July—September 2005

Technology NEWS

Providing transportation technology transfer for Iowa's cities and counties

Iowa LTAP
Local Technical Assistance Program

Inside this issue

Iowa LTAP is administered by Iowa State University's Center for Transportation Research and Education (CTRE). Other programs administered by CTRE are Bridge Engineering Center, Center for Porland Cement Concrete Pavement Technology, Construction Management & Technology, Iowa Statewide Urban Design and Specifications, Iowa Traffic Safety Data Service, Midwest Transportation Consortium, Partnership for Geotechnical Advancement, and Roadway Infrastructure Management Systems.

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New look for *Technology News*

Changes are afoot at Iowa LTAP and CTRE—visual changes that is.

CTRE has designed a new identity system that's more consistent with Iowa State University's. Gone is the old blue ball logo. In its place is a more flexible, text-based logo (see the bottom left corner of this page) that will fit better with all of our programs.

The change in CTRE's logo prompted changes in the Iowa LTAP logo too (see the top right corner of this page). And like a snowball rolling downhill, that suggested changes for *Technology News*.

Technology News was last redesigned in 1995 and needed to be freshened up. Changes from the old version include a new blue and black color scheme throughout. The old version had red on the cover but just black inside except for occasional full-color pages.

The Iowa LTAP website will soon adopt the new look as well. ■

Technology News adopts its new design this month. Last issue's old design is pictured here.

Correction

The ISRMSA Streets and Roads Conference, October 10–12, will be held at the Gateway Center in Ames, not the Scheman Building at Iowa State University.

Improving signalized intersections

Nearly 25 percent of motor vehicle crash–related fatalities and injuries occur at signalized intersections, according to the National Highway Traffic Safety Administration.

Under the right circumstances, installing traffic signals can reduce the number and severity of crashes. But signals that are not designed appropriately can have an adverse effect on safety.

A new comprehensive handbook, *Signalized Intersections: Informational Guide* (FHWA-HRT-04-091), can help local agencies plan, design, and install traffic signals to improve safety and traffic operations. The guide

- Explains methods to evaluate the safety and operation of signalized intersections.
- Highlights tools to remedy deficiencies.
- Provides information and tools to help transportation professionals assess intersections and understand the tradeoffs among potential improvement measures.
- Takes a holistic approach to signalized intersections and considers the implications of a particular treatment on all system users, including motorists, pedestrians, bicyclists, and transit users.
- Includes examples of innovative treatments and best practices used by jurisdictions across the country.

- Intersections 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 Iowa State University)
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

U.S. Department of Transportation
Federal Highway Administration

Iowa Department of Transportation

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

School zone safety programs

In all communities, the safety of elementary school children who walk or bike to school is a major concern of parents, school officials, and local transportation professionals.

For those working in transportation, school zone safety is one of the most pressing and potentially controversial issues they may encounter. Parents and teachers may demand measures that are unwarranted from an engineering and safety perspective.

Creating a well organized school zone safety program will help address these concerns. The basic steps include

- organizing a traffic safety committee to coordinate the program
- developing a school route plan
- evaluating and configuring the school site
- considering other safety elements
- distributing and maintaining the plan

Organize a traffic safety committee

An effective traffic safety committee includes members of the local government and school board who have the authority and the ability to get things done. Additional members include representatives from the schools and parent or safety groups.
The role of the committee is to coordinate and review the creation and implementation of the school route plan, establish priorities, and relate to the public.

Develop a school route plan

The committee gathers information about the current student walking areas, safety crossings, school hours, and locations of particular concern. The committee may wish to solicit help from the local PTA, school personnel, or other citizen safety groups.

-School continued on page 3

-Intersections continued from cover

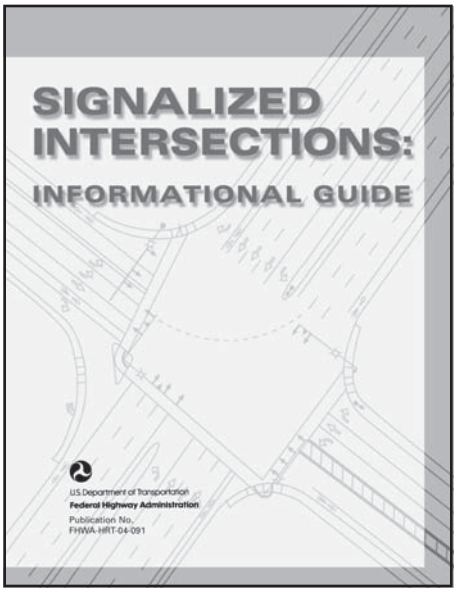
Examples cover low-cost measures like improving signal timing and signs, and more expensive measures like reconstructing intersections or grade separations. Although some treatments apply only to high-volume intersections, the guide provides solutions relevant to the entire range of traffic volumes.

Note: The guide does not cover signalization warranting.

For more information

The new handbook is online, www.tfhrc.gov/safety/pubs/04091/, or www.tfhrc.gov/safety/pubs/04091/04091.pdf. Printed copies are available through the FHWA Report Center, 301-577-0818, 301-577-1421 (fax), report.center@fhwa.dot.gov. ■

Editor's note: *This article was adapted from the introduction to an article by Joe G. Bared, FHWA highway research engineer, in the January–February 2005 issue of* Public Roads *and is used with permission.*



-School continued from page 2

Next a school route map can be drafted. The map should include

- the school
- nearby roadways
- existing traffic control devices
- the suggested school route for children to follow

During the route planning, the committee should use the following criteria for evaluating possible routes:

- Provide maximum protection to school children at minimum cost to taxpayers.
- Take advantage of existing traffic control devices.
- Take special precautions when unusual conditions exist that may cause problems for school children.

Other factors influencing the route planning may include the availability and quality of sidewalks, the number and age of children using the route, and the total walking distance. Distance is particularly important if a non-direct route is planned to take advantage of better sidewalks, traffic controls, or other factors.

Once the planning is done, a final map should be prepared that

- guides children and avoids hazards
- effectively uses safety features such as traffic control signs and sidewalks
- minimizes the use of busy intersections
- uses roadway crossing with adequate sight distance
- provides a basis for engineering studies of school traffic control devices
- indicates priorities for sidewalk construction

Evaluate and configure the school site

Once a map to the school has been created, the school site itself should be evaluated and configured for safety.

Are parking lots separate from student pick-up and drop-off areas?

Are buses and the handicapped the only ones allowed to park in the access driveway?

Are sidewalks between the school buildings and the access driveway wide enough?

Consider other safety elements

The 2003 edition of the MUTCD, Part 7, "Traffic Controls for School Areas" includes important revisions for school zones. Some of the changes include newly designed crossing signs and the need for proper apparel, equipment, and training for crossing guards, especially student patrols.

Traffic control. The design of traffic signs should be uniform. Any non-standard signs should be removed or replaced to avoid confusion.

Road markings may supplement traffic signs. They can produce results impossible with signs alone.

School crosswalks. Wherever the committee may approve their placement, school crosswalks should be marked to increase visibility. Traffic signals may also be added to help regulate traffic.

Crossing supervision from an adult crossing guard, a police officer, or a student patrol may be effective where younger pedestrians cross.

School bus operations. Due to their size, limited maneuvering capabilities, and the site restrictions they create, school bus operations are a major part of any school zone program.

Bus routes should maximize safety, efficiency, and cost effectiveness. To accomplish this, consider the following:

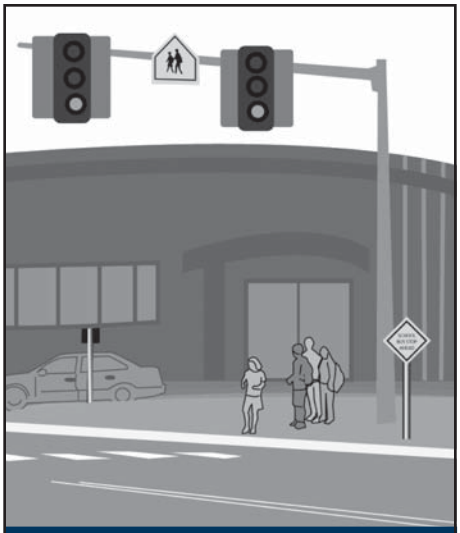
- school children's ages and locations
- road conditions and the safety of the route at hills, intersections, railway crossings, and other high caution locations
- available funds
- required service standards
- loading and unloading safety, both to the school children and to other motorists

Distribute and maintain the plan

A copy of the final route plan should be posted in the school where anyone can see it. Copies should also be sent home with the children for their parents to look over and help explain.

Once the plan is in place, school authorities should make sure that students follow the appropriate routes. Widespread non-compliance may mean that revisions are necessary.

Review the plan annually to determine if any changes are necessary due to district changes, sidewalk construction, the installation of new traffic control devices, and anything else that could affect pedestrian or bike travel. ■



A school crosswalk with traffic signals helps regulate traffic on a busy street.

Editor's note: *This is the final article of the simplified traffic studies summaries. Information in this article was taken from the* Handbook of Simplified Practices for Traffic Studies *found online at www.ctre.iastate.edu/pubs/traffichandbook/.*

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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Identifying bridge approach problems, causes, and possible solutions

Bridge approach settlement and the resulting formation of "bumps" at the end of bridges is a common problem in Iowa. In addition to annoying motorists, these bumps result in considerable maintenance costs.

David J. White, assistant professor of civil, construction, and environmental engineering at ISU, recently led a project that investigated bridge approach problems and recommended improvements to bridge approach design, construction, and maintenance. The project was sponsored by the Iowa Highway Research Board (TR-481). Following are highlights.

Causes of approach settlement

The project team determined that approach settlement can be caused by a number of factors:

- seasonal temperature changes causing horizontal movements of integral abutments
- loss of backfill material by erosion
- poor construction practices
- settlement of the foundation soils
- high traffic loads

Common bridge approach problems

White's team observed the following bridge approach problems at existing bridges with poor performance:

- Backfill materials under poorly performing approach slabs are often loose and undercompacted.
- The foundation soil or embankment fill settles.
- Many bridge approach elevation profiles have slopes higher than 1/200, which is considered a maximum acceptable gradient for bridge approaches.
- Voids develop under bridge approaches within one year of construction, indicating insufficiently compacted and erodible backfill material.
- Inadequate drainage is a major bridge approach problem. Many abutment subdrains are dry with no evidence of water, are blocked with soil and debris, or have collapsed.
- Many expansion joints are not sufficiently filled, allowing water to flow into the underlying fill materials.

Recommended design alternatives

The following design alternatives show promise:

- Use a combination of porous backfill (preferably crushed material) and geocomposite drainage systems behind the abutment to improve drainage capacity and reduce erosion around the abutment.
- For bridges with soft foundation or embankment soils, improve embankment compaction with moisture control, foundation preloading, ground improvement, soil removal and replacement, or soil reinforcement. This has the potential to reduce time-dependent post-construction settlements.
- Connect the approach slab to the abutment or the deck of the bridge and eliminate the expansion joint at the bridge end of the approach slab. Support the far end of the approach slab on a sleeper beam with a construction joint of two inches and provide an improved joint sealing system.

For more information

See the project report, *Identification of the Best Practices for Design, Construction, and Repair of Bridge Approaches*, and a technology transfer summary on CTRE's website, www.ctre.iastate.edu.

If you have specific questions, contact David White, 515-294-1463, djwhite@iastate.edu. ■

Failure of concrete slope protection due to erosion.

"Build a Better Mousetrap" winners for 2005

City, county, and state workers submitted eight innovations in the "Build a Better Mousetrap" competition on September 8, 2005, during the Iowa Maintenance Training Expo in Ames. Six winners were chosen:

- skidloader attachment rack, Trent Sorgenfrey and Denny Petersen, Iowa DOT—Tipton
- plow mounting procedure change for Wausau Down Pressure Plow, Glenn Hansen and Todd Cogdill, Iowa DOT—Onawa
- hydraulic hose organizer for batwing mower, Glenn Hansen and Todd Cogdill, Iowa DOT—Onawa
- truck mounted edge rut blade, Kim Christensen and Dale Anderson, Iowa DOT—Le Mars
- island marker, Tim Branam, Daryl Davis, and Pete Wonders, Iowa DOT— DeSoto
- improved hitch and wheels on one-man edge rutter, Kim Christensen and Dale Anderson, Iowa DOT—Le Mars

Each winning team received $100. Articles about each "mousetrap" will be published in *Technology News* throughout the year.

Two entries received an "honorable mention" award:

- front mount narrow shoulder edge rutter, Garry Carlson and Randy Nees, Iowa DOT—Rockwell City and Sac City
- jetter head, Dick Banowetz, Iowa DOT—DeWitt

Congratulations to the winners, and thanks to all who submitted entries. ■

Judges from this year's Mousetrap competition.

2005 "roadeo" winners

More than 80 people competed in the Iowa Snow Plow and Motor Grader Roadeo in Ames on September 6, 2005. Participants took a written exam and drove a snow plow truck or motor grader through an obstacle course.

Snow plow truck competition. Thirty-two teams demonstrated their skill in the truck division. First- and second-place teams have won previously. The winners are listed below:

- Mark Goins and Greg Householder, City of Ankeny, won first place. Combined they have more than 30 years experience driving a snow plow.
- Brad Tingley and Jim Case, City of Des Moines, placed second, with combined nine years of experience.
- William Moore and Bill Stebens, City of Davenport, placed third.

Motor grader division. Eighteen drivers competed in the motor grader division. The first and second place drivers have won previously. The winners are listed below:

- Gary Rank, City of West Des Moines Public Works, placed first, with 17 years of experience driving a motor grader.
- Chris Archer, Pocahontas County, placed second, with 10 years of experience.
- Ron Henderson, Pocahontas County, placed third, with nine years of experience. ■

A snow plow group taking on this year's course with judges walking close behind.

The top three snow plow teams and top three motor grader drivers pose for a winning shot after Tuesday's competition. From left to right; Brad Tingley, Jim Case, Bill Stebens, William Moore, Ron Henderson, Gary Rank, Chris Archer, Mark Goins, and Greg Householder.

Road safety audits for local agencies

By Tom McDonald, safety circuit rider

Interested in locating and correcting safety problems on your streets or roads before they occur? A road safety audit (RSA) can help.

An independent team of trained specialists conducts the RSA. Through one or more field reviews, the team assesses the potential for crashes and past safety performance of a roadway section. The team documents its observations and recommendations in a formal report. Agency managers can then evaluate, select, and justify any needed improvements.

Benefits of RSAs

In addition to identifying and addressing potential safety problems at a low cost, RSAs provide several benefits:

- They help reduce the potential number and severity of crashes.
- They increase agency staff awareness of safe design practices.
- They consider multi-modal and human factors issues.

How RSAs differ from safety reviews

- Safety reviews are usually conducted by in-house design staff. A road safety audit is conducted by an interdisciplinary team from outside the agency staff.
- A safety review might primarily consider compliance with established standards and past crash history. An RSA considers human factors and multi-modal needs using a comprehensive check list.
- A safety review often provides a reactive approach. An RSA explores future potential for crashes, taking a more proactive approach.

Good candidates for RSAs

For new construction, project characteristics that could benefit from an RSA include

- a complex design with high cost
- new or unusual features
- several interacting modes
- a high public or political profile
- a context sensitive design

For existing roads and streets, good candidates for an RSA may be those with

- a poor safety performance record
- high public or political interest
- traffic conditions that have changed

Even a simple 3R project can benefit from a safety analysis as part of the design process. For these or any existing road or street, features to review would include

- signs and pavement markings
- sight distance, especially at intersections
- pavement defects including skid resistance
- delineation and lighting needs
- clear zone obstacles
- glare
- shoulder conditions

In urban areas, features would include the safe location of bus stops, pedestrian and bicyclist concerns, and access management.

Who conducts the RSA

For large projects, the road safety analysis team may consist of several members with expertise in traffic safety, geometric design, and traffic operations. Other members may include human factors experts, special user advocates such as bicyclists and pedestrians, law enforcement officers, and maintenance staff.

For smaller improvements such as 3R projects, a single experienced individual can provide the needed expertise. Jack Latterell, retired FHWA safety engineer, assists the Iowa DOT with comprehensive safety analysis and can do the same for local agencies.

For an Iowa 3R project, a typical team might include

- the Iowa DOT Office of Traffic and Safety
- field staff from the Iowa DOT district office including the assistant district engineer, design staff, and possibly maintenance staff
- experts from CTRE for crash analysis advice
- consultant Jack Latterell

Agency concerns about RSAs

Local agencies may be concerned about the following potential drawbacks of conducting road safety audits:

Project development delay. Delay is minimal. The audit process can be worked into the regular development process. From start-up to submission of the final report, a standard road safety audit requires about one to three weeks to complete.

Increased project costs. RSA team proposals should be kept in context with the project scope and focus primarily on low cost improvements. Any significant cost changes can be discussed with project managers prior to issuance of the final report. It's up to project managers to select or defer any changes.

In addition, it is generally less costly to make needed changes in project plans than to modify a new improvement after construction is completed.

Potential increased liability exposure. A properly conducted and documented RSA should not result in additional liability exposure for an agency. In fact RSAs may actually reduce potential tort claim exposure by demonstrating a proactive approach to safety. However, managers may want to discuss liability implications with agency attorneys before undertaking a road safety audit.

Identifying and documenting safety issues on a road or street is not an admission of guilt. Rather, this initiative is part of a management process to improve safety within a jurisdiction. Using accepted risk management techniques, safety concerns can be prioritized and addressed as funding becomes available.

For more information

For more information about road safety audits, visit www.roadwaysafetyaudits.org, a web site developed by the Institute of Transportation Engineers. Other information and training opportunities are available from the National Highway Institute or by contacting Tom McDonald at CTRE, tmcdonal@iastate.edu, 515-294-6384. ■

Access management and highway safety

Nearly 10 percent of all crashes in Iowa occur at commercial driveways, primarily on city arterial streets. About a quarter of these crashes occurred in the Des Moines metro area in recent years, making it a prime candidate for improved access management.

The Des Moines Area Metropolitan Planning Organization (Des Moines Area MPO) and CTRE joined forces to develop a comprehensive access management plan.

Choosing where to improve access management

The first step was to decide which routes in the Des Moines metro area were the best candidates for improving access management.

Using the Iowa crash database, CTRE analyzed crash records from 1997–2000 (the most recent available at the time of the study) on the principal and minor arterials in the Des Moines metro area. There were 29,810 crashes along those corridors during that period.

Researchers identified a total of 18,089 crashes that were probably access-related. They chose several specific crash types:

- broadside
- rear-end collision
- rear-end/right-turn collision
- rear-end/collision
- broadside/right angle collision
- broadside/right entering collision
- broadside/left entering collision

The corridors were divided into 180 study segments. For each segment, three calculations were made:

1. crash rate for the probable access-related crashes
2. crash severity for the probable access-related crashes
3. commercial driveway density

A statistical analysis revealed that these three measures are somewhat interchangeable in their ability to predict corridors needing access management improvement.

Nine percent of the study corridors (16 segments) had more than 250 access-related crashes. Nineteen percent (34 segments) are responsible for almost 50 percent of the access-related crash severity. This indicates that access-related crashes are concentrated along a few corridors. This is likely to be true in other metro areas as well.

Researchers identified the 20 most promising segments for access management improvement. Most of the segments are four-lane, undivided arterials in older parts of Des Moines.

Using the problem identification results

The Des Moines Area MPO plans to use the results of the crash analysis in its long-range transportation plan and transportation improvement program. The results will help the MPO identify the most important projects requesting federal funding.

Educating local officials about access management

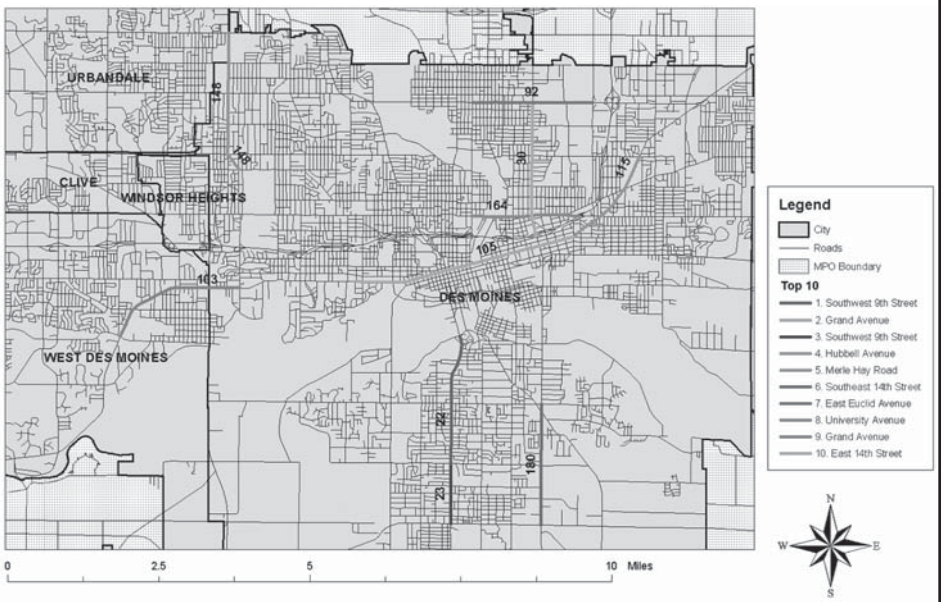
For technical audiences, the *Access Management Handbook* and the access management section of the *Iowa Statewide Urban Design Standards Manual*, Chapter 5I 1–8, are useful materials (see www.ctre.iastate.edu/pubs/).

For non-technical audiences like elected officials and business groups, CTRE prepared a brief presentation called "Access Management 101." The presentation can be customized for including information about specific corridors and may include information about crash frequency, crash rate, crash type, driveway density, etc.

For more information

For more information about this project, contact David Plazak at CTRE, 515-296-0814, dplazak@iastate.edu, or Tom Kane at the Des Moines Area MPO, 515-334-0075, tjkane@dmampo.org.

See page 11 for information about a free access management workshop. ■



The top 10 locations of the most promising segments for access management.

Reap the benefits of coordinated transit services

A new publication by the Transit Cooperative Research Program (TCRP Report 101) provides a toolkit to help transit managers coordinate transit services.

Common benefits of coordinating services include the following:

- reduced trip costs
- extended service hours
- services to new areas, reaching more people
- more trips made by persons needing transportation
- services more responsive to users' schedules, points of origin, and destinations
- greater emphasis on safety and customer service
- more door-to-door service
- more flexible payment and service options

For more information

Download the report, www.trb.org/publications/tcrp/tcrp_rpt_101.pdf. ■

Multidisciplinary safety groups work to improve safety

To thoroughly examine the "what ifs" of traffic and pedestrian safety issues, you need to get diverse points of view. That's the purpose of multidisciplinary safety teams (MDST) like the one in Scott County and the Quad Cities.

This team brings together professionals in traffic and transportation engineering, law enforcement, emergency services, fire prevention, Iowa DOT, Iowa Governor's Traffic Safety Bureau (GTSB), and the FHWA.

Background

The Scott County-Quad Cities Community Awareness of Roadway Safety (CARS) team was formed in 1991 with assistance and guidance from GTSB and the Bi-State Regional Commission.

The group's focus is to identify traffic safety concerns and work together to solve or reduce traffic safety-related problems in the Quad Cities and Scott County. CARS strives to bring everyone to the table.

Team members meet once a month to discuss local safety concerns.

CARS' success stories

One of CARS' major accomplishments is creating a system for identifying when an agency is taking care of an abandoned vehicle:

- After an agency receives a call about an abandoned vehicle parked on the side of the road, an officer attaches reflective orange (not yellow) tape to the vehicle to signal to other motorists that it's being taken care of.
- The system has reduced unnecessary calls to agencies by 90 percent.

CARS also improved safety of motorists on the I-74 bridge (the highest river crossing in Iowa with an average daily traffic of 78,000):

- By installing mile markers every one-tenth of a mile in both Iowa and Illinois on I-74, they helped motorists identify their exact locations after a crash.
- CARS worked to give local law enforcement agencies the ability to activate dynamic message signs around

CARS reduced crashes of over-height vehicles by 50 percent at this low-clearance railroad bridge in Scott County. They installed warning signs, an early detection system, and re-routed vehicles that wouldn't fit under the bridge.

the Quad Cities to warn motorists of crash-related delays on the bridge.

- They also installed two video cameras on the bridge to help law enforcement agencies monitor crash sites.

A low-clearance railroad bridge was a frequent crash site for trucks, but CARS found solutions to reduce these unnecessary crashes by installing an early detection system for over-height vehicles. Their work reduced crashes by 50 percent.

CARS also developed the Scott County traffic routing manual. The manual is kept in all the squad cars so law enforcement can find out how traffic is supposed to be routed for any incident.

Other activities

Other CARS activities include

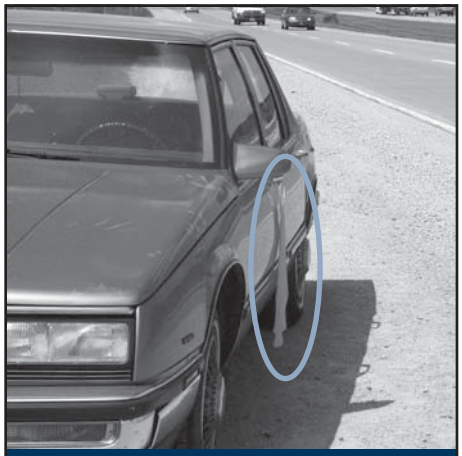
- developing the Highway Enforcement Action Team (HEAT), a county-wide program to reduce traffic speeds along a particular corridor,
- conducting a speed study for smaller communities such as US 67 near LeClair, and
- conducting training sessions for incident management and emergency response for executives and first responders.

"It's challenging to bring everyone to the table, but any given safety issue is better solved when everyone's providing their special expertise," says Lalit Patel, CARS backup chairperson and transportation/traffic engineer with the Bi-State Regional Commission. "The hard part is seeing the issue from someone else's perspective and working toward a solution everyone's satisfied with. But it's worth it."

For more information

For more information about MDSTs, contact Wendie Nerem, Iowa Governor's Traffic Safety Bureau, 515-281-5430. For information about CARS, contact Lalit Patel, 309-793-6203 ext. 129, lpatel@bistateonline.org.

Resources for MDSTs are in the peer exchange report on the Iowa Safety Management System website: www.iowasms.org/pdfs/smspeerreport.pdf. ■



CARS implemented a policy about applying reflective orange (not yellow) tape to an abandoned vehicle to signal it's being taken care of. This reduces a significant number of duplicate calls, especially in winter.

CARS improved safety on the I-74 bridge by installing one-tenth mile markers for motorists to identify their location in case of a crash, dynamic message signs to warn approaching motorists of delays due to crash, and cameras to help law enforcement monitor crash sites and traffic backups.

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TSIP helps multidisciplinary safety teams

In 2004, the Traffic Safety Improvement Program (TSIP) provided $50,000 to the Iowa Highway Safety Management System (SMS) to support Iowa multidisciplinary safety teams. Groups could apply to SMS for up to $10,000.

CARS received money for traffic counters, orange tape, HEAT signs, Scott County Routing Manual and safety training sessions.

Stanley L. Ring Memorial Library: new acquisitions

Publications

P 1663 Signalized Intersections: Informational Guide

This guide provides a single, comprehensive document with methods for evaluating the safety and operations of signalized intersections. Topics covered include fundamental principles of user needs, geometric design, traffic signal design and operation, safety and operational analysis techniques, and a wide variety of treatments to address existing or projected problems. It also covers alternative intersection forms that improve performance through the use of indirect left turns and other treatments. Each treatment includes a discussion of safety, operational performance, multimodal issues, and physical and economic factors that should be considered.

P 1664 Portable Changeable Message Sign Handbook

This pocket-sized handbook provides basic guidelines for the use of portable changeable message signs (PCMS). It includes information on when to use PCMS, matrix types, message design, standard abbreviations, display time, maximum number of phases, placement, height, sight distance, brightness, and maintenance.

CD-ROM

CR 68 PEDSAFE: Pedestrian Safety Guide and Countermeasure Selection System

This guide provides the latest information for improving the safety and mobility of pedestrians. It includes information on engineering countermeasures, education and enforcement programs, and case studies that illustrate the application of these concepts.

CR 69 Recommended Use of Reclaimed Asphalt Pavement in the Superpave Mix Design Method

This CD-ROM contains a 12 minute video presentation on the incorporation of RAP into hot mix asphalt designed with the Superpave method.

CR 70 Endangered Species Act—Build Smart

These two CDs are designed to acquaint highway construction personnel with the Endangered Species Act (ESA) and to help them direct the contractor to Build Smart. Disk 1 covers an introduction to the ESA and a review of the independent duties an agency has under the ESA. Disk 2 covers constructing to the ESA, two case histories, and additional resources for inspectors. Presentations include graphics, videos, and photographs.

CR 71 Training Materials for Night Road Work to Improve Safety and Operations

This CD-ROM complements NCHRP Report 475, "A Procedure for Assessing and Planning Nighttime Highway Construction and Maintenance," which presented a decision process to assist highway agencies in evaluating night work alternatives against other work schedules, and NCHRP Report 476, "Guidelines for Design and Operation of Nighttime Traffic Control for Highway Maintenance and Construction," which provides guidelines for developing a plan for night work that will provide public and worker safety. It requires MS Word, MS PowerPoint, and Windows Media Player.

Videos

V 737 Sink or Swim Teamwork: We're All in This Together

This video helps groups discover how to self-manage tasks and achieve goals as a team, apply the four guiding principles for becoming a true-blue team player, cooperate regardless of task or assignment size, and maximize the team's effectiveness using the CLING strategy.

V 738 Meth Lab Waste Recognition for Adopt-a-Highway Volunteers

This video is aimed at Adopt-a-Highway volunteers to educate them about the dangers of meth lab waste products that may be encountered. It would also apply to maintenance workers.

V 789 Meth Labs: California's Hidden Danger

This video introduces individuals to the dangers of meth labs by making them aware of what to look for and how they could be harmed by the gases and residue of leftover chemicals used in processing methamphetamines. It also explains how meth labs in the local area can be discovered by the ability to identify the waste being dumped. Methamphetamines labs have been found in parks, cars, hotels, and even picnic baskets. This video will also assist emergency personnel in identifying potential dangers when responding to emergency calls.

V 740 How to Resolve Conflict at Work

This video presents techniques on handling conflicts including how to offer help when a co-worker asks too much, how to protect your reputation if someone asks you to lie, and how to work with a customer who expects the impossible.

Order LTAP library materials in three ways:

- Order online, www.ctre.iastate.edu/library/search.cfm.
- Contact Jim Hogan, library coordinator, 515-294-9481, hoganj@iastate.edu, fax 515-294-0467.
- Mail or fax the order form on the back cover of Technology News.

Selected Iowa DOT library new acquisitions

To receive the following Iowa DOT publications, contact Hank Zalatel, Iowa DOT librarian, 515-239-1200, hank.zalatel@dot.iowa.gov.

You can search the entire Iowa DOT library online as part of the State Library of Iowa. Go to the LTAP library site, www.ctre.iastate.edu/library/search.cfm; click on Iowa DOT Library.

Safety Evaluation of Red-Light Cameras, Forrest M. Council and others; Ryerson University and Federal Highway Administration. Report No. FHWA-HRT-05-048. 2005, 95p. TE5091/Un8r/FHWA-HRT/05-048.

Red-Light Running Handbook: An Engineer's Guide to Reducing Red-Light-Related Crashes, James Bonneson and Karl Zimmerman; Texas A&M University. Report No. FHWA/TX-05/0-4196-P1. 2004, 90p. TA1/T31r/4196/P1.

Review and Evaluation of Enforcement Issues and Safety Statistics Related to Red-Light-Running, James Bonneson, Karl Zimmerman, and Cesar Quiroga; Texas A&M University. Report No. FHWA/TX-04/4196-1. 2003, 116p. TA1/T31r/4196-1.

Development of Guidelines for Identifying and Treating Locations with a Red-Light-Running Problem, James Bonneson and Karl Zimmerman; Texas A&M University. Report No. FHWA/TX-05/0-4196-2. 2004, 136p. TA1/T31r/4196-2.

Conference calendar

October 2005

3–7	NHI: Engineering Concepts for Bridge Inspectors*	Cedar Falls	Jim Cable 515-294-2862 jkcable@iastate.edu
10–12	ISRMSA Streets and Roads Conference*	Ames	Georgia Parham 515-294-2267 gparham@iastate.edu
13	10th Annual Traffic and Safety Engineering Forum	West Des Moines	Mary Stahlhut 515-239-1169 mary.stahlhut@dot.iowa.gov
14	Access and Corridor Management*	Ames	Georgia Parham 515-294-2267 gparham@iastate.edu
17–28	NHI: Safety Inspection of In-service Bridges*	Ames	Jim Cable 515-294-2862 jkcable@iastate.edu
18	Engineering Roadways for Older Drivers* (counties and RPAs)	Council Bluffs	Georgia Parham 515-294-2267 gparham@iastate.edu
19	ASCE-ICEA Surveying Conference*	Ames	Jim Cable 515-294-2862 jkcable@iastate.edu
20	Engineering Roadways for Older Drivers* (counties and RPAs)	Council Bluffs	Georgia Parham 515-294-2267 gparham@iastate.edu
21	Access and Corridor Management*	Iowa City	Georgia Parham 515-294-2267 gparham@iastate.edu
25–26	MINK 5* (Missouri, Iowa, Nebraska, Kansas County Engineers Conference)	St. Joseph, MO	Georgia Parham 515-294-2267 gparham@iastate.edu
28	Access and Corridor Management*	Storm Lake	Georgia Parham 515-294-2267 gparham@iastate.edu

November 2005

2	ASCE Transportation Conference*	Ames	Jim Cable 515-294-2862 jkcable@iastate.edu
2	Engineering Roadways for Older Drivers* (counties and RPAs)	Iowa City	Georgia Parham 515-294-2267 gparham@iastate.edu
3	Better Concrete Conference*	Ames	Jim Cable 515-294-2862 jkcable@iastate.edu
4	Engineering Roadways for Older Drivers* (counties and RPAs)	Ottumwa	Georgia Parham 515-294-2267 gparham@iastate.edu
7	ASCE Structural Engineering Conference*	Ames	Jim Cable 515-294-2862 jkcable@iastate.edu
8	Engineering Roadways for Older Drivers* (counties and RPAs)	Mason City	Georgia Parham 515-294-2267 gparham@iastate.edu
9	Engineering Roadways for Older Drivers* (cities and MPOs)	Ames	Georgia Parham 515-294-2267 gparham@iastate.edu
10	Engineering Roadways for Older Drivers* (counties and RPAs)	Ames	Georgia Parham 515-294-2267 gparham@iastate.edu
16	Engineering Roadways for Older Drivers* (cities and MPOs)	Iowa City	Georgia Parham 515-294-2267 gparham@iastate.edu

December 2005

6–8	Iowa County Engineers Conference	TBA	Jim Cable 515-294-2862 jkcable@iastate.edu

*You can register online for these events, www.ctre.iastate.edu/calendar/.

Engineering roadways for older drivers

More than 350,000 Iowa drivers are age 65 or older, and the state population continues to age. The responsibility of safely accommodating these older drivers is falling to transportation agencies.

A free one-day workshop, sponsored by the Iowa DOT's Office of Traffic and Safety and Iowa LTAP, has been developed to help agencies meet this responsibility.

Workshop participants will learn practical ways to improve safety for older drivers, ultimately helping all motorists.

Workshops are designed for counties and RPAs and cities and MPOs. See the conference calendar for dates and locations. ■

Access and corridor management

This free, one-day workshop will focus on practical solutions to access management problems. Sponsored by the Iowa DOT, CTRE, and the Midwest Transportation Consortium, this workshop is for engineers, planners, and other transportation professionals in Iowa.

Among other things, workshop participants will learn the safety and traffic flow benefits of good access management, effective ways to manage access at the highway corridor level, and how to identify access management problems using crash data and other data sources.

Participants will be given a CD-ROM library of resources to use in their access management projects.

The workshop is limited to 100 participants at each of three locations. See the calendar for dates and locations. ■