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## Approaching the crossroads

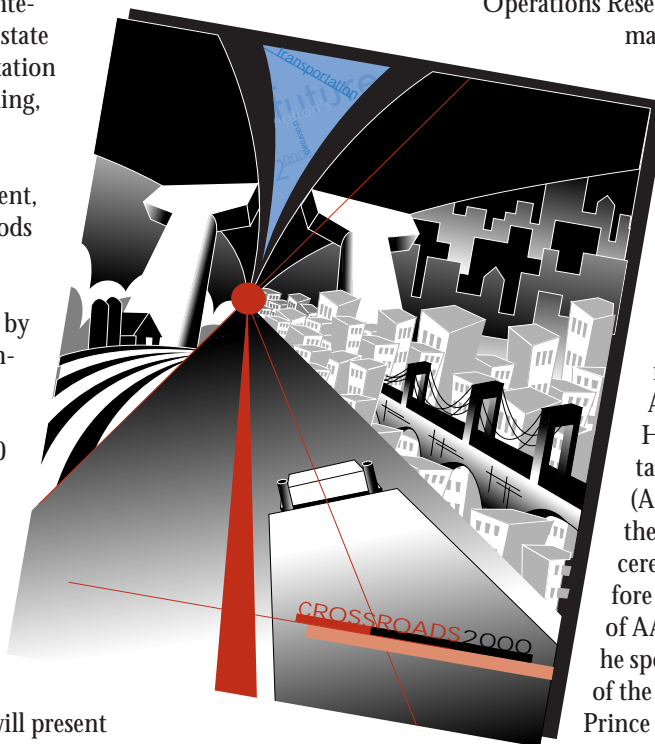
WINTER STORM maintenance, regional and state intelligent transportation systems (ITS) planning, methods in travel demand modeling, urban ITS deployment, computerized methods for crash analysis—these are just a few topics to be covered by more than 70 presentations in five concurrent sessions at the Crossroads 2000 research conference. The conference will be August 19–20, 1998, at Iowa State University.

Researchers from across the country will present papers at this second biennial event. Participants will select sessions according to their interests.

Topics cover a range of transportation issues and include basic and applied research. A different ITS issue will be addressed in each concurrent session. A complete conference proceedings will be available at the conference for all attendees.

Two special guest speakers will address conference participants:

**Robert Betsold**, associate administrator for research and development with the Federal Highway Administration, has over 30 years of varied highway experience. He has served as the engineer manager for the Chicago Crosstown Expressway, deputy director for environment and design in the Chicago region, director of the Office of Implementation and the Office of Safety and Traffic



Operations Research and Development, managing director of the Turner-Fairbank Highway Research Center, and deputy associate administrator for research and development.

Originally from Iowa, **Francis "Frank" B. Francois**, executive director of the American Association of State Highway and Transportation Officials (AASHTO), will speak at the banquet and awards ceremony August 19. Before assuming management of AASHTO affairs in 1980, he spent 18 years as a member of the County Council of Prince George's County, Maryland, an elected position in

which he worked closely with transportation, public works, environmental, and community development issues.

Registration brochures are in the mail. To read or download an online copy of the brochure, which includes a complete list of speakers and papers to be presented, go to <http://www.ctre.iastate.edu/bulletin/crossreg.pdf>.

Crossroads 2000 is sponsored by the Center for Transportation Research and Education (CTRE) at Iowa State University and the Iowa Department of Transportation.

If you have questions about the conference, contact Sharon Prochnow at CTRE, 515-294-8103, [sharon@ctre.iastate.edu](mailto:sharon@ctre.iastate.edu). ■

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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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Jennifer Reed.



## Technology champion

IN GOVERNOR BRANSTAD'S Blue Ribbon Task Force report on transportation in 1995, one recommendation was that a "technology champion" be established in Iowa. As that champion, the Iowa Transportation Agency Computer and Communications (ITACC) group, formed in 1997, promotes improved communications and information sharing among Iowa's transportation jurisdictions. ITACC's main objective is to facilitate the use of technology in order to more efficiently provide Iowa's citizens with a seamless, safe, and efficient network of roads and highways.

ITACC's goals include the following:

- Encourage and facilitate information and service sharing among Iowa's transportation jurisdictions.
- Recommend information technology standards and data communications protocols to facilitate information sharing.
- Identify and advocate methods of data transmission.
- Facilitate and coordinate training and knowledge about sharing.
- Serve as a forum for jurisdictions to share knowledge and keep each other apprised of information technology advances, initiatives, financial assistance, and other opportunities.

ITACC members meet three times a year. At their May 1998 meeting they agreed that one of their projects will be a World Wide Web site hosted by the Iowa Department of Transportation (Iowa DOT). Details will be worked out at their next meeting.

The group's other main project is to catalog every information technology project underway in cities, counties, and the state. The catalog will function as a clearinghouse of information. Each project will include a summary and a contact person for more information.

Examples of projects that will be cataloged include

- at the state level, the Iowa DOT's electronic recordkeeping and GIS linear referencing system.
- at the city level, a new electronic public information kiosk at a Hy-Vee grocery store in Ames.

The kiosk will be a satellite to the city's and library's World Wide Web sites and provide a range of services from one location.

- at the county level, an electronic pavement management system.

ITACC encourages you to report information technology projects at the state level to Barb Espeland, Office of Data Services, Iowa DOT, 515-239-1583; at the city level to Scott Williams, Public Works Department, Ames, 515-239-5276; and at the county level to Keith White, Sac County Engineer, 712-662-7687. ■

*"Technology champion" was adapted from an article by Blake Redfield, traffic supervisor from Council Bluffs, which originally appeared in the spring 1998 issue of Safety Lines, the newsletter of the Iowa Traffic Control and Safety Association.*

## Management tips on CD for road supervisors



CTRE'S LTAP LIBRARY has for loan two new interactive CDs in a "Successful Supervision" series. Produced by the national Local Technical Assistance Program, the CDs are designed specifically for road supervisors.

One CD deals with management issues such as planning, authority, selecting employees, decision making, and time management. Delegation and problem solving are especially emphasized.

The management CD offers plenty of practical tips such as how to handle conflict and how to implement the 20/80 concept of delegation, which suggests supervisors delegate 80 percent of work to their employees. The remaining 20 percent should be work only the supervisor can handle.

The second CD discusses leadership and motivational techniques, including understanding employees, disciplining employees, and developing team work. This CD encourages a democratic, team oriented management style and shows how other styles are less productive.

A third CD about communication will be available for loan in a few weeks.

To borrow the CDs and a CD-I player for one month, contact Stan Ring, library coordinator, 515-294-9481, stan@ctre.iastate.edu. ■

# The golden rule of personnel management: employee discipline

Alan Estvold, Montgomery County Engineer

## This is the final article in a three-part series on personnel management.



**DISCIPLINING EMPLOYEES.** No manager relishes it, and few of us are good at it. The golden rule of personnel management can help supervisors deal effectively with employee misconduct or poor performance and can relieve some of the stress associated with disciplining an employee.

In this context, the golden rule of personnel management becomes "Discipline employees as they would like to be disciplined."

This does not mean overlooking employee problems. Most employees want to know if they're not doing their job right. But they want to be told tactfully and respectfully, in private. They want to understand exactly what you expect from them. They want a chance to correct their performance. Properly managed, problem situations can often be turned around, and you'll end up with happier, more productive employees.

Some situations require stronger discipline or even dismissal, and managers should not shirk these duties. To use the golden rule of management in disciplinary situations, managers should remember the three Fs of employee discipline: Be fair. Be firm. Be final.

**Be fair.** Managers must always follow personnel policies regarding employee discipline. However, being fair does not necessarily mean using the same disciplinary action for the same infraction. Although using a wide range of disciplinary actions may open a manager to grievance proceedings, no two employees are exactly alike and no two infractions are exactly alike. A diligent, well-intentioned employee may respond to different corrective measures than those required for an insubordinate employee. In either case, the discipline should be appropriate to the situation and should be well documented. The quickest way to lose a grievance proceeding is to fail to have proper documentation.

**Be firm.** If you're angry about a situation, wait until you've cooled off to talk to the employee. Be prepared for the employee to react angrily, but don't

back off or let him or her gain the upper hand. Be respectful but consistent.

**Be final.** Make sure employees understand what is expected in regard to skills or behavior and what the consequences will be if they fail. You may want to establish a time frame for an employee to make changes or improve performance. Then follow through on the time frame and consequences you've established.

Unfortunately, managing employees as they would like to be managed will not always result in productive personnel. No matter what you do, some employees may not have the skills to perform their duties, or they may not be suited by temperament for their position. Some employees may be unwilling or unable to modify behavior that interferes with their own or other employees' productivity.

I would venture to suggest that you may sometimes do an employee a favor by letting him or her go. An employee may not be suited for this line of work or may need a serious wake-up call to change personal behavior. It is difficult to dismiss someone for lack of technical skills, but some employees may not be able to do their work no matter how much training they receive. An employee who can't perform the job is an employee who is miserable on the job.

With dismissal as with other forms of employee discipline, always follow company policies and document the process.

Remember the golden rule of personnel management: Manage employees the way *they* would like to be managed. This requires tailoring your style to fit the various personalities of your employees, but the results will generally be a productive, motivated staff. ■

*Alan Estvold is a professional engineer and land surveyor. He has a bachelor of science degree in civil engineering from North Dakota State University and a master of arts degree in management from Bellevue University.*

## 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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of Transportation**



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## Web sites to visit

Check out the following URLs (<http://>):

[www.istea.org/](http://www.istea.org/)  
The Transportation Equity Act for the 21st Century (TEA21) has its own World Wide Web site with specific information about facets of the new legislation.

[wzsafety.tamu.edu](http://wzsafety.tamu.edu)  
The National Work Zone Safety Information Clearinghouse web site doesn't let you search its databases yet, but you can request information about particular topics like crash data and technology and equipment. You can also submit information about work zone safety.

[www.ota.fhwa.dot.gov/tech/safety/index.html](http://www.ota.fhwa.dot.gov/tech/safety/index.html)  
This Federal Highway Administration site offers summaries of completed and in-process research projects related to safety and technology applications.

[www.ltpptdatabase.com/main.htm](http://www.ltpptdatabase.com/main.htm)  
The Long Term Pavement Performance (LTPP) database includes data collected in a 20-year program to increase pavement life by investigating the results of different designs, loads, and maintenance practices on pavement performance. ■

## Effect of mix times on finished concrete



DEVELOPING A PERFORMANCE-BASED specification for portland cement concrete pavement construction that measures quality, consistency, hardened air content, and pavement strength at the construction site is the long-term goal of the Iowa Department of Transportation (Iowa DOT).

Toward that end, the Iowa DOT and Iowa State University's Civil and Construction Engineering Department conducted research on two existing highway projects in 1997, one in Carroll and one in Carlisle. Researchers collected and evaluated data relating mixing time to

- hardened air content and distribution
- potential segregation in the hauling units (dump truck and agitator)
- concrete consolidation quality at the paving site
- workability of the concrete at the paving site

In tests of hardened air content and distribution, researchers concluded that for Iowa DOT-designed mixes, the mixing time did not affect the physical attributes of the concrete significantly, but results conflicted for the contractor-designed mix. This may be the result of a different matrix of coarse and fine aggregate in the contractor mix. The researchers recommend that contractor mix designs be thoroughly laboratory tested prior to construction to determine the impact of admixtures and the differences in aggregate/cement matrix on the desired physical performance factors.

Researchers found that dump truck type hauling units do not significantly change or decrease the quality of the portland cement concrete paving materials being delivered to the paver and should continue to be allowed in addition to agitator type hauling vehicles.

Mixing times of 60 seconds or greater have a positive influence on the physical characteristics of the concrete product, according to statistical analysis of variance. The 60-second minimum mixing time should be retained for all mixer types. Visual and physical test data indicate that reduced mixing times for alternative type mixers should only be allowed when steps have been taken to change the

## ISRMSA members swap ideas



COMPARING IDEAS with other road superintendents and foremen in the Iowa Secondary Road Maintenance Supervisors Association (ISRMSA) has been "real beneficial," says Marv Barber, current president of ISRMSA and bridge yard foreman for Webster County.

Lyle Laartz, engineer for Floyd and Chickasaw counties and president of the Iowa County Engineers Association, says his superintendent and foremen "come back refreshed and full of new ideas" from ISRMSA meetings. He sends three of his four superintendents and foremen from each county to meetings; they rotate their attendance so everyone gets to go sometime.

Barber says ISRMSA has about 90 members. Most counties are represented. Association officers are involved in planning committees for a signing workshop, the September 1998 winter expo, and a trial motor grader rodeo at the winter expo. They also helped plan the May 1998 summer maintenance expo.

One of the benefits of membership is learning how conditions vary in different parts of the state, Barber says, particularly for staff from counties along rivers who have to deal with hilly, curvy roads. One idea Barber heard about at an ISRMSA meeting that he subsequently tried was cutting old fuel tanks in half and using them to haul riprap so the riprap doesn't beat up the truck bed.

At the ISRMSA annual two-day conference, scheduled for October 14-15, 1998, the focus is on practical, informative ideas. During past conferences training sessions have been offered on culvert lining, bridge building, safety, and some management issues. Roundtable discussions allow participants to learn from their peers.

"The camaraderie keeps new ideas flowing," Laartz says.

Barber adds, "At times when budgets are getting tighter, it's beneficial to exchange ideas and find methods to better utilize personnel and equipment. This also gives us an opportunity to explore sharing of equipment between governmental agencies." ■

MIX . . . continued on page 5

## Exploiting the benefits of thin maintenance surfaces

Charles T. Jahren, assistant professor of construction engineering, Iowa State University



THE USE OF thin maintenance surfaces (TMS) can be a cost effective approach for maintaining the quality of pavement surfaces. These surfaces are usually applied to flexible pavements. They include chip seals, slurry seals, and micro-surfacing. Fog seals, crack repairs, and hot mix overlays are maintenance treatments that may affect the use of thin maintenance surfaces.

Chip seals are constructed by spraying binder on the road (usually emulsified asphalt) and then spreading aggregate chips before the binder sets. The chips are rolled into the binder to ensure that they remain in place. Pea gravel and sand are sometimes substituted for the rock chips.

Slurry seal is produced by mixing the aggregate and binder in a mobile mixing truck. The binder is usually asphalt emulsion, and the aggregate varies in size and type, depending on the application. Portland cement, hydrated lime, or aluminum sulfate are often added to aid in setting the slurry. The slurry is applied with a spreader box that is pulled behind the mixing truck that distributes and finishes the slurry.

Micro-surfacing is similar to slurry seal technology. Polymer-modified binder and one-hundred percent crushed aggregate is used. Micro-surfacing cures faster and may be applied in a thicker layer than slurry seal.

Studies have shown that transportation agencies can maintain a road network with better pavement condition at a lower cost by properly using TMS. In planning TMS programs, project selection, treatment selection, and timing are extremely important. In most cases, the proper time is before the need is apparent to the casual observer. Once pavements start to deteriorate, they deteriorate rapidly beyond the point where TMS is effective. When TMS applications are properly timed, road networks will show improvements in service life over the long term.

Because of its cost effectiveness, the Iowa Department of Transportation (Iowa DOT) is planning to substantially increase its use of TMS. Local systems may wish to do likewise. Iowa DOT planners have asked ISU researchers to develop better guidelines for the

use of TMS and a systematic testing program. The study objective is to develop recommendations, guide specifications, and construction procedures regarding which surface treatments to use, when.

The team will also assist with the design and monitoring of test sections throughout the state. One set of test sections will be constructed this summer on U.S. 69 between Ankeny and Huxley. The test will include micro-surfacing and chip seals. The chip seals will compare local and imported aggregate, one and two courses, and high float and cationic emulsion (binder). After construction the researchers will monitor performance.

In spring 1997, researchers surveyed counties and municipalities to find current practices with thin maintenance surfaces and needs for additional information. The student who is reviewing the data had to return to his home country for a family emergency, so final review of the data is not expected until fall 1998. The research team will issue a set of preliminary guidelines by December 1998.

Monitoring of the test sections will continue. Additional test sections are expected to be placed in other parts of the state. Final guidelines will be issued after monitoring of the test sections is complete.

For more information, contact Charles T. Jahren, 454 Town Engineering Building, Department of Civil and Construction Engineering, Iowa State University, Ames, Iowa 50011, 515-294-3829, (fax) 515-294-3845, [cjahren@iastate.edu](mailto:cjahren@iastate.edu)

*MIX . . . continued from page 4*

mixing process to eliminate any particles of aggregate that are not coated upon discharge into the hauling unit.

For more information about this research, contact Cable, 515-294-2862. Or attend Cable's presentation on the subject at the Crossroads 2000 conference in August 1998. (See cover story.)

## Vernon Marks retires



AFTER NEARLY 37 years with the Iowa Department of Transportation—the last 21-plus as research engineer and executive secretary for the Iowa Highway Research Board (IHRB)—Vernon Marks is retiring June 30, 1998.

Of the IHRB, Marks says, "It is an outstanding research organization . . . one of the better ones in the country. My position has allowed me to get involved in national research through the Transportation Research Board, which I have really enjoyed."

Marks graduated from Iowa State University in 1960 and, with the exception of a 13-month stint with the County of Los Angeles, California, has devoted his engineering expertise to the improvement of Iowa's roads and bridges.

"I've thoroughly enjoyed working with county engineers," says Marks. "They're an independent group with many wonderful ideas."

## Deploying ITS in Des Moines

**This is the second in a series of articles on intelligent transportation systems (ITS) applications in Iowa. ITS use information technology to facilitate safer and more efficient use of transportation facilities and services.**

A FEW LARGE METROPOLITAN AREAS have pioneered the use of ITS to manage traffic and transit services, with significant benefits: travel times decreased 20 to 48 percent, speeds on urban freeways increased 16 to 62 percent, accident rates on freeways reduced up to 50 percent, and bus travel times shortened as much as 18 percent.

Partnering with the Iowa and U.S. departments of transportation, the Des Moines Area Metropolitan Planning Organization (Des Moines MPO) hopes to accrue similar benefits for the metro area. An immediate incentive to deploy ITS in the metro area is to manage congestion during I-235 reconstruction, which could begin as early as 2001.

The Des Moines MPO will follow an ITS deployment plan developed by the Center for Transportation Research and Education (CTRE) at Iowa State University, Allied Signal, and Booz-Allen & Hamilton.

The plan calls for several categories of ITS deployment in the Des Moines area, including

- traffic management and traveler information
- interjurisdictional traffic signal coordination
- public transportation systems
- commercial vehicle operations

### Traffic management and traveler information

A traffic management and traveler information system includes

- traffic surveillance and management equipment (highway advisory radio transmitters, changeable message signs, traffic detectors, etc.)
- transportation management center—physical space for collecting/processing information via surveillance and communications equipment and initiating management strategies (e.g., deploying emergency responders, communicating information to motorists)
- incident (e.g., a crash or stalled vehicle) management plan
- electronic communication system to provide incident-response agencies with real-time data and real-time video of incidents
- traveler information system (broadcast over government access cable television with maps showing traffic speeds, incidents, road conditions, and real-time video, and distributed over the Internet and at public computer kiosks)

Setting up this system for the Des Moines metro area will cost \$20 to \$25 million over 15 years. Conservative estimates indicate that area interstate crashes will be reduced by 100 per year, speeds increased by 14 percent, and travel hours reduced by 250,000 hours (an estimated value of \$2.8 million). Faster incident clearance could reduce delays by 400,000 hours per year (a value of \$4 million annually). In addition, travelers can make more informed decisions regarding travel, route, departure time, mode, and estimated arrival time.

### Interjurisdictional traffic signal coordination

Non-freeway traffic travels most efficiently when stops at traffic signals are minimized, so that traffic leaving one signal reaches the next signal while it is green, then the next signal while it is green, etc. Minimizing stops for signals requires coordinating signal timing from one intersection to the next.

In the Des Moines metro area, neighboring cities' signal equipment is often technologically incompatible. Lack of signal coordination on arterial streets crossing multiple jurisdictions is a critical problem that can be overcome through interjurisdictional cooperation and ITS technology.

Using a simulation model, CTRE has determined which streets will be most affected by traffic

A ramp meter releases traffic to the freeway to avoid a breakdown in mainline traffic flow.

*Photo courtesy of the Federal Highway Administration.*





diverted from I-235 during reconstruction and will most need coordinated traffic signals. The ITS deployment plan includes using freeway ramp meters where feasible and coordinating ramp signals with traffic signals on adjacent streets.

### Public transportation

One ITS improvement proposed for downtown Des Moines is to provide transit authority buses with priority treatment at traffic signals. To receive priority treatment, a bus electronically signals an approaching traffic signal. The traffic signal's computer then attempts to adjust the timing of the red, green, and yellow lights and provide the approaching bus a green light.

When buses are cleared through an intersection more quickly, busy passengers save time, and the intersection is not congested with slower buses. Both transit passengers and motorists benefit.

Another ITS transit improvement proposed for the Des Moines metro area is an electronic card payment system for passengers.

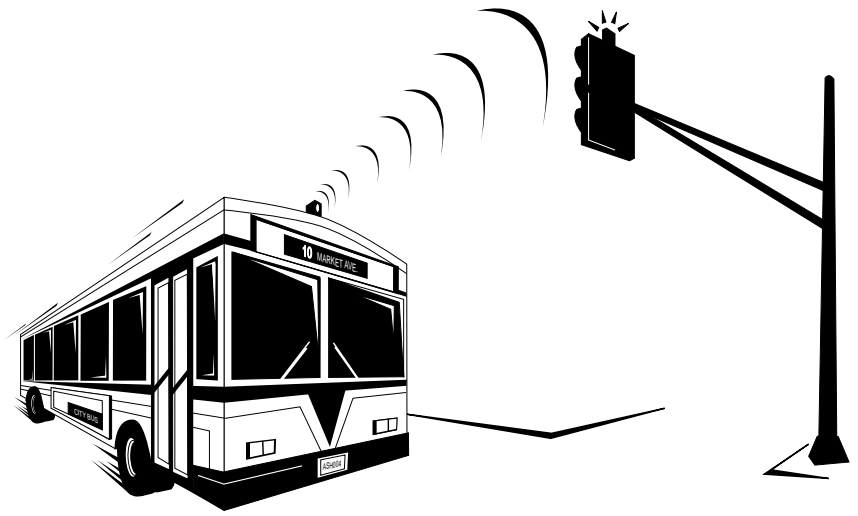
### Commercial vehicle operations

ITS applications for commercial vehicle operations (ITS-CVO) support safer and more productive operation of motor carriers and passenger carriers.

Most ITS-CVO functions—such as electronically checking the weight and size of trucks on the freeway and allowing trucks meeting regulations to bypass weigh stations—are under the purview of federal and state officials and therefore are not part of Des Moines' area ITS deployment plan. Des Moines agencies can, however, provide services that enhance commercial vehicle travel through the metro area.

Although motor carriers have real-time information regarding deployment of their fleets and condition of their equipment, carriers often do not have current information regarding highway, traffic, and local weather conditions or the location of local services. A prototype commercial traveler World Wide Web page developed as part of the ITS deployment plan provides these kinds of information for the metro area. For example, the page provides maps and contact information for emergency health and dental care, information about the location and condition of rest areas, and real-time weather conditions.

Most large railroads and some trucking firms participate in a national program for responding to hazardous materials spills: Operation Respond Emergency Information System (OREIS). OREIS provides a database of information and an architecture for responding to spills. The ITS deployment plan calls for the Des Moines Fire Department's Hazardous



Materials Response team, the first responder for spills in the metro area, to subscribe to OREIS.

The deployment plan also calls for Des Moines area agencies to support federal implementation of ITS to promote trade along the I-35 corridor. At the local level, actions could include developing services and facilities to support international and domestic trade. Such services might include a location for international customs inspections and truck repair facilities.

With an ITS deployment plan in place for the Des Moines metro area, the Iowa DOT is developing a similar strategic plan for the entire state of Iowa.

For a copy of the full Des Moines ITS deployment plan or executive summary, contact Georgia Parham at CTRE, 515-294-8103, [georgia@ctre.iastate.edu](mailto:georgia@ctre.iastate.edu). These reports are also online at <http://www.ctre.iastate.edu/projects/other/deploy.htm>

A traffic signal prioritization system generally provides more green time to buses at intersections.

Accidents involving carriers of hazardous materials require special handling. Photo courtesy of the Federal Highway Administration.



## Motor grader extras

This article is part of a continuing series of tips for motor grader operators.



"THE MORE THINGS YOU CAN ADD to a motor grader the more fun it is," says Robert Ageson, a Lyon County motor grader operator since 1982. Speaking at the May 1998 Iowa Summer Maintenance Expo in Des Moines, Ageson described several different pieces of equipment he uses on his motor grader to do his job more efficiently.

He likes a disc/gravel retriever, which works like a plow, for pulling gravel back onto the shoulder and leaving dirt and vegetation on the surface for the wind to dry up and blow away. It makes shoulders smooth and lets water drain.

Unless it's muddy, Ageson uses rotating bits on the moldboard. They remove washboards, help fill holes, leave a uniform layer of gravel on the road, and ultimately save money because they keep the gravel available. Ageson emphasizes that the bits don't cut limestone like straight blades do. Rotating bits are durable. Ageson hasn't replaced any bits in three years because he rotates the four-foot sections, putting the better bits toward the inside of the road.

His motor grader sports a dozer at all times for back dragging, pushing gravel over driveways, and working in other tight spots.

Ageson says fenders are a "very big asset to visibility and safety." The custom built fenders on Ageson's motor grader are made of aluminum tread plate and were built by Jay DeBoer from the Rock Rapids shop. They eliminate window cleaning, prevent sand pitting, preserve the motor grader's paint job, and improve visibility.

Ageson carries a magnetic, removable slope meter to check the degree of slope on his roads. He also carries as much extra chain as he can, which, in addition to all the other equipment, makes his motor grader heavier.

The purpose of all the weight, Ageson says, is so his motor grader won't bounce as much. A motor grader that bounces tends

to create washboards. Adding weight by adding extra pieces of equipment helps Ageson do the nicest, most efficient work. And it's more fun too.

For more information contact Robert Ageson, 712-478-4601. ■

## Refresher MoGO training on CD



IF YOU'D LIKE TO GIVE YOUR motor grader operators an opportunity to refresh their skills but you can't send them to one of CTRE's Motor Grader Operator Workshops, bring them into the office for an hour to watch an interactive CD. The LTAP library has for loan two new interactive CDs about motor grader operations.

On the first disk, viewers learn the basics of a motor grader's features and functions. With a mix of live action demonstrations and animated interactive quizzes, viewers are guided through a pre-trip inspection, lubrication, an engine check, start up procedures, blade movements, and shut down procedures. Particular attention is devoted to the different blade movements.

The second disk tests viewers' skills during a motor grader rodeo. Viewers "compete" in several events including basic operations, grading shoulders, lane leveling, pulling ditches, blading unpaved roads, and snow and ice removal.

The opening attempts at humor fall flat, but the demonstrations and quiz sessions are well done on both CDs. When viewers answer questions incorrectly, the narrator explains why the answer is wrong. Viewers can repeat sections of the CDs if they wish.

Each CD requires 30-40 minutes to view, depending on how long viewers take to answer questions and whether they go back over some sections.

The "successful operation of a motor grader," the narrator says, "depends on the instincts and split second reactions of the operator." Knowing the basic operations gives those instincts a good foundation.

To borrow the CDs and a CD-I player for one month, contact Stan Ring, library coordinator, 515-294-9481, stan@ctre.iastate.edu. ■



Ageson's motor grader has big, shiny fenders that help protect his windshield and make his motor grader look better. *Photos courtesy of Robert Ageson.*

Rotating bits do a good job of smoothing a gravel road.

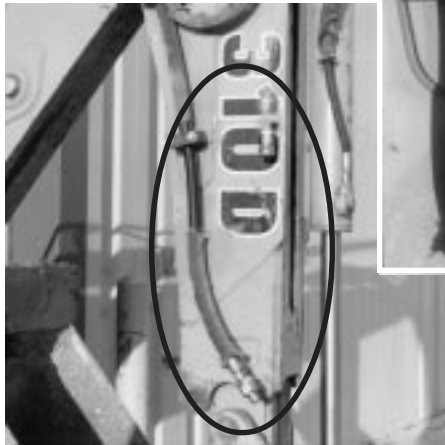




## Clean solution

THE CITY OF CLIVE found a clean solution for keeping a hydraulic option hose on a backhoe boom from getting dirty. The hose on this backhoe is used for a hydraulic breaker and will soon be used for a tamper foot to compact trenches. When the hose hangs loose, it gets dirt all over the fitting that will be plugged into one of the options, which causes dirt to get into the oil. Dirt in the oil causes premature wear on pumps and other parts of the enclosed system. To keep the hose clean, workers welded a hydraulic fitting to the backhoe boom to plug the unused hose into until needed.

For more information, contact Willard Wray, City of Clive Public Works Department, 515-223-6230. ■



*Photos courtesy of the Clive Public Works Department.*



tip from  
the field

## Signing workshop being developed

SIGNING FOR LOCAL JURISDICTIONS will be the focus of an updated workshop tentatively scheduled for fall 1998 by the Center for Transportation Research and Education's (CTRE) Local Technical Assistance Program (LTAP).

Tom McDonald, Safety Circuit Rider, and Duane Smith, CTRE's associate director for outreach, are developing a signing workshop and a conference with the assistance of a planning committee. Committee members include Mike Boehm, Pottawattamie County; Todd Fonkert, Bremer County; Jeff May, Knoxville Public Works; Jim Hogan, Federal Highway Administration; Saleem Baig and Steve Gent, Iowa Department of Transportation; and Jerry Barnwell, retired from 3M Corporation.

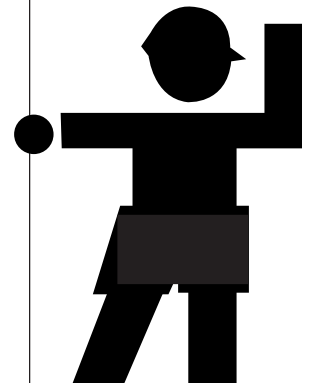
The committee's first task is developing a partial-day workshop for city and county technicians. Signing workshops will be presented to small groups in a

manner similar to CTRE's popular flagger workshops. Topics will include MUTCD requirements, sign features, location and installation, purchasing, inventory and management, equipment installation and maintenance, sign reflectivity, inspections, and other related subjects.

Development of a one-day signing conference is also on the committee's agenda. Participants would include engineers, technicians, and others interested in signing. Conference topics would be similar to the workshop topics, but in greater depth. Vendor exhibits may also be included. The first signing conference may be held in spring 1999 and alternate every other year with a pavement markings conference.

If you have any suggestions for topics or format for either the workshop or conference, please contact a committee member or Tom McDonald, 515-294-6384, [tmcdonald@ctre.iastate.edu](mailto:tmcdonald@ctre.iastate.edu). ■

safety  
short



## Battling sign vandalism



A NATIONAL SIGN VANDALISM workshop is planned for next spring to address this insidious problem. Sign vandalism is almost impossible to measure and as difficult to remedy. It is hard to measure because there is no standardized national system for collecting and reporting statistics about incidents caused by vandalized signs or about the number of signs vandalized each year and the cost to replace them.

Sign vandalism is hard to eradicate simply, perhaps, because it is so mundane. Sign vandals don't stir people's passions. If anything, many people even identify with the vandals, whose intentions are generally facetious rather than malicious.

### The time is right

A couple decades ago, the public's attitude was similarly ho-hum about drunk drivers. A few dedicated torch bearers, however, forced governments to study and document the problem, change the laws concerning drinking and driving, and enforce the new laws. These efforts were bolstered by publicity surrounding some of the tragic crashes involving drunk drivers.

Jim DeLozier, Taylor County engineer, is one of many state, county, and city engineers who are carrying the torch to reduce sign vandalism. Nationally, public awareness of the problem is at an all-time high since a February 1996 Florida crash in which three teenage boys were killed because of a deliberately knocked-down stop sign. DeLozier chairs a national committee on sign vandalism headed by the Federal Highway Administration, Iowa Department of Transportation, Iowa

Department of Public Safety, Iowa County Engineers Association, Iowa Chapter of the American Public Works Association, and Iowa State University.

### Invitation

The committee

is planning a national workshop (emphasis on *work*) for stakeholders from all organizations affected by, or that somehow affect, sign vandalism. Stakeholders include, but are not necessarily limited to, the following:

- county and city engineers
- traffic engineers
- traffic operations personnel
- law enforcement personnel
- lawmakers and government administrators
- public educators
- driver training associations
- emergency responders
- drug and alcohol abuse organizations
- insurance companies
- psychologists and child behaviorists
- crime prevention organizations
- sign materials vendors
- neighborhood watch groups
- railroads
- Native American nations
- national park services
- local transportation technical assistance programs and directors
- juvenile justice organizations
- firearms and hunting organizations
- natural resource agencies
- farm organizations

As an associate of one or more of these groups, you are invited to participate in this outcome-oriented workshop, planned for March 16-17, 1999, at the Westin Crown Center in Kansas City, Missouri.

Workshop participants will spend two days actively (1) determining the scope of the sign vandalism problem nationally and (2) identifying possible remedies. The workshop will culminate in a call for a course of action.

Show-of-interest and registration materials will be mailed to stakeholder groups in the near future. For more information about the workshop, contact Jim DeLozier, 712-523-2167. ■



### July 1998

	Location	Contact
14	Motor Grader Operator Workshop	New Hampton Sharon Prochnow 515-294-3781
15-16	Iowa County Engineers Mid-Year Conference	Ames Duane Smith 515-294-8103
28	Motor Grader Operator Workshop	New Hampton Sharon Prochnow 515-294-3781

### August 1998

11	Motor Grader Operator Workshop	New Hampton Sharon Prochnow 515-294-3781
18	Motor Grader Operator Workshop	New Hampton Sharon Prochnow 515-294-3781
19-20	Crossroads 2000: A Research Conference	Ames Tom Maze 515-294-8103
19-21	APWA Fall Conference and Workshop	Lake Panorama Duane Smith 515-294-8103

### September 1998

1	9th Annual Iowa Snowplow Roadeo	Ames Duane Smith 515-294-8103
2-3	2nd Annual Iowa Winter Training Expo	Ames Duane Smith 515-294-8103
13-17	APWA International Congress	Las Vegas Duane Smith 515-294-8103

### October 1998

14-15	Iowa Secondary Road Maintenance Supervisors Association Annual Conference	Ames Sharon Prochnow 515-294-3781
22-23	ITCSA Fall Conference	Ames Tom McDonald 515-294-6384

## September in Missouri: Midwest Maintenance Innovations '98

**9:00 am – 3:00 pm**  
**September 17, 1998**  
**Civic Arena**  
**St. Joseph, Missouri**

The Missouri Department of Transportation (MoDOT) and the Federal Highway Administration (FHWA) are sponsoring a four-state show of maintenance equipment highlighting field employees' most successful ideas for improving operations. Missouri, Iowa, Kansas, and Nebraska DOTs will feature top innovations from their shops.

County highway departments and city public works departments from these states are invited to attend, see their peers' innovations, and (with prior arrangement) present their own.

"Field employees develop a lot of new inventions to improve their operations," says Clif Jett, MoDOT's director of general services. "We decided to create a multi-state show to feature the best of each state's ideas." Inventions to be featured include everything from hood protectors and sign holders to salt brine spreaders and portable bridges.

The exhibition is *free*, and no advance registration is required. Attendees will receive written details about each innovation, including information on how to contact the person or shop that developed the idea.

"I think everyone who comes to this show will go home with at least one innovation they'll want to adopt in their own shop," says Jett.

Jett estimates attendees will be able to view the entire exhibition in about four hours. Attendees needing overnight accommodations may contact Christine at the Holiday Inn Riverfront Conference Center, 816-279-8000, extension 668.

Iowa cities and counties with possible innovations to display should contact CTRE's Duane Smith or Tom McDonald, 515-294-8103, [desmith@iastate.edu](mailto:desmith@iastate.edu), [tmcdonald@ctre.iastate.edu](mailto:tmcdonald@ctre.iastate.edu).

For more information about the exhibition, contact FHWA's Mark Schroyer, 573-636-7104, or MoDOT's Clif Jett, 573-751-2838. ■



conference  
calendar

## Plan to attend Iowa's Winter Expo and Snow Roadeo

**Roadeo: September 1, 1998**  
**Expo: September 2-3, 1998**  
**Iowa State University**  
**Ames, Iowa**

Who will benefit from Iowa's Winter Maintenance Expo?

Roadway maintenance supervisors, maintenance equipment operators, technology and equipment providers, public works directors, county engineers, city engineers, emergency responders and law enforcement personnel, and airport maintenance staff will find helpful information and techniques.

Unique vendor displays will also be exhibited at the day-and-a-half expo.

The Ninth Annual Snow Plow Roadeo will be supplemented this year by a NEW motor grader demonstration course. The roadeo gives operators an opportunity to demonstrate and hone their skills.

Registration brochures will be mailed in mid-July. Mark your calendar now for these important events. ■



## Update your mailing address

\_\_\_\_\_ **Add me to your mailing list.**

Name \_\_\_\_\_

Organization \_\_\_\_\_

Address \_\_\_\_\_

\_\_\_\_\_ **Delete me from your mailing list.**

City, State, Zip Code \_\_\_\_\_

\_\_\_\_\_ **Address correction.**

Fax this page to Marcia Brink at CTRE, 515-294-0467, or mail it to the address below.

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Send us your story ideas about interesting construction projects, new ways of doing things, noteworthy co-workers/employees, or anything else you think your peers would like to read about. Briefly describe your idea for an article in *Technology News* (don't worry—we'll write the article).

Name of person with information: \_\_\_\_\_

Phone and/or e-mail: \_\_\_\_\_

Project/innovation: \_\_\_\_\_

Noteworthy person: \_\_\_\_\_

Tip from the field: \_\_\_\_\_

Comment about *Technology News*: \_\_\_\_\_

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