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## Introduction to roundabouts workshop

May 17, 2000, Ames, Iowa

ROUNDBABOUTS in Iowa? Why not? Research shows that roundabouts are useful replacements for accident-prone or congested conventional intersections. Properly sized roundabouts usually outperform other types of intersections in terms of reducing delays and injury accidents and providing aesthetic appeal.

On May 17, 2000, learn the basics about why, where, when, and how a roundabout should be designed and constructed. This one-day workshop is being presented by Kittelson & Associates, Inc., the lead consultant for the Federal Highway Administration (FHWA) in developing *ROUNDBABOUTS: An Informational Guide*.

Kittelson & Associates, Inc. conducted extensive research into the best practices of roundabouts around the world and interpreted it in light of accepted U.S. design standards such as AASHTO's Green Book and the MUTCD to produce this comprehensive guide.

A registration brochure for this workshop is in the mail. If you would like to request one, please contact Traci Stewart at the Center for Transportation Research and Education at 515-294-8103 or [stewartt@iastate.edu](mailto:stewartt@iastate.edu). This brochure is also available online at [www.ctre.iastate.edu/](http://www.ctre.iastate.edu/). For more information about the workshop, contact Duane Smith, 515-294-8103, [desmith@iastate.edu](mailto:desmith@iastate.edu).



## Mid-Continent Transportation Symposium

May 15-16, 2000, Ames, Iowa



HIGH-LEVEL transportation research presentations are the order of the day, May 15-16, 2000, during the Mid-Continent Transportation Symposium. Select from a broad spectrum of basic and applied research topics during five concurrent sessions. Nearly 80 presenters from across the country will discuss their research in 26 topics. Sample topics include

- pavement materials
- weather information
- access management
- traffic safety applications of technology
- using geographic information systems to manage and plan public transportation

Special guest speakers will address conference participants:

Robert E. Skinner, Jr., is the executive director of the Transportation Research Board (TRB).

A. George Ostensen is director of the Federal Highway Administration's (FHWA) Midwestern Resource Center (MRC).

Francis "Frank" B. Francois is the former executive director of the American Association of State Highway and Transportation Officials

*SYMPOSIUM . . . continued on page*

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The preparation of this newsletter was financed through the Local Technical Assistance Program (LTAP). LTAP is a nationwide effort financed jointly in Iowa by the Federal Highway Administration and the Iowa Department of Transportation. The mission of Iowa's LTAP:

To foster a safe, efficient, environmentally sound transportation system by improving skills and knowledge of local transportation providers through training, technical assistance, and technology transfer, to improve the quality of life for Iowans.

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## Sign up for MoGO training



Do you have some new motor grader operators to train or some experienced operators who'd like refresher training? Now's the time to let the Center for Transportation Research and Education (CTRE) know how many people you'd like to attend a Motor Grader Operator (MoGO) Workshop this year.

The MoGO training program is a two-day workshop taught by experienced operators. These instructors present safe, efficient operating practices in a classroom session on day one. Day two is an optional, one-on-one field day. The instructors travel to local sites to advise workshop participants while they operate their own equipment in their own territory.

CTRE is still in the planning stages for this year's MoGO workshop schedule. Dates and locations will be determined after cities and counties inform CTRE of how many people they'll send to training. Classes are scheduled beginning in mid-May through mid-August.

If you'd like to send operators to a MoGO workshop this year, contact Sharon Prochnow with the following information as soon as possible:

- number of employees for classroom session (Day 1)
- number of employees for field day (Day 2)
- county/city name



Assistant instructor Joe Weber (left) talks with a Boone County operator during a field day.

- name of contact person
- address
- phone
- fax

Contact Sharon Prochnow at 515-294-8103, prochnow@iastate.edu, or submit the information by fax to 515-294-0467. If you have questions about the content of the MoGO training, contact Fred Short, MoGO workshop coordinator, at 712-563-2459.

### *SYMPOSIUM . . . continued from page 1*

(AASHTO). He will speak at the banquet and awards ceremony May 15.

Registration brochures for the symposium are in the mail. The brochure is also online at [www.ctre.iastate.edu/bulletin/symposiu.pdf](http://www.ctre.iastate.edu/bulletin/symposiu.pdf). To request a brochure, contact Traci Stewart at the Center for Transportation Research and Education (CTRE), 515-294-8103, stewartt@iastate.edu.

The Mid-Continent Transportation Symposium is sponsored by CTRE, the Iowa Department of Transportation, the Midwest Transportation Consortium, and the Missouri Valley Section of the Institute of Transportation Engineers.

If you have questions about the symposium, contact Sharon Prochnow at CTRE, 515-294-8103, prochnow@iastate.edu.

# How FEMA can help

by Duane Smith, Associate Director for Outreach



NO ONE expects to be involved in any kind of disaster, but when one does occur there is an agency uniquely designed to provide financial relief for the restoration costs, the Federal Emergency Management Agency (FEMA).

## Getting reimbursed by FEMA

FEMA has developed a handbook, *Public Assistance—Policy Digest*, that guides local agencies through the process of reimbursement for storm-related damages. Following is the general sequence of activities, which may vary based on the circumstances of the disaster:

- Immediately after a disaster occurs the local agency makes a preliminary estimate of the damages and reports this to the Iowa Office of Emergency Management (Pat Hall, 515-281-3231).
- The local agency continues emergency-related work and keeps track of labor, equipment, materials, and outside contracts.
- The state contacts FEMA at its regional office in Kansas City. FEMA dispatches personnel to review the sites, along with state representatives, and completes a preliminary damage assessment (PDA).
- Based on the amount of the PDA, the governor requests federal assistance after which the President makes a declaration of disaster. If needed, funds are released immediately.
- Within 30 days of the declaration of disaster, a project worksheet for each repair or reconstruction project must be prepared. The worksheets detail specific cost estimates. FEMA prepares worksheets for large projects (approximately, those above \$48,000); the local agency prepares worksheets for small projects.
- FEMA personnel review a sampling of the agency's project worksheets to verify the cost estimate.

- Projects are developed, bidding documents are prepared, and contracts are let.
- The restoration work is conducted and required documentation is completed by the agency.
- FEMA conducts a final inspection and makes final payment. All records are kept for three years after final payment.

## Who's helping?

Today FEMA is a 2,500-person agency supplemented by over 5,000 stand-by disaster assistance employees (DAEs). DAEs perform disaster response and recovery activities, usually at temporary work sites located in disaster damaged areas. DAEs are assigned to regional offices and deployed as needed.

## Working with FEMA

John Govig, secondary roads superintendent in Montgomery County, has worked with FEMA three times since 1998 on flood-related disasters. Govig has reviewed over 400 sites during this time. He likes that the local agency does the cost estimate sheets for small projects and then has them reviewed by FEMA.

"The local agency really knows a lot more about the conditions and the local cost, so it makes sense for them to make the cost estimate," Govig says. He

*FEMA . . . continued on page 8*



1999 flood damage in Montgomery County.



## LTAP Advisory Board

The people listed below help guide and direct the policies and activities of the Center for Transportation Research and Education's Local Technical Assistance Program (LTAP). The board meets at least annually.

Contact any of the advisory committee members to comment, make suggestions, or ask questions about any aspect of LTAP.

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Local Systems  
Iowa Department of  
Transportation  
Telephone: 515-239-1051

Jennifer Balis  
Iowa Division, Federal  
Highway Administration  
Telephone: 515-233-7304

Gary Fox  
Traffic and  
Transportation Director  
City of Des Moines  
Telephone: 515-283-4973

Kevin Gilchrist  
Senior Transportation Planner  
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Planning Organization  
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Director of Public Works  
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City Engineer  
City of Bettendorf  
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Harold Jensen  
Story County Engineer  
Telephone: 515-382-6581

Larry Jesse  
Local Systems  
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Transportation  
Telephone: 515-239-1528

Bob Sperry  
Webster County Engineer  
Telephone: 515-576-3281



Center for Transportation  
Research and Education

IOWA STATE UNIVERSITY

## Complying with GASB 34: How to value major capital assets

by Tom Maze, Transportation Sector Leader,  
Howard R. Green Company; former director, Center  
for Transportation Research and Education

*Editor's note and correction: This is the second of a series of articles about changes in accounting requirements that will affect Iowa's state and local transportation agencies.*

*The Governmental Accounting Standards Board (GASB) sets Generally Accepted Accounting Practices (GAAP) for governmental agencies. In our first article, we said that Iowa does not require local governments to follow GAAP standards for annual financial reporting. Through conversations with the state Auditor's Office, we found out we were incorrect. Counties are required by Iowa law to follow GAAP standards for financial reporting; cities are encouraged, but not required, to follow GAAP standards.*

*Here's a brief summary of the first article: Issued in June 1999, GASB Statement No. 34 (or GASB 34) sets new GAAP requirements for reporting major capital assets, including infrastructure assets like roads, bridges, water and sewer facilities, etc. Under GASB 34, Iowa's governmental agencies must soon begin using accrual accounting methods for reporting such assets. This will be a major change for many Iowa agencies, which have traditionally used cash accounting reporting methods. Under cash accounting, physical assets appear on the books only during the year in which they are constructed; in subsequent years, they are off the books. Accrual accounting requires that the costs of long-lived assets be charged over the life of those assets.*

*The first article also discussed the schedule for complying with the new reporting requirements. Find the complete article online at [www.ctre.iastate.edu/pubs/Tech\\_News/2000/index.htm](http://www.ctre.iastate.edu/pubs/Tech_News/2000/index.htm).*



GASB 34 is documented in a small paperback booklet, which is devoted primarily to guidelines for developing financial statements and examples of such statements. The booklet defines capital assets, one class of which is infrastructure assets. The guidelines specifically identify roads, bridges, sewers, drainage systems, and other infrastructure commonly operated by local governments as capital assets.

According to GASB 34, each jurisdiction can use one of two general methods for valuing existing infrastructure assets: depreciation, or the modified approach. Whichever method is used, a fundamental requirement is a good inventory of assets. The inventory will include the historical cost, or estimated historical cost, of construction.

### **Depreciation method of valuing assets**

The easiest method for valuing assets under GASB 34 is depreciation. Governments can use any reasonable and established method to depreciate an asset's value over its useful life until it reaches salvage value. On each year's financial statement, depreciation will be shown as an expense, and the capitalized value of the asset declines each year by the amount of the annual depreciation.

One simple method for determining depreciation is straight-line depreciation. The annual amount of straight-line depreciation is determined by the following equation:

$$\text{annual depreciation} = (\text{historical cost} - \text{salvage value}) / \text{useful life in years}$$

This fairly straightforward method for valuing assets is commonly used by local governments to value rolling stock and other assets. However, this and other depreciation formulae for valuing assets may not be the best way to value infrastructure assets because it omits one critical variable: maintenance.

The life (and value) of a road or bridge largely depends on how well it is maintained. Regular maintenance adds value to infrastructure assets. For this reason, some agencies that have gotten a head start on valuing their existing capital assets have chosen not to use depreciation methods.

The alternative approach to valuing existing assets suggested by GASB 34 is called the "modified approach."

### **Modified approach to valuing assets**

The modified approach to valuing capital assets incorporates the benefits, or value, of maintenance activities into the reporting process. GASB 34 does not provide a complete description of such an approach but does describe the minimum required inputs and outputs. In general, they include the following:

***"The modified approach to valuing capital assets incorporates the benefits, or value, of maintenance activities into the reporting process."***

- Maintain an up-to-date inventory of infrastructure assets.
- Regularly assess the condition of all infrastructure assets and summarize the results, using a measurement scale.
- Each year, estimate the annual cost required to maintain and preserve the assets at a minimum condition level established by the agency. The minimum condition level should be expressed in terms of categories or a condition index (e.g., good, fair, and poor).

According to GASB 34, the assessment of infrastructure conditions must be conducted at least once every three years. In addition, the results of the three most recent condition assessments must provide reasonable assurance that the assets are being preserved approximately at or above the minimum condition level established by the agency.

The mechanics of implementing the modified approach are left to the agency to determine.

**Determining the current value of infrastructure assets**

Under the depreciation method for valuing assets, deriving a current value is fairly straightforward. However, under the modified approach, deriving a current value for infrastructure assets will be one of the most problematic requirements for city public works officials and county engineers. And it is also the one for which the least guidance is available.

The GASB 34 booklet’s discussion about valuing capital assets is rather brief and leaves a good deal of flexibility to engineers and other infrastructure managers. When addressing methods for estimating the value of capital assets, the text uses words like “professional judgment,” “reasonable,” and “consistent.” In other words, rather than prescribing rigid formulae for valuing assets, GASB 34 allows managers to estimate asset values through consistent and reasonable methods.

We would suggest that estimating the current value of an asset under the modified approach be based on reasonable and consistent methods for determining the current condition of the asset. A

relatively simplistic approach would be to rate assets (for example, roadways) on a condition scale from 0 to 100, where 100 is perfect, 0 is impassable, and 40 is considered the minimum acceptable level of condition (terminal condition). This would mean that a road could lose a maximum of 60 condition points in its life. Under this approach, a road currently rated at 70 (half the maximum point loss) would be valued at half the historical cost.

Because of the many variables to be considered, we’re not suggesting that anyone follow this method for valuing assets, only that it illustrates one possible approach.

**What’s next?**

GASB 34 describes the required inputs and outputs of the modified approach in terms of an “asset management system.” In the next issue of *Technology News*, we’ll discuss how the elements of the modified approach can form the basis of a full-fledged asset management system for local agencies’ various capital assets.

In the next issue we will also provide details about GASB 34 training to be offered this summer by the Iowa State Association of Counties and the Iowa League of Cities. The first session will focus on the needs of local government financial officers. In all likelihood, there will be a follow-up session for engineers and public works professionals. •

*“Under the modified approach, deriving a current value for infrastructure assets will be one of the most problematic requirements”*

Including the value of existing roads and bridges in financial reports will be a major change for many Iowa agencies under GASB 34.



## Director named to new PCC center



Dale Harrington



DALE HARRINGTON, a registered professional engineer, was recently named director of the new Center for Portland Cement Concrete (PCC) Pavement Technology, which is located at the Center for Transportation Research and Education (CTRE). Dale's career has spanned all levels of government and a 12-year stint in the private sector.

He earned a degree in applied science in construction technology from Iowa State University (ISU) in 1964 then worked for the U.S. Naval Civil Engineering Laboratory in California for three years. When he returned to Iowa, he attended ISU and worked for the Iowa Department of Transportation (Iowa DOT) until 1973, earning his professional engineering registration in 1971.

Dale worked as the principal chief engineer for the Central Iowa Regional Association of Local Governments (now known as the Des Moines Area Metropolitan Planning Organization) in the mid-1970s. While there he completed the short- and long-range transportation plan and the 201 sewer master plan for the Des Moines metropolitan area. From 1975 to 1988 he was assistant Polk County engineer in charge of the engineering development division. In that position he oversaw transportation, water, and sanitation.

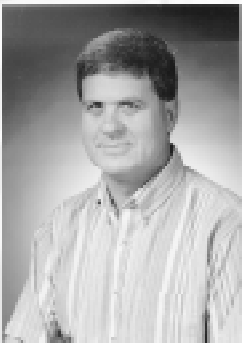
Once his children were out of school, Dale says, he was ready to try working in the private sector as a civil engineering consultant. He became project director and a partner for Snyder & Associates, Inc., in Ankeny, where he has worked for 12 years. The variety of projects especially appealed to him. A highlight of his consulting career was the development of urban design standards and specifications for 30 member governments in central Iowa.

After such a varied career what challenges were left? A chance to work in academia, Dale says.

The center's mission is to advance the state of the art of PCC pavement technology, including design, materials science, construction, and maintenance, in order to produce a durable, cost effective, sustainable product. The overall vision of the center is to become known statewide, regionally, and nationally as a resource center and leader for technology transfer, education, and research in PCC pavement technology.

Dale looks forward to developing research programs and to providing training and technology transfer opportunities to state and local governments and private contractors. •

## Bridges and structures staff



Terry Wipf



TERRY WIPF joins CTRE as our new associate director for bridges and structures. Terry has been a professor in ISU's Civil and Construction Engineering Department for 17 years and will continue with a half-time appointment. As part of his CTRE appointment, he is assisting the Office of Bridges and Structures at the Iowa Department of Transportation (Iowa DOT) with research and training issues.

Terry is currently working on several projects for the Iowa DOT including

- Field testing and analysis of steel plate girder bridges for out-of-plane distortion

- testing and evaluation of a fiber reinforced polymer deck bridge
- testing and evaluation of a steel girder bridge strengthened with fiber reinforced polymer prestressing tendons
- load testing for rating bridges
- development of PC software for slab bridge analysis/design by LRFD method

The goals of CTRE's new bridges and structures division are to continue to provide bridge research and training services to the Iowa DOT and to be a leader at the national level in bridge engineering.

## Fresh CTRE faces



CTRE IS PLEASED to welcome several new staff members.

### Online clearinghouse

Randy Boeckenstedt is CTRE's newest transportation research specialist, focusing on asset management and transportation policy. He'll be working with the Midwest Transportation Consortium (MTC) to develop an online transportation research clearinghouse. Randy earned a bachelor's degree in manufacturing technology/mechanical design and an M.B.A. from the University of Northern Iowa (UNI). He worked at UNI for several years, first as the business manager for the Metal Casting Center and then as the program manager for the Ag-Based Industrial Lubricants Research Program.

### Pavement management

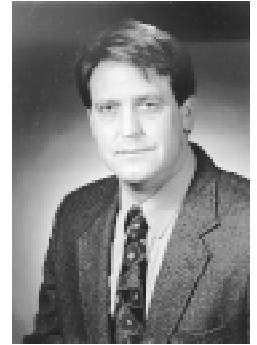
If you're involved with the Iowa Pavement Management Program (IPMP), you may already know Aemal Khattak. Aemal, who is originally from Peshawar, Pakistan, earned a Ph.D. in civil engineering from North Carolina State University. He worked for the Pakistan department of transportation for five years and for the Pennsylvania Transportation Institute and North

Carolina State's Department of Civil Engineering for several years. His specialties are roadway asset management, safety, and data analysis and modeling.

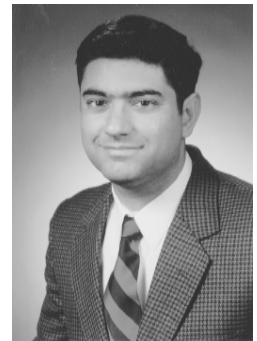
### Transportation research

Shauna Hallmark comes to Iowa State University from Georgia where she recently completed a Ph.D. in civil engineering at the Georgia Institute of Technology. She is an assistant professor in ISU's Department of Civil and Construction Engineering. At CTRE she plans to work on emergency response information service projects.

Gary Thomas is a transportation engineer and an assistant professor in ISU's Department of Civil and Construction Engineering. At CTRE he does research in traffic engineering and traffic safety. Originally from Minnesota, Gary returns to the Midwest after 10 years studying and working in Arizona. He has a Ph.D. in civil engineering, with an emphasis in transportation, from Arizona State University. Before coming to CTRE he was the city traffic engineer for Gilbert, Arizona, a city of 100,000 people in the Phoenix metropolitan area. He also worked as a transportation engineer/consultant for several years in Phoenix. •



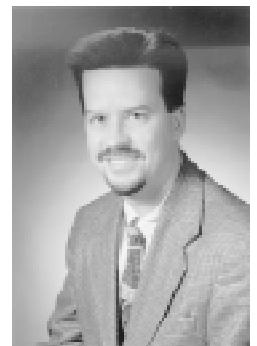
Randy Boeckenstedt



Aemal Khattak



Shauna Hallmark



Gary Thomas

Terry earned his Ph.D. in mechanics and energetics from the University of Nebraska-Lincoln and previously served as a bridge engineer for three and a half years with HNTB.

Working with Terry Wipf is Mahmoud Halfawy, a post-doctoral research associate. His work focuses on structural analysis of bridge structures and software development of integrated bridge CAD systems. He'll be assisting in a number of research projects in collaboration with the Iowa DOT to assess and evaluate the structural performance of existing bridges (e.g., using load testing techniques).

Mahmoud has a Ph.D. in civil engineering from Ohio State University. Before coming to CTRE he

worked as a software engineer at Engineering Animation, Inc., in Ames, Iowa, developing object-oriented CAD systems for industrial facility layout and design. Before that he worked as an engineering scientist at EMH&T, Inc., in Columbus, Ohio, where his work focused on the development of GIS for sanitary/storm water sewers evaluation and simulation. •



Mahmoud Halfawy

## New IPMP service

*The Iowa Pavement Management Program (IPMP) helps state and local transportation agencies make better decisions about how to spend their maintenance and construction dollars through the use of consistent and objective data in an information system environment. The IPMP, an Iowa Department of Transportation project, consists of information on pavement condition, a supporting GIS database for analyzing the condition data, and pavement management software that considers pavement condition and funding constraints to recommend maintenance, rehabilitation, and reconstruction activities.*



THE IOWA Pavement Management Program (IPMP) at the Center for Transportation Research and Education (CTRE) is offering a new video-logging service to local transportation agencies, allowing staff to “drive” their highway network without leaving their offices.

The IPMP’s data collection vendor, Roadware Corporation, can provide video logs of the right of way for the roads where distress data are being collected. Images can be captured at predetermined intervals, randomly in real-time, or continuously and are delivered on CD, DVD, or tape. The images are viewed using Roadware’s VISIDATA software, which integrates ARAN video and data into a single desktop application. A video banner describing the roadway can be optionally burned to the images.

Local transportation agencies can contract with CTRE for this service. Agencies receive continuous coverage (160 images per mile) of their highway network integrating with the condition data that Roadware already collects.

A demonstration project will be conducted this summer to show the benefits of video logging and to test the VISIDATA software. A selection of urban and rural miles will be completed during the current data collection cycle. The information will be presented to lo-

cal transportation agencies at a training session planned by CTRE and at different organizations’ meetings, including the APWA and the County Engineers Association.

For more information about this new service and any other IPMP questions, contact Omar Smadi, pavement management specialist, 515-294-7110, smadi@iastate.edu. •



*This is an example screen from VISIDATA that shows a front right-of-way view and the pavement condition associated with it (bottom). In the upper right corner, users can scan through the different routes or highways in their network and select the sections they are interested in.*

FEMA . . . continued from page 3

thinks it’s a good investment of time and resources for local agencies.

Govig has a few tips to share:

- Document rental rates.
- Use the mitigation opportunity whenever possible. This allows an agency to spend an additional 15 percent over the cost estimate to improve the site above its pre-disaster condition. For example, rip rap may be added to a site to reduce the potential of erosion in the future.
- Get the work scope correct the first time; FEMA won’t let it

change in the future. The quantities and pay rates may change but not the scope.

Govig has appreciated working closely with FEMA personnel in recent years. “FEMA is a great bunch to work with,” he says. He believes the agency is purposefully striving to work in partnership with local agencies.

Dick King, Black Hawk County engineer, also has flood-related experience with FEMA. King says that it takes a lot of time and usually that time has to be taken from other planned activities, but the agency stands to get a lot of money back on this investment of time and resources.



## Tip from the field: Post driver



THE CLINTON County engineering staff needed a unique stake for marking road right of way. Six-foot steel fence posts were readily available, but needed to be easily distinguished from other posts along a fence line. Raymond Myers, mechanic/welder with the Clinton County Highway Department, and the engineering staff determined that if the post were inverted in the ground it would stand out from the other fence posts. These special stakes are painted fluorescent orange for visibility and are easily recognized as county markers.

To help install these county markers, Myers invented a post driver that drives steel fence posts into the ground upside down. To accomplish this he used two steel reflector posts back to back (wide side) with a one-quarter-inch spacer welded in between at the top. The space lets the spade slide between the sides of the driver, while the actual driving contact surface is on the end of the post. A ballast piece of steel is welded in with the posts and spacer at the top to make driving easier. Handles on either side give the operator the proper control to keep the post in alignment while driving.

For more information about how to construct this tool, contact Myers, 319-659-8230. •



## 25 years touting traffic safety



WORKING TO make Iowa's streets and roads the safest in the nation is the mission of the Iowa Traffic Control and Safety Association (ITCSA), which celebrates its 25<sup>th</sup> anniversary this year. This unique organization brings together professionals from the fields of engineering, education, law enforcement, and emergency response.

Jim Brachtel, senior engineer with Iowa City Public Works, says being actively involved in ITCSA is helpful to his work in traffic safety for two main reasons. He gains a new perspective on traffic safety when he "rubs elbows with other disciplines," especially people in enforcement and education. By talking with educators, for example, Brachtel hears about the problems new drivers are encountering.

Brachtel says being a member of ITCSA also gives him the opportunity to meet with his engineering contemporaries. Learning and sharing traffic safety ideas about things like traffic calming, specifically in an Iowa setting, is really beneficial, Brachtel says.

### ITCSA activities

Members gather for a conference each year to network, share new developments in their various disciplines, and learn about traffic safety issues in Iowa. In a recent survey of ITCSA's members, one respondent said about the conferences, "I usually walk away with at least one or more ideas of improving a safety-related issue. Just getting together with others in the traffic safety field can be and is refreshing." This year's conference will be held October 26-27 in Ames, Iowa.

Members also work to affect traffic-safety-related legislation and enhance K-12 traffic safety education.

### Become a member

ITCSA would like to invite you to join. For the \$20 annual membership dues you'll receive a biannual newsletter, *Safety Lines*, which reports traffic safety news of interest. You may also participate in an e-mail listserv, which will be used for periodic communication about traffic safety issues.

To learn more about ITCSA, see its new web site at [www.ctre.iastate.edu/itcsa/](http://www.ctre.iastate.edu/itcsa/). The new web site includes news about events, back issues of *Safety Lines*, and an online membership form.

If you'd like to join, or simply learn more about the benefits of ITCSA membership, contact Tom McDonald at the Center for Transportation Research and Education, 515-294-6384, [tmcdonal@iastate.edu](mailto:tmcdonal@iastate.edu). •

### Disaster funding

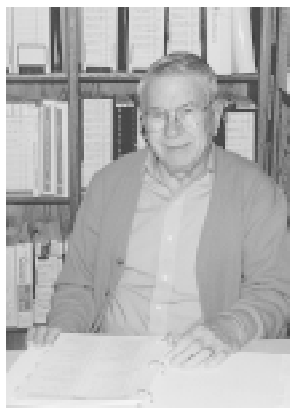
The funding is prorated between the three levels of government. FEMA provides 75 percent of the estimated costs, the state provides 10 percent, and the local government provides the other 15 percent. After reviewing the site, a DAE signs off on the damage and how the restoration is to be completed. If there is a cost overrun during the restoration activities, a process is in place that allows for a revised cost estimate to be used. This has streamlined the process for local agencies.

No one wants to be involved in a disaster, but if you are, FEMA can help get you back on your feet. The DAEs are prepared to make things happen quickly and to assist you in your restoration efforts. •



library  
resources

## Library news



Stan Ring,  
LTAP library coordinator

### Ordering materials

You can order any of the items mentioned in the accompanying article and/or a hard copy of the complete LTAP library catalog by using the form on the back page of this newsletter.

You can search the library and order items online at [www.ctre.iastate.edu/Outreach/ltap/library/search.cfm](http://www.ctre.iastate.edu/Outreach/ltap/library/search.cfm).

If you have questions about the library's holdings, please contact Stan Ring, at 515-294-9481, [sring@iastate.edu](mailto:sring@iastate.edu).

WITH THE construction season beginning soon, Stan Ring, library coordinator, suggests this new series of videos about highway work zone safety:

**V614 *Utility Work Zone Safety.*** This program shows the above- and below-ground hazards of telecommunications, electric, gas, water, and sewer utilities; the on-site consequences when they are disrupted; and the off-site consequences to those affected by their accidental disruptions.

**V615 *Surveying Safety.*** This program describes some of the important hazards surveyors face as they work in every phase of construction, from pre- to post-construction, inside and outside the work zone.

**V616 *Loading, Transporting, and Unloading Heavy Equipment.*** This program shows the special considerations involved with moving equipment that's too large to be self-transported over long distances. Emphasis is on visibility and respect for the size of the equipment.

**V617 *Removal/Demolition Safety.*** This program shows the hazards associated with the demolition and removal of roads, structures, utilities, and natural structures in preparation for new construction. It emphasizes personal safety by being knowledgeable about the job, equipment, and the plan.

**V618 *Moving Operations/Maintenance Safety.*** This program describes a variety of short-term highway operations from snow plowing to patching, from the least dangerous to the most dangerous. It emphasizes awareness of hazards and individual responsibility for safety where standard traffic controls are at a minimum.

**V619 *Paving Safety.*** This program shows some of the hazards of paving with Portland Cement Concrete (PCC) and Asphalt Cement Concrete (ACC), including night paving operations. Emphasis is on taking personal responsibility for constantly being aware of the changing hazards in paving operations.

Following is just a sampling of the new publications the library has for loan about traffic calming:

**P 1438 *Traffic Calming, State of the Practice.*** This report explains the various measures used to reduce the speed and volume of traffic to an acceptable level for the functional class of the street and the nature of the border activity. It uses illustrations from many U.S. cities.

**P1415 *Traffic Calming Primer.*** Traffic calming is a common term for addressing the problem of too many cars, going too fast on residential type streets. This book reviews the various planning considerations and calming tools involved, with a section on traffic calming tools that have been used.

**P1235 *Traffic Calming in Practice.*** This British publication discusses the various techniques for reducing the speed of traffic in residential areas. Many different techniques are identified, and examples are presented.

**P1416 *Traditional Neighborhood Development Street Design Guidelines.*** These guidelines were prepared to assist the design profession with a re-emerging form of development. It recognizes the divergent needs of pedestrians, bicyclists, transit, and motor vehicles and their relationship to adjacent land uses. Traditional neighborhood development refers to smaller lots, mixed commercial and residential, and alley accesses commonly found before the 1940s.

**P1417 *Neighborhood Traffic Control.*** In response to neighborhood traffic problems, this publication was prepared as a compiled list of techniques and their effects on traffic speed, environmental issues, and safety.

### Training tip

Like to learn more about effective management techniques but don't have time to take a class? The LTAP library has many resources for in-house training including interactive CDs (CDI players may be borrowed for two to three months), publications, videos, and training packages. They cover issues such as delegating, teamwork, public relations, running meetings, and selecting employees. Stan Ring, library coordinator, is always happy to help you select the most appropriate materials for your training needs. Contact him at 515-294-9481 or [sring@iastate.edu](mailto:sring@iastate.edu).

## May 2000

15-16	Mid-Continent Transportation Symposium and MOVITE Spring Conference	Ames	Sharon Prochnow 515-294-3781, prochnow@iastate.edu
17	Introduction to Roundabouts Workshop	Ames	Sharon Prochnow 515-294-3781, prochnow@iastate.edu

## July 2000

13	ICEA Mid-Year Conference	Ames	Jim Cable 515-294-2862, jkcable@iastate.edu
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## August 2000

16-18	APWA Fall Meeting	Council Bluffs	Jim Cable 515-294-2862, jkcable@iastate.edu
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## September 2000

12-13	Iowa Maintenance Expo	Ames	Duane Smith 515-294-8103, desmith@iastate.edu
14	Snow Plow Rodeo	Ames	Duane Smith 515-294-8103, desmith@iastate.edu

## October 2000

19-20	Iowa Secondary Road Maintenance Supervisors Association Annual Conference	Ames	Duane Smith 515-294-8103, desmith@iastate.edu
26-27	ITCSA Annual Conference	Ames	Tom McDonald 515-294-6384, tmcdonal@iastate.edu



## First reinforced concrete bridge in Iowa

By Stan Ring, Library Coordinator

In the Iowa State Highway Commission's 1915 annual report, the commission reported that the Melan bridge in Lyons County, Iowa, was the first reinforced concrete bridge in the United States.

In northwest Iowa during the late 1800s the wooden bridges over dry run creeks were destroyed by prairie fires at least twice. Settlers needed a fire resistant bridge. A salesman representing Friedrich Von Enberger told them his client, Joseph Melan, could furnish just what they needed—a reinforced concrete bridge that could not burn.

Based on Melan's design, a closed spandrel arch bridge with a 30-foot span and a 16-foot roadway was constructed in 1893. It used five four-inch I-beams as reinforcement and was six inches thick at the crown. Austrian cement was used at \$3.25 per barrel and a ratio of one part cement, two parts sand, and four parts jasper rock. Sioux Falls granite blocks were used as a facing. The total cost was \$830.

By the 1960s the bridge had become functionally obsolete and needed to be replaced. Supporters

helped raise money to move the bridge. Groves Construction Co. of Melvin, Iowa, moved the 90-ton bridge to Rock Rapids City Park in 1964, where it is now maintained for future generations. The cost was \$6,913.

Some years later it was determined that the first reinforced concrete bridge in the United States was constructed in Golden Gate Park in San Francisco

*FIRST . . . continued on page 12*

The first reinforced concrete bridge built in Iowa was in Lyons County in 1893.





in 1889. Called the Alvord Lake Bridge, it served as a footbridge. It used cement shipped from Germany and was designed by Ernest L. Ransome. •

Although the Melan Bridge became functionally obsolete, it was saved and moved to a city park in 1964.

## Receive time-sensitive news by e-mail

INTERESTED in learning about upcoming training opportunities, legislative updates, and other time-sensitive information as soon as possible? The Local Technical Assistance Program (LTAP) is offering a free, subscriber-only e-mail service to communicate time-sensitive information with local governments.

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