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Iowa State University's Center for Transportation Research and Education (CTRE) is the umbrella organization for the following centers and programs:

Bridge Engineering Center  
Center for Weather Impacts on Mobility and Safety  
Construction Management & Technology  
**Iowa Local Technical Assistance Program**  
Iowa Statewide Urban Design and Specifications  
Iowa Traffic Safety Data Service  
Midwest Transportation Consortium  
National Concrete Pavement Technology Center  
Partnership for Geotechnical Advancement  
Roadway Infrastructure Management & Operations Systems  
Sustainable Transportation Systems Program  
Traffic Safety and Operations

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Center for Transportation  
Research and Education

IOWA STATE  
UNIVERSITY

## LTAP 25th Anniversary

### Focus on training

*Editor's note: This article is part of our ongoing series celebrating Iowa LTAP's 25th anniversary in 2008.*

When the Iowa LTAP opened its doors in 1983, one of its original goals was to conduct workshops and training sessions on various aspects of local transportation. LTAP pledged to offer hands-on workshops at minimal cost and to bring those workshops to various locations across the state.

#### The early years

On May 2, 1983, the first-ever LTAP training session, "Successful Street Maintenance for Small Communities," was held in Waterloo. The workshop, which was attended by 102 Iowa workers, covered street maintenance issues for both portland cement concrete pavements and asphalt pavements. Similar workshops followed that summer in Sioux City, Ottumwa, Council Bluffs, and Ankeny.

LTAP introduced a number of workshops in its first year of operation. "Geotextiles in Engineering," offered in Ames and Bettendorf in November 1983, provided detailed information on the correct usage and appropriate specifications for geotextile applications for asphalt overlays. Additional workshops covered topics of interest to urban areas, including design of urban streets and planning for urban drainage.

In 1984, LTAP began offering "Management for First Line Supervisors." Designed to help street superintendents and other supervisors learn to communicate more effectively and motivate employees, this workshop became one of the most popular in LTAP's history. It evolved into "Successful Management," and most recently "Supervisory Skills and Techniques," which is now offered online through distance education.

#### Mobile training

A major challenge for LTAP in those early years was fulfilling its goal to bring the workshops to a variety of locations. There were only a handful of trainers available to meet the needs of Iowa's counties and cities. To address this problem, in 1984 LTAP began offering a small number of grants to cover travel expenses and registration fees for many of the LTAP workshops.

A more permanent solution came in 1988, when the Iowa DOT, FHWA, and the Local Transportation Information Center (which would later become CTRE) started the Safety Circuit Rider Program. Ed Bigelow, the first Safety Circuit Rider, began traveling around the state to offer workshops in flagger safety, work zone safety, equipment safety, and more. Bigelow facilitated around 60 workshops each year throughout the state. Almost all of the workshops he started in the 1980s are still around today.

#### Long-term success

Like many of the safety workshops offered through Iowa LTAP, the Motor Grader Operator Workshop (MoGO) began in the early years and is still going strong. MoGO, which was initially developed in Nebraska, was brought to Iowa in 1988 through the combined efforts of Lowell Richardson of the Iowa DOT and Ed Wooton of the Nebraska Technology Transfer Program.

Having heard of the program's success in Nebraska, Richardson wanted to set up a pilot program to see how well MoGO training would work in Iowa and to get a small group of Iowa operators trained so they, in turn, could branch out and get the program started throughout the state. In October 1988, Richardson brought

*Training continued on page 2*

## Acronyms in Technology News

AASHTO	American Association of State Highway and Transportation Officials
APWA	American Public Works Association
CTRE	Center for Transportation Research and Education (at ISU)
FHWA	Federal Highway Administration
Iowa DOT	Iowa Department of Transportation
ISU	Iowa State University
LTAP	Local Technical Assistance Program
MUTCD	Manual on Uniform Traffic Control Devices
NACE	National Association of County Engineers
TRB	Transportation Research Board



U.S. Department of Transportation  
Federal Highway Administration



Iowa Department  
of Transportation

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## Subscribe to Tech E-News

For brief, e-mail reminders about upcoming workshops and other LTAP news, subscribe to Iowa LTAP's free service: Tech E-News. Send an email to Marcia Brink, [mbrink@iastate.edu](mailto:mbrink@iastate.edu). Type "Subscribe Tech E-News" in the subject line.

*Training continued from page 1*

Wootton to Iowa to introduce MoGO to DOT officials, county engineers, and local operators.

Due to the success of the pilot program, Iowa LTAP developed its own program in 1989. By 1992, MoGO had become so popular that a program coordinator was hired to manage the multiple workshops held each summer. Fred Short, retired Audubon County engineer, acted as coordinator from 1992 until 2005, when Clarence "Sonny" Perry took over the position.

Over the years, more than 5,000 motor grader operators have participated in the workshops.

## Training for the future

Building on previous successes, Iowa LTAP is working with officials from Iowa's cities and counties to develop the Iowa Public Employee Leadership Institute. The institute's training program will include ten core, web-based modules that cover management techniques, communication skills, leadership, government, law, and finance.

"We see this as an educational forum for cities and counties who don't have the opportunity to provide training for people



Success of the motor grader operator program in the 1990s helped shape and develop many more programs over the years at Iowa's LTAP.

who are moving up through their agency or who simply want to move into other leadership positions," says Bret Hodne, superintendent of Public Works for the City of West Des Moines and member of the institute's steering committee.

The first module for the institute is Supervisory Skills and Techniques, which is also part of the Roads Scholar Program. This course is already available online through Iowa State University Distance Education.

Watch for more details about the Leadership Institute in future issues of *Technology News*. ■

## New faces, familiar faces attend advisory board meeting

Iowa LTAP Director Duane Smith welcomed new board members and recognized outgoing board members at the LTAP Advisory Board meeting on May 2. Marshall County Engineer Royce Fitchner and Keokuk County Engineer Christy VanBuskirk began their two-year term on the board this spring. They replace Monroe County Engineer John Goode and Story County Engineer Bob Sperry.

Both Goode and Sperry served several terms on the board and provided valuable input into the development of numerous programs and projects. They were presented with plaques in appreciation for their years of service on the advisory board. Sperry continues his service to LTAP as Local Roads Safety Liaison. ■



Duane Smith (left) and Shashi Nambisan (right) present Bob Sperry (top center) and John Goode (bottom center) with plaques in appreciation for their years of service on the LTAP advisory board.

# Road safety audit? Assessment?

Here's the situation: You have identified a roadway section where safety has become an issue. You want to address the situation, but aren't sure how to begin mitigation. A safety review seems like a great way to begin, but a couple of questions stand in your way: Do you need to conduct a road safety *audit* or a road safety *assessment*? What is the difference between the two and how do they work?

In short, a safety assessment is a local process, using in-house agency and community resources. A safety audit brings in team members from several disciplines outside the agency and results in a formal written report with a written response from the agency.

Considering a wide range of ideas and recommendations can help you determine acceptable and effective solutions to safety concerns, real and perceived. While a safety assessment team may not consist of as many members, it should include as many disciplines as possible, especially the unique insights from law enforcement.

## Why include law enforcement and perhaps even private citizens?

Because they can identify their unique needs and perspectives. Engineering solutions aren't possible for everything.

## What law enforcement contributes

Members of law enforcement can identify places where they'd like to increase enforcement (such as where speeding or a high incidence of DUI are problems), but cannot do so safely because the shoulders are too narrow to allow them to pull over possible offenders. (With a software program such as Incident Mapping and Analysis Tools [IMAT] officers can identify locations where focused enforcement would be more effective in applying scarce resources.)

An increase in law enforcement presence may encourage compliance with traffic laws, resulting in a safer stretch of road, but road characteristics may be standing in the way of increased sheriff or police patrols.

Law enforcement agents also can identify areas where they issue citations, but where crashes have not occurred, so the areas aren't included in traffic crash databases—yet.

## What citizens contribute

Citizens who regularly travel the stretch of road you're going to evaluate bring the perspective of regular users of that road. Their input is important because they drive the road in all kinds of conditions (e.g., traffic and weather). They may be able to identify locations that they feel are unsafe for reasons that may not be obvious to others.

Commuters can also offer more information that is useful in responding to citizen complaints.

## Why consider a safety audit over an assessment?

A safety audit involves a multidisciplinary team to analyze conditions and data in a broad-based manner. Safety audits can save money in the long run by helping you focus on making improvements more effectively, applying resources where they will have the greatest impact.

The table below summarizes the elements that figure into evaluating road safety and

shows the differences between safety assessments and safety audits.

## For more information

If you want to learn more about the process for conducting a safety audit or assessment in your agency, staff at the FHWA, Iowa DOT, Office of Traffic and Safety, and/or CTRE can offer advice, answer questions, or provide training.

If you would like to schedule an actual safety audit or safety review on one of your roads, a team from these offices could be of assistance. Good contacts for information on these valuable tools are

Jerry Roche, FHWA Safety Engineer, 515-233-7323, Jerry.Roche@fhwa.dot.gov.

Troy Jerman, Iowa DOT, Office of Traffic and Safety, 515-239-1470.

Tom McDonald, Iowa Safety Circuit Rider, CTRE, 515-294-6384, tmcdonal@iastate.edu ■

Safety Review Elements	Safety Assessment	Safety Audit
<b>Approach</b>	<ul style="list-style-type: none"> <li>reactive to crashes that have occurred</li> <li>less formal</li> </ul>	<ul style="list-style-type: none"> <li>proactive to prevent crashes</li> <li>formal</li> </ul>
<b>Team composition</b>	<ul style="list-style-type: none"> <li>local, agency, and in-house design staff</li> <li>may not be as objective</li> </ul>	<ul style="list-style-type: none"> <li>multidisciplinary</li> <li>from outside the agency</li> <li>independent perspective</li> </ul>
<b>Team members</b>	<ul style="list-style-type: none"> <li>in-house agency staff</li> <li>as multidisciplinary as possible</li> <li>possibly an outside safety consultant</li> </ul>	<ul style="list-style-type: none"> <li>a safety consultant</li> <li>road work professionals</li> <li>engineering staff</li> <li>members of law enforcement</li> <li>education officials</li> <li>emergency response staff</li> <li>private citizens</li> </ul>
<b>Considerations</b>	<ul style="list-style-type: none"> <li>compliance with established standards</li> <li>past crash history</li> </ul>	<ul style="list-style-type: none"> <li>human factors</li> <li>multimodal needs</li> <li>crash data</li> </ul>
<b>Field examination</b>	no set standard	comprehensive check list
<b>Tools</b>	local records	GIS-SAVER, CMAT, IMAT
<b>Data needs/ Analysis methods</b>	Local, ITSDS, and DOT crash data	ITSDS, and DOT crash data plus data about traffic volume, mix, special users (bikes, pedestrians), and terrain
<b>Final report</b>	no report	report to the agency
<b>Response from the agency</b>	no response back from agency	agency responds

## Iowa LTAP Mission

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

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# Buchanan County honored for railroad flatcar bridges

*Editor's note: This article originally appeared in the Dec 2007 issue of Technology News, but the information in the article was incomplete. We are reprinting the corrected article here, with our apologies.*

Buchanan County's secondary roads department was recently honored with a national award for its innovative and cost-effective bridge solutions: railroad flatcar bridges.

In September in Chattanooga, Tennessee, Buchanan County Engineer Brian Keierleber accepted the 2007 Excellence in Regional Transportation Award from the National Association of Development Organizations (NADO) on behalf of the county.

Buchanan County has been a leader in purchasing and installing flatcars as replacements for older bridges on lower level roads. In addition to being a novel use for retired train cars, the bridges are incredibly cost efficient, costing on average one-third the price of standard concrete slab bridge construction and requiring only one-half to two-thirds the construction time.

"We rock right across their tops," explains Keierleber.

County bridges in rural areas don't carry a large volume of traffic but they do experience heavy agricultural loads, Keierleber explains. Careful design, engineering, and analysis go into each flatcar bridge to ensure it can carry the loads.

Fourteen flatcar bridges have been installed in the county since 2003. The concepts for the design of the railroad flatcar bridges were developed through a series of research projects sponsored by the Iowa DOT and the Iowa Highway Research Board; the research was conducted by the Bridge Engineering Center at Iowa State University.

### For more information

For more information about the railroad flatcar bridge projects, view the reports *Demonstration Project Using Railroad Flatcars for Low-Volume Road Bridges* (TR-444) and *Field Testing of Railroad Flat Car Bridges* (TR-498 Volumes I and II) online at <http://www.dot.state.ia.us/operationsresearch/reports.aspx> ■



With careful design, engineering, and analysis, Buchanan County is experiencing success with cost-effective railroad flatcar bridges.



# MUTCD revision on the horizon

by Tom McDonald

On January 2, 2008, the FHWA published a Notice of Proposed Amendments to the *Manual on Uniform Traffic Control Devices* (MUTCD) and allowed a comment period until July 31, 2008. Some significant revisions, many of which impact state and local agencies in Iowa, are included throughout all 10 parts of the manual. The established minimum levels of retroreflectivity for signs is not included in this notice but will be incorporated in the revised 2009 edition of the MUTCD.

The more significant proposed revisions are listed here by part and section. Compliance periods are allowed for revisions with higher potential economic impact for agencies.

Agencies are urged to review the proposed revisions and submit comments and questions for needed clarifications prior to the July 31 deadline. Areas of particular interest for Iowa agencies might include Section 6D.03, which will require workers to wear ANSI Class 2 apparel on all right-of ways, and Sections 8B.04 and 8B.05, which will require “stop” or “yield” signs at all passive highway-rail crossings.

## Introduction

“Private property” is added as a location where MUTCD provisions apply, if the property is open to public travel. These areas would include shopping centers, parking lots, sports arenas, and similar business and recreational facilities.

## Part 1: General

Section 1A.12 assigns a purple background color to signs for electronic toll-collection facilities.

Section 1A.13 contains several new definitions, including “flagger,” “hybrid signal,” “private property,” “open to public travel,” and “worker.” The list now includes 127 definitions.

Section 1A.14 lists a total of 38 acronyms and abbreviations.

## Part 2: Signs

Part 2 introduces many new symbols.

Section 2A.07 (formerly 2A.08) adds object markers to the list of devices that must be retroreflective or illuminated. More emphasis on these devices is found throughout Chapter 2A.

Section 2A.11 explains increased dimensions for some signs and recommends that supplemental plaques for oversized signs be proportionally increased in size as well.

Section 2A.13 recommends that minimum letter size ratios be one inch per 30 feet of legibility distance.

Section 2A.15 is a new section on enhanced conspicuity for standard signs.

Chapter 2B describes several new regulatory signs, including those for roundabouts and for use of headlights. This chapter also eliminates the use of several common plaques with “stop” signs.

Section 2B.03 increases the size of several signs in Table 2B-1 and adds a new table, Table 2B-2, for multilane applications.

Section 2B.04 describes new restrictions on the use of portable “stop” signs at signalized intersections during power outages.

Section 2B.10 adds restrictions regarding which items can be mounted on the back of “stop” signs and “yield” signs. Use of two “stop” or “yield” signs on the same support, facing the same direction of travel, is prohibited.

Section 2B.12 describes new requirements and restrictions for regulating “pedestrian crossing” signs.

Chapter 2C describes revised requirements for the use of several horizontal alignment signs and lists several new warning signs, including specific requirements for motorcycles and weather conditions. Curve-speed advisory signs are deleted and some word-message signs are eliminated, including “hill,” “stop ahead,” and “divided highway.”

Section 2C.03 requires the use of fluorescent-yellow-green (FYG) for school-related warning signs.

Section 2C.04 increases the size of some warning signs for multilane roads, in Table 2C-2.

Section 2C.05 lists revised values in Table 2C-4 for the placement of warning signs.

Section 2C.06 contains revised requirements for the placement of horizontal alignment warning signs.

Chapter 2D describes new guide signs, such as combination lane use/destination overhead guide signs and destination signs at roundabouts.

Section 2D.05 places restrictions on the use of all-capital lettering on conventional guide signs.

Section 2D.45 (formerly 2D.38) describes new requirements for street-name signs, including limitations on allowable background colors.

Section 2D.52 is a new section for community way-finding signs.

Section 2I.09 is a new section on acknowledgment signs.

Chapter 2L (formerly 3C) adds barricades and gates to the list of object markers.

Section 2L.05 (formerly 3F.01) is a revised section on barricades.

Section 2L.06 is a new section on gates.

Chapter 2M is a new chapter on changeable message signs.

## Part 3: Markings

Chapter 3A states that pavement markings, as necessary, are required in both public and private areas if the facility is open to public travel.

Section 3A.04 adds purple markings for use on toll facility approach lanes.

Section 3A.06 lists several new definitions, such as “neutral area” and “physical gore.”

Section 3B.04 states that a dotted-white lane line is required for acceleration, deceleration, and auxiliary lanes.

Section 3B.17 illustrates new “Do-Not-Block-Intersection” markings.

Section 3B.22 includes a new section on speed-reduction markings.

Chapter 3C (formerly 3B.24 and 3B.25) describes markings for roundabouts.

*MUTCD continued from page 5*

Chapter 3H is a new chapter on rumble-strip markings.

#### **Part 4: Highway traffic signals**

Section 4A.02 adds new and expands existing definitions related to traffic signals, including “hybrid signals,” “intersections” (expanded), and “permissive mode” (expanded).

Sections 4C.04 through 4C.06 explains revisions to several traffic-signal warrants.

Section 4C.09 describes a new signal warrant for intersections near a highway-rail crossing.

Chapter 4D explains numerous changes related to traffic-control signal features, including number of signal faces, visibility, lateral positioning, miscellaneous signal indications, and yellow change/red clearance intervals.

Chapter 4E contains several revisions related to pedestrian-control features, including countdown signals and detectors.

Chapter 4F is a new chapter on pedestrian hybrid signals.

Section 4G.04 is a new section on emergency-vehicle hybrid signals.

Chapter 4K is a new chapter on toll plaza traffic signals.

#### **Part 5: Traffic control devices for low-volume roads**

Section 5A.01 contains an updated definition of “low-volume road,” revised to enhance rural area intent.

#### **Part 6: Temporary traffic control**

Section 6A.01 expands the section on the needs and control of all road users to include public travel on private roads.

Sections 6D.01 and 6D.02 contain numerous revisions regarding pedestrians and accessibility considerations.

Section 6D.03 expands the requirement that workers wear ANSI Class 2 or 3 apparel to include all right-of-way workers, not just federal-aid right-of-way workers.

Section 6E.01 is expanded to include automated flagger assistance devices in the definition of a flagger.

Section 6E.02 adds appropriate ANSI headwear to the required flagger apparel. Law enforcement officers are required to wear

apparel similar to that of other workers.

Section 6E.03 recommends a seven-foot-long handle for the stop/slow paddle.

Sections 6E.04, 6E .05, and 6E .06 contain new sections describing automated flagger assistance devices.

Section 6E.30 describes the “new traffic pattern ahead” sign.

Section 6E.57 proposes numerous changes for portable changeable message signs.

Section 6E.58 states that an alternating-diamond display is permitted for arrow panels.

Section 6E.76 contains several changes to the section on temporary raised pavement markings.

Several sections have been removed from Chapter 6F, including floodlights, glare screens, and crash cushions.

Chapters 6H and 6I are switched in order.

Section 6H.01 requires all responders in traffic incident management areas to implement the Incident Command System, as required by the National Incident Management System.

Chapter 6I modifies several typical applications, such as TAs 37, 38, 39, 42, and 44, where an arrow panel is required for each lane closure.

#### **Part 7: Traffic controls for school areas**

Section 7B.07 states that the color of school warning signs and plaques must be fluorescent-yellow-green (FYG).

Section 7B.09 is a revised section on school-zone signing.

Section 7B.10 is a new section for school advance-crossing assembly.

Section 7B.12 outlines the new symbol sign required for “school bus stop ahead” signs.

Section 7B.13 describes the new “school bus turn ahead” sign.

Other sign revision are also listed in Chapter 7B.

Section 7D.03 revises the qualifications for school crossing guards.

Section 7D.04 requires law enforcement officers to wear ANSI Class 2 apparel when performing school-crossing supervision.

Section 7D.05 contains revised guidance statements regarding standards for operating procedures of crossing guards.

In Chapter 7E, references to student patrols have been removed.

#### **Part 8: Traffic controls for highway-rail crossings**

Chapter 8A contains several new definitions, including “diagnostic team,” “locomotive horn,” “pathway-rail grade crossing,” and “wayside horn.”

Sections 8B.04 and 8B.05 (new section) require “stop” or “yield” signs at all passive crossings.

Section 8B.06 describes several new requirements for the installation of certain signs and plaques.

Section 8B.13 revises the requirements for emergency-notification signs.

Section 8B.21 requires a stop line at crossings with active control devices.

Section 8C.06 is a new section on wayside horn systems.

Section 8C.09 adds a new section for rail crossing in the vicinity of roundabouts or circular intersections.

Chapter 8D is a new chapter on quiet-zone treatments.

Chapter 8E is a new chapter on pathway-rail crossings.

#### **Part 9: Traffic controls for bicycle facilities**

Section 9B.01 requires the vertical clearance of an overhead sign on shared use paths to be a minimum of eight feet.

Section 9B.06 describes a new “Bicycles May Use Full Lane” sign.

Section 9B.09 adds a new description for selective exclusion signs.

Several other new signs are also included in Chapter 9B.

Section 9C.07 describes new shared-lane markings.

#### **Part 10: Traffic controls for highway-light rail transit grade crossings**

The proposed revisions for Part 10 are not described here, since Iowa does not have any light-rail facilities. ■

## Conference calendar

## Tractor/Mower Operator Safety Training

This new one-day workshop on best safety practices for industrial mower operator safety will be offered four times in June in central and eastern Iowa (see the Conference calendar for specific dates and locations). The workshop will include four hours of classroom training and three hours of hands-on training. The \$75 registration fee includes course materials and lunch. The instructor, Jim Green, has more than 20 years of experience as an OSHA-authorized trainer.

Classroom training will include

- Responsible operation
- Safety management of hazards and risks
- Before-operation safety
- Operation safety
- Safety during shutdown
- Safety practices during maintenance

Hands-on training will include

- Equipment inspection
- Safety signage placement
- Use of checklists
- Performance driver's test
- Safe operating techniques
- Personal protective gear use

For more information, contact Tom McDonald, Safety Circuit Rider, 515-294-6384, [tmcdonal@iastate.edu](mailto:tmcdonal@iastate.edu) or see an online brochure at [www.ctre.iastate.edu/events/mower/](http://www.ctre.iastate.edu/events/mower/). ■

### June 2008

3–4	Motor Grader Operator Training	Cherokee	Georgia Parham 515-294-2267 <a href="mailto:gparham@iastate.edu">gparham@iastate.edu</a>
4–6	2008 Midwest Transportation Planning Conference	Iowa City	For details see <a href="http://iowadot.gov/2008TransConf/">http://iowadot.gov/2008TransConf/</a>
17	Tractor/Mower Operator Safety Training Workshop	Davenport	Tom McDonald 515-294-6384 <a href="mailto:tmcdonal@iastate.edu">tmcdonal@iastate.edu</a>
17–18	Motor Grader Operator Training	Mason City	Georgia Parham 515-294-2267 <a href="mailto:gparham@iastate.edu">gparham@iastate.edu</a>
18	Tractor/Mower Operator Safety Training Workshop	Iowa City	Tom McDonald 515-294-6384 <a href="mailto:tmcdonal@iastate.edu">tmcdonal@iastate.edu</a>
19	Tractor/Mower Operator Safety Training Workshop	Waterloo	Tom McDonald 515-294-6384 <a href="mailto:tmcdonal@iastate.edu">tmcdonal@iastate.edu</a>
20	Tractor/Mower Operator Safety Training Workshop	Eldora	Tom McDonald 515-294-6384 <a href="mailto:tmcdonal@iastate.edu">tmcdonal@iastate.edu</a>
20	Concrete Pavement Trouble Shooting: Phase 1	Council Bluffs	Anne Leopold 515-964-2020 <a href="mailto:aleopold@snyder-associates.com">aleopold@snyder-associates.com</a>
27	Concrete Pavement Trouble Shooting: Phase 1	Ottumwa	Anne Leopold 515-964-2020 <a href="mailto:aleopold@snyder-associates.com">aleopold@snyder-associates.com</a>

### July 2008

8–9	Motor Grader Operator Training	Clinton	Georgia Parham 515-294-2267 <a href="mailto:gparham@iastate.edu">gparham@iastate.edu</a>
11	Concrete Pavement Trouble Shooting: Phase 1	Iowa City	Anne Leopold 515-964-2020 <a href="mailto:aleopold@snyder-associates.com">aleopold@snyder-associates.com</a>
22–23	Motor Grader Operator Training	Creston	Georgia Parham 515-294-2267 <a href="mailto:gparham@iastate.edu">gparham@iastate.edu</a>
17–21	International Conf. on Concrete Pavements-ISCP	San Francisco, CA	For details see <a href="http://www.concretepavements.org">www.concretepavements.org</a>

### August 2008

26	Iowa Roundabout Conference	Ames	Judy Thomas 515-294-1866 <a href="mailto:jathomas@iastate.edu">jathomas@iastate.edu</a>
27	Iowa Roundabout Conference	Cedar Rapids	Judy Thomas 515-294-1866 <a href="mailto:jathomas@iastate.edu">jathomas@iastate.edu</a>

### September 2008

10	Snow Rodeo (Truck, Motor Grader, Loader)	Newton	Duane Smith 515-294-8817 <a href="mailto:desmith@iastate.edu">desmith@iastate.edu</a>
11	Iowa Maintenance Training Expo	Newton	Duane Smith 515-294-8817 <a href="mailto:desmith@iastate.edu">desmith@iastate.edu</a>
30	Streets and Roads Conference	Ames	Duane Smith 515-294-8817 <a href="mailto:desmith@iastate.edu">desmith@iastate.edu</a>

### October 2008

1–2	Streets and Roads Conference	Ames	Duane Smith 515-294-8817 <a href="mailto:desmith@iastate.edu">desmith@iastate.edu</a>
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