for vegetation control include:

- Keeping signs and vehicles visible to drivers as well as pedestrians and bike riders in cross walks, at street lights, at uncontrolled intersections, and on bike paths.
- Helping pedestrians and bike riders see oncoming traffic more easily.
- Improving winter road maintenance in snow and ice areas.

Line of Sight Clearance

Drivers approaching an intersection need a clear line of sight along crossroads early enough to see any conflicting vehicles, pedestrians, and bicyclists to avoid a collision. Drivers also need an unobstructed line of sight to any roadside signs or hazards far enough in the distance to allow them to react safely to each situation.

Keeping Signs and Traffic Control Devices Visible

Suggested maintenance steps:

1. Look for signs and other traffic control devices blocked by brush, trees, grass, or weeds when on

routine maintenance patrol. Often a small branch from an overhanging tree or some bush near the sign is all that needs to be cut back. If vegetation along the ditch or shoulder blocks a driver's view of a sign, then cut enough to allow a driver sufficient time to see the sign and respond to its message. If your agency has a policy on how far from a sign vegetation has to be cleared for a safe view, then follow that policy. If you do not have such a policy, the following chart is a suggested guideline to allow a driver 3 to 5 seconds to read and respond to the sign.

Clearing Vegetation in Front of Signs

Speed Limit	Noncritical	Critical
(MPH)	Signs (Feet)	Signs (Feet)
30	150	250
40	200	350
50	250	450
60	300	600

Critical signs are: STOP, YIELD, DO NOT ENTER, ONE WAY, WRONG WAY, and other regulatory signs. Non-critical signs are destination guide signs, parking regulations, advance warning signs, and similar warning or information signs.

- 2. Pull maintenance vehicle off the traveled lane and place temporary traffic control.
- 3. Cut or trim trees, brush, weeds, or grass to clear a driver's line of sight to the sign or traffic control

- device. Always wear protective leather gloves, safety glasses or goggles, safety vests, hard hats, and leather boots (not sneakers or soft shoes).
- 4. Paint the stubs of brush or small trees with a weed killer solution to keep vegetation from growing back.
- 5. Collect limbs and large brush to haul away for disposal or run them through a chipper if available.
- 6. Look for moving traffic when removing the temporary traffic control and leaving the site.

 Drivers may not realize you are through working and probably will not expect you to pull onto the traffic lane.
- 7. Watch especially for overhead power lines and electrified farm fences when cutting brush. Never touch a wire farm fence when an electrical storm is in the vicinity of your work.

Suggested Equipment

- 1. **Leather gloves** to protect your hands from cuts and nicks.
- 2. **Hard hat** to protect your head from a falling limb or flying debris during cutting and clearing.
- 3. Safety glasses or goggles to protect your eyes from flying chips or particles during cutting and clearing.
- 4. **Safety vest** to reduce accidental injury by vehicles and hunters.
- 5. **Chain saw, fuel, bar oil** to cut small trees and large brush.
- 6. Gasoline powered "weed eater" (continued on page 7)

Vegetation Control For Safety

(continued from page 6)

to cut grass and small weeds away from sign support and similar areas.

- 7. **Brush knife or machete** to cut small brush.
- 8. **Loppers** (long-handled side cutters) to cut small low-hanging branches and large woody weeds.
- 9. Tree trimming saw with small branch lopper (on a telescoping pole handle) to cut higher branches from overhanging trees that are blocking the view of sign or traffic control device.
- 10. **Tall step ladder** to help cut branches near the tree trunk to limit regrowth.
- 11. Axe to chop down small saplings.

Traffic Control Considerations During Maintenance

Make sure that your temporary traffic control layout complies with the current edition of the Manual on Uniform Traffic Control Devices (MUTCD) and is appropriate for your work situation. Three common situations associated with vegetation work are:

- 1. a shoulder closure on two-lane, two-way roadway,
- 2. vehicles and equipment completely off the road and the shoulder, and
- 3. a lane closure where equipment and/or people will be in a traveled lane.

The vegetation control information in this newsletter edition was taken from the following publication: Vegetation Control For Safety: A Guide for Street and Highway Maintenance Personnel, U.S. Department of Transportation and the Federal Highway Administration, 1990. Publication number FHWA-RT-90-003.

The complete guide in pdf format can be found on FHWA's web site at www.fhwa.dot.gov////tfhrc/safety/pubs/90003/intro.htm.

(Reprinted with permission from West Virginia's Country Roads & City Streets,
March 2003)



The West Central Illinois
Highway Commissioners Association is having it's 12th Annual
Summer Seminar on Tuesday, June
15 and Wednesday, June 16. The
Tuesday session is an informational
seminar that will address township
highway related topics and will
include lunch. The seminar will be
held at the Macomb American

Legion Hall starting at 9:00 a.m. with registration beginning at 8:00. The day will end with an equipment show, entertainment and dinner at Lake Argyle State Park near Colchester, Illinois.

All of Wednesday's sessions will be held at Lake Argyle featuring breakfast, vendor booths, construction and maintenance demonstrations (including hands-on), lunch and prize drawings.

This seminar is open to all Townships and Counties. Please check your Illinois County and Township Perspective magazine for the registration form and detailed agenda or call Mark Boyer at (309) 289-6365 for more information.

New Video/Publication Website and Catalog

by Kevin Burke III, Illinois Technology Transfer Center, IDOT

The Technology Transfer Center recently reorganized our video/publication library. The reorganization resulted in the removal of duplicate tapes, renumbering of a majority of the tapes, and reclassifying some tapes as reproducible. Therefore, the website has been revised and a new catalog will be issued.

The video/publication web site is located at www.dot.state.il.us/blr/library.html. The video web pages are now divided into 2 categories - reproducible and copyrighted. The reproducible videos are numbered from V001 to V499 and the copyrighted videos are numbered V500 to V999.

Furthermore, the reproducible videos will be streamed electronically which will allow users to watch or

download the videos over the internet. Windows Media Player 9.0 is required to view the videos and is available for download at www.microsoft.com/windows/windowsmedia/download/default.asp for free. In order to watch the video, users will left mouse click on the video link and the video will automatically start playing in Windows Media Player. Videos may be downloaded by right mouse clicking. Video quality and smoothness will be dependent on internet connection speed, computer graphics card, and processor speed.

As for publications, the web page has been updated to provide electronic copies of publications. Adobe Reader 4.0 or higher is required and is available for download at www.adobe.com/products/acrobat/readstep2.html for

free.

Moving towards electronic videos and documents will help the Technology Transfer Center reduce mailing and printing costs; however, we will still provide hard copies of any item in our library. These tools will allow users to preview items before requesting hard copies. It will also allow information to be accessed by multiple groups across wide geographical boundaries.

The video/publication catalog will be updated to include all the above changes. A copy will be sent to all local agencies in the near future. A new order form is available on website and on the following page.

Please contact the Technology Transfer Center with any questions about the video/publication library.



Illinois' Top Five



Top Five Videos

- V007 Safe Tree and Brush Removal
- 2. V011 Safe Mowing Procedures
- 3. V014 Work Zone Safety
- 4. V077 Snow & Ice Control
- 5. V540 Highway Work Zone Safety: The Basics

Top Five Publications

- 1. P001 Work Area Protection Guide
- 2. P003 Flaggers Handbook
- 3. P004 IL Highway Design Standards for Traffic Control 1997
- 4. P014 Tailgate Talks
- 5. P020 Pocket Guide: GASB 34 Phase III Local Government

VIDEO/PUBLICATION ORDER FORM

Name			Title _				
			Phoi				
Address							
City				State		Zip	
Publication	s Requested	:					
# P	#P	#P	#P	#P	#P	# P	
# L	#L	#L	#L	#L	# L	#L	
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MAIL REQUESTS TO: Illinois Department of Transportation Bureau of Local Roads & Streets Technology Transfer Center - Room 205 2300 S. Dirksen Parkway Springfield, IL 62764 FAX (217)785-7296			FOR OFFICE USE ONLY: Order # Date Rcv'd				
				Mailed		-	

For a complete listing of videotapes, visit our website at www.dot.state.il.us/blr/library.html



What's New With You?

Auger Welding Station Improves Safety and Efficiency

by Kathy Blasko and Marshall Metcalf, IDOT, District Six

The initiative and skills of Mike Tappan, Jerry Iams, and Clint Barnhart, District Six employees in the Bureau of Project Implementation, Materials Section, have resulted in the invention of the Auger Welding Station, a time saving device and an improvement in work safety.

Each IDOT district geotechnical unit has a drill crew that performs soil borings. These soil borings obtain data on soil and rock that is essential for designing bridges, pavements, retaining walls, and other structures. Soil borings are completed by drilling augers into the ground and performing tests on the soil and rock.

Even though the augers are made of durable steel, the abrasive action of the soil rapidly wears them out. Because of this wear, all of the department drill crews face the problem of auger flight wear. In the past, drill crews had two options: purchase new augers frequently or build up the surface of the auger flight by welding more steel onto the flights.

The District Six drill crew had

been welding the flights to save money, but realized the operation was neither safe nor efficient. The operation required the auger to be rolled on the floor as the welder operator attempted to maintain an even welding bead on the flight.

To remove this safety problem, the District Six drill crew has



independently developed a work station to assist them in the repair of augers. The Auger Welding Station is a jig that securely holds the auger at a comfortable, workbench level height. The jig rotates the auger at a consistent user variable speed, and features a guide that moves down the auger flight as the augers are rotated. The guide assists the operator in holding the welding gun at the proper

angle. A kill switch at either end allows the operator to halt auger rotation.

The work station, invented and fabricated entirely by the drill crew, allows the repair of augers to be completed in approximately one-third the time and more safely than the previous method. After

encouragement and recommendations from other
District Six employees, the drill crew has submitted the Auger Welding Station to the Employee Suggestion
Award committee. The department is exploring securing patent rights to the device

To obtain a set of diagrams for the Auger Welding Station, contact the Technology Transfer Center at 217/785-8750

Editor's Note:

While the Illinois Department of Transportation and the Technology Transfer Center authorizes distribution of the plans and the building of the device, we do not permit the marketing or sale of the plans, parts or finished product by anyone.

We Need Your Help . . . It's Time to Plan the 2004-2005 Training Program

The Bureau of Local Roads and Streets' Technology Transfer Center is soliciting **local agency** interest in classes for the October 2004 to April 2005 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 2004-2005 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 30, 2004**. If you have questions regarding class content, please call the Center at (217) 785-2350.

	Approximate Number	Approximate Number
Backhoe Safety (1/2 day)		Pavement Construction Inspection (3 days)
Bridge Construction Inspection (2 days)		Pavement Maintenance (1 day)
Bridge Inventory Documentation (1 day)		Rehab of Streets & Highways Seminar (1 day)
Bridge Piling (1 day)		Small Drainage Structure Const. Insp. (2 days)
Bridge Repair (1 day)		Snow & Ice Control (½ day)
Bridge Safety Inspection (1 day)		Street Sweeping (1 day)
Confined Space Awareness (1/2 day)		Structure Info & Management Systems (SIMS) (1day)
*Culvert Hydraulics (1/2 day)		Surveying I-Beginning (3 days)
Documentation (3 days)		Surveying II-Intermediate (4 days)
Erosion Control (1 day)		Surveying III-Construction Staking (3 days)
Flagger Training (1/2 day)		Surveying IV-Map GPS & St. Pl. Coord. (2 days)
Hazardous Material - First Responder (1 day))	Team Building (1 day)
*HEC-RAS (2 days)		Traffic Signal Maintenance (1 day)
Highway Jurisdiction/Transfers (1 day)		Trenching & Shoring Safety (½ day)
Highway Signing (1 day)		Work Zone Safety (1 day)
Highway Engineering Principles (1 day)		Understanding Specifications (1 day)
MFT Accounting and Auditing (1 day)		Urban Storm Mitigation/Tree Damage (1 day)
OSHA 10-Hour General Industry (1½ days)		
Other classes you would like to see offered an	d number of po	otential attendees from your agency.
*Culvert Hydraulics and HEC-RAS are comp	uter programs o	offered only in Springfield.
Contact Person		Agency
Phone Number		Fax Number

Illinois Interchange

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 interchange 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. Subscriptions are free and are available by writing to:

Illinois Technology Transfer Center Illinois Department of Transportation 2300 South Dirksen Parkway - Room 205 Springfield, IL 62764

T² Advisory Committee

The people listed below help guide and direct the activities of the Illinois T^2 Program. You are encouraged to contact any of them to comment or make suggestions.

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