Technology NEWS

May–June 2006

Iowa LTAP
Local Technical Assistance Program

Providing transportation technology transfer for Iowa's cities and counties

Inside this issue

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
Traffic Safety and Operations

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Iowa State University

Still a deadly danger for road workers

In 2004, Iowa was second only to Missouri in the number of methamphetamine lab incidents each year.

In May 2005, Iowa began controlling the sale of nonprescription cold and allergy products containing pseudoephedrine (PSE). PSE is a key ingredient used to manufacture the narcotic methamphetamine, also called crystal, ice, crank, glass, or just meth.

As a result of this and other control and educational efforts, by the end of 2005 Iowa was leading the country in the reduction of meth labs. The number of labs found in the state has dropped by almost 80 percent.

But roadway workers should continue to be on the lookout for deadly lab waste dumps.

Dangerous materials

For every meth lab found, several other labs may exist that are not discovered.

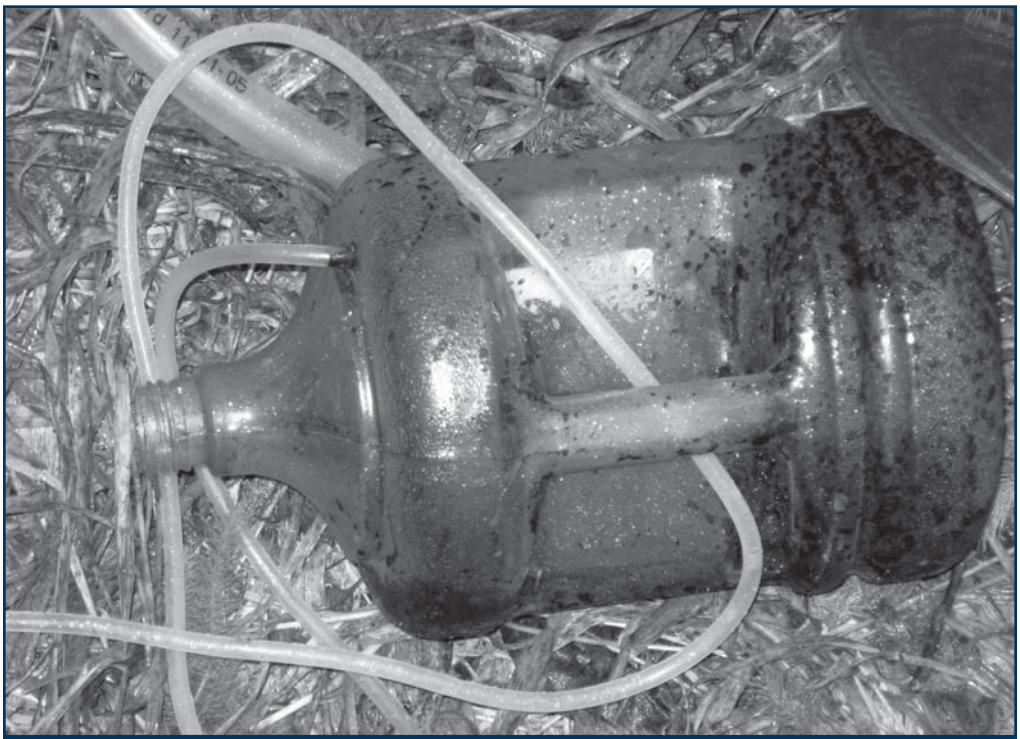
Manufacturing one pound of meth generates six pounds of toxic waste. The waste is often dumped in isolated rural areas, road ditches, and fields. It is extremely dangerous—even lethal—and requires special handling by trained hazardous materials personnel.

The waste materials are highly flammable, explosive, and/or corrosive. Disturbing them often re-starts chemical reactions that can cause sudden explosions.

Coming in contact with these materials can cause headache, nausea, dizziness, or skin or eye irritation. Inhaling the fumes can cause acute lung damage. An unexpected explosion can result in severe chemical burns.

The materials themselves are bad enough (see the sidebar on page 3). In addition, illegal meth manufacturers have been known to booby-trap meth labs and waste dumps.

Meth danger continued on page 3



Waste dump from an illegal methamphetamine lab. Photo courtesy of the Central Iowa Drug Task Force.

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

LTAP is a national program of the FHWA. Iowa LTAP, which produces this newsletter, is financed by the FHWA and the Iowa DOT and administered by CTRE.

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Good job, Roads Scholars!

As of May 1, 2006, 490 Iowa transportation workers have been awarded Roads Scholar I certificates and 121 workers have achieved Roads Scholar II.

These workers come from all corners of the state, including 27 cities, 69 counties, the Iowa DOT, and a few other organizations.

Cities include Ames, Ankeny, Bettendorf, Burlington, Carroll, Cedar Rapids, Charles City, Clive, Davenport, Des Moines, Johnston, Knoxville, Manchester, Marion, Marshalltown, Muscatine, Newton, Ogden, Perry, Postville, Sheldon, Sigourney, Urbandale, Waterloo, Waukee, Waverly, and West Des Moines.

Counties include Appanoose, Audubon, Benton, Black Hawk, Boone, Bremer, Buena Vista, Calhoun, Cedar, Cherokee, Chickasaw, Clayton, Clinton, Crawford, Dallas, Davis, Delaware, Des Moines, Dickinson, Dubuque, Fayette, Floyd, Fremont, Hamilton, Hancock, Harrison, Howard, Humboldt, Iowa, Jackson, Jasper, Jefferson, Johnson, Jones, Keokuk, Kossuth, Lee, Linn, Lucas, Lyon, Madison, Mahaska, Marion, Marshall, Monona, Monroe, Montgomery, Muscatine, Osceola, Page, Plymouth, Pocahontas, Polk, Poweshiek, Ringgold, Sac, Scott, Shelby, Sioux, Story, Tama, Taylor, Van Buren, Wapello, Washington, Webster, Winneshiek, Woodbury, and Wright.

The Iowa DOT has 172 Roads Scholars.

To achieve Roads Scholar I, a worker must take 30 hours of training, and for Roads Scholar II it's 50 hours.

In the next issue of Technology News, we'll announce the most recent Senior Roads Scholars and Master Roads Scholars.

To see who's earned Roads Scholar credit, how much they've earned, and for what training events, visit www.ctre.iastate.edu/roadscholar/ and review training records for an individual or an organization. ■

Safety award to Zach Hans

In order to make informed traffic safety decisions, local transportation agencies need quality data in a usable format.

Zach Hans, manager of the Iowa Traffic Safety Data Service (ITSDS) at CTRE, makes sure ITSDS customers get what they need. Last year, the ITSDS responded to approximately 130 requests for safety data from 50 different agencies.

This spring, the Iowa Department of Public Safety recognized Zach for his outstanding traffic safety contributions with the Commissioner's Special Award for Traffic Safety.

The award is based on an individual's commitment to traffic safety and service provided beyond routine duties, creativity of approach, and effectiveness of a traffic safety program or campaign. To be considered for an award, individuals must have contributed in a leadership role to traffic safety issues through promotion and awareness in his or her area of expertise.

For more information about the ITSDS, see www.ctre.iastate.edu/itsds/. ■

Zach Hans (right) accepts the Iowa Department of Public Safety's Commissioner s Special Award for Traffic Safety.

Meth danger continued from cover

Road workers at risk

Like hunters and Adopt-a-Highway volunteers, road workers are among those likely to stumble upon a meth waste dump.

- Be alert. What may look like some harmless trash in a ditch may be lethal meth waste material.
- Do not go near the material(s).
- Do not touch or move anything in the area. (In addition to being dangerous to yourself, disturbing the area may hinder law enforcement agencies' efforts to trace the lab location and/or the manufacturers.)
- Contact your supervisor immediately. Your supervisor should contact law enforcement personnel with the exact location of the possible meth waste dump.

For more information

Watch a 10-minute video, *Meth Lab Waste Recognition for Adopt-a-Highway Volunteers*, available through the Iowa LTAP library. Librarian Jim Hogan says, "Every road worker should see this video before doing any outdoor work." Contact Jim, 515-294-9481, hoganj@iastate.edu.

Read *The Impact of Senate File 169 on Meth Abuse in Iowa*, a January 17, 2006, report to the legislature by Drug Policy Coordinator Marvin Van Haaften. It is available on the Governor's Office of Drug Control Policy website, www.state.ia.us/odcp/docs/SF169Leg.pdf. ■

Crystal meth use on the rise

Illegal methamphetamine labs may be on the decline in Iowa, but the demand for meth is not. An increasing amount of meth, especially crystal meth or ice, is illegally flowing into Iowa from Mexico and the southwest United States.

Ice is purer than the powdered meth produced by most local manufacturers. The purer form is more addictive and physically destructive.

Purchasing imported meth is more expensive than manufacturing it locally. Some communities are reporting increases in burglaries that may be attributable to the increased costs of meth.

Meth waste: what to watch for

There are several methods for manufacturing methamphetamine. Each method involves slightly different materials and equipment that may be dumped.

Be suspicious if you come across the following:

- Anything that could be used as a waste receptacle: a plastic garbage bag, backpack, duffel bag, cooler (even the trunk of a car)
- A patch of dead grass or dying vegetation, which could signal the presence of polluting materials
- A strong smell of cat urine, rotten eggs, or ammonia

A combination of any of these items:

- empty blister packs or boxes of cold or allergy pills containing ephedrine or PSE (Sudafed®, Contac® Non-Drowsy, or generic versions of these)
- aluminum foil
- blenders
- buckets
- butane torches
- cheesecloth, coffee filters, funnels
- duct tape, clamps
- gas cans
- glass jars, flasks, bottles, dishes
- hot plates or camp stoves
- paper towels
- plastic cartons
- propane, portable propane tanks
- rubber gloves
- rubber or plastic tubing
- strainers
- syringes
- thermometers
- thermoses

Any of the following chemicals:

- acetone
- anhydrous ammonia
- car batteries
- cat litter (may be in a bag or container with a plastic hose, called a "death bag")
- charcoal lighter fluid
- denatured alcohol
- drain cleaner (sulfuric acid)
- epsom salt or salt
- freon
- HEET gasoline additive
- iodine
- isopropyl or rubbing alcohol
- kerosene
- lacquer
- lithium batteries
- match books for washed-off striker strips
- matches for red phosphorus
- mineral spirits
- muriatic acid
- paint thinner (toluene)
- Red Devil lye
- starting fluid (ether)
- trichloroethane (a common gun-cleaning solvent)

Final Iowa rule on obstructions in ROW

The 2006 Iowa Legislature passed and Governor Vilsack signed legislation that enhances public safety and makes it easier and more economical for transportation agencies to maintain highway rights-of-way (ROW).

Under this new legislation (Chapter 318 of the Iowa Code, House File 2515), obstructions are more clearly defined. People are prohibited from the following activities in the highway ROW:

- Excavating, filling, or making physical changes.
- Growing crops.
- Destroying plants.
- Placing fences or ditches.
- Altering ditches, water breaks, or drainage tiles.
- Dumping trash, rocks, crop residue, brush, vehicles, etc.
- Placing billboards or signs.
- Placing red reflectors on objects.

Although the word "mailbox" is not explicitly mentioned (it was removed from the bill by the legislature), the law still permits highway agencies to remove unsafe mailboxes and supports.

The new chapter also specifies in more detail the rights of highway agencies to collect fees for the removal of obstructions (see 318.5).

Origins of the new legislation

In 2001, just a few weeks after starting his new job as Story County engineer, Bob Sperry had to have an immediate safety hazard—a decorative fence—removed from the ROW on a gravel road. The home owner was incensed and started a "Beware the new county engineer" campaign.

Sperry initiated a public information campaign to explain the reasoning for all such safety hazard removals. Story County also adopted an ordinance to more explicitly define obstructions and explain the removal process, collection fees, and liability.

Due to his recent experience, Sperry was asked to lead a committee that would get a bill similar to Story County's ordinance through the Iowa Legislature.

A committee of 15 people from counties and the Iowa DOT originally tried to tweak Iowa Code Chapter 319 Obstructions in Highways (which the new legislation repealed). With the help of John Easter and Mike Wentzien, lobbyists with the Iowa State Association of Counties, the committee eventually decided to write the bill from scratch.

Getting the bill passed was the next hurdle. Utility companies opposed it in 2005.

Sperry and Royce Fitchner, Marshall County engineer, met with the utility companies to explain the language of the new bill. Once the bill was slightly reworded, the utility companies dropped their opposition.

The bill was introduced in the 2006 session and passed. It goes into effect July 1, 2006.

For more information

To see the full text of the new rules, go to www.legis.state.ia.us/aspx/Cool-ICE/DisplayBills.htm, select the House File drop-down menu, then select "HF 2515." A new window will open. ■

Circled above is the decorative fence that began Story County's campaign to remove roadside safety hazards.

Three lanes really can be safer than four

Do four-lane to three-lane conversions of urban roadways really make a safety difference? Several cities in Iowa say yes.

Does their experience hold up under scientific scrutiny? Recently the Iowa DOT's Office of Traffic and Safety decided to find out.

About the research

Four-lane to three-lane conversions generally involve re-marking a four-lane, undivided urban roadway into three lanes: one through lane in each direction with a two-way, continuous left-turn lane in the center.

The Iowa DOT sponsored two projects to study the safety impacts of such conversions. One study was conducted by CTRE, and the other was conducted by Iowa State University's Department of Statistics.

CTRE did a classical before-and-after study using 10 years of annual data. These data were compared to annual crash trends citywide and to similar, unconverted roadways.

The Department of Statistics used a Bayesian before-and-after analysis with monthly crash data and estimated volumes for all sites over 23 years (1982–2004).

Both studies started with the same 15 conversion sites and 15 comparison (unconverted) sites. The conversion and comparison sites had traffic volumes ranging from 2,000 to 17,400 annual daily traffic (ADT) from 1982 to 2004 and were mostly located in smaller urbanized areas. See Table 1 for a list of the study sites.

Results

Both study methods yielded similar results:

- Compared to crashes citywide, at converted sites major injury crashes were reduced by 11 percent, minor injury crashes by 30 percent, and possible injury crashes by 31 percent.
- Crash frequency on the converted sites was reduced by about 24 percent—after subtracting the change in citywide crashes.
- Fewer people under 25 and over 65 (two groups with traditionally higher crash risk) were involved in crashes.
- There were significantly fewer crashes related to left turns and stopping.

For more information

Contact Tom Welch, Iowa DOT Office of Traffic and Safety, 515-239-1267, tom.welch@dot.iowa.gov. Also see www.ctre.iastate.edu/research/4laneto3lane.htm for links to related documents, including a tech transfer summary with more details about these two studies. ■

US 34 in Osceola is one conversion site.

Table 1. Description of conversion sites

City	AADT*	Population	Length	Land use
Storm Lake	7,333	10,076	1.41	Primarily commercial and industrial
Clear Lake	12,000	8,161	1.51	Mostly strip commercial, with some residential remnants
Mason City	7,100	29,172	1.78	Primarily agricultural and industrial
Osceola	6,100	4,659	2.04	Residential, strip commercial, and downtown
Manchester	11,200	5,257	0.35	Downtown commercial
Iowa Falls	10,422	5,193	1.23	Industrial, with some residential street access at one end
Rock Rapids	4,532	2,573	0.35	Downtown commercial and office
Glenwood	6,313	5,358	1.09	Strip commercial, residential, and transition between two
Des Moines	13,767	198,682	1.19	Mixed residential and commercial
Council Bluffs	10,900	58,268	0.20	Residential (few drives) and open space
Blue Grass	2,218	1,169	0.72	Residential with commercial and industrial
Sioux Center	9,231	6,002	1.52	Single-residential through downtown commercial
Indianola	13,069	12,998	1.57	Strip commercial with some residential
Lawton	9,233	697	0.64	Residential, access to side streets only
Sioux City	10,650	85,013	0.77	Residential, access to side streets or alleys only

*AADT = annual average daily traffic
(AADT and population data from year 2000)

Cost is not the only factor

Traditional safety and/or operational improvements for urban four-lane corridors include constructing a raised median or adding a fifth (center), two-way, left-turn lane. Both these alternatives involve widening the roadway, which is costly and sometimes impractical.

Converting four lanes to three, with a center left-turn lane, may improve traffic operations and safety as effectively as traditional improvements, at significantly lesser cost.

The three-lane conversion is not appropriate for every four-lane urban street. Several factors to consider can be found in an earlier ISU study sponsored by the Iowa DOT's Office of Traffic and Safety. See www.ctre.iastate.edu/research/detail.cfm?projectID=339.

Eliminate (almost!) those blind spots

Editor's note: *This article was adapted from one in the spring 2005 issue of* Crossroads, *newsletter of the Wisconsin LTAP, which was adapted from one in the Oct/Dec 2003 issue of* The Bridge, *newsletter of the Michigan LTAP.* The Bridge *story was produced by the Society of Automotive Engineers © 1995 SAE International and reprinted with permission. Some information for this article was found on the Car Talk website, www.cartalk.com/content/features/mirrors/index.html. Information about large trucks was found on NewsUSA's website, http://about.newsusa.com/article-site.asp?ArticleId=3746.*

In a 2003 study (1999 data), the National Highway Traffic Safety Administration identified more than 200,000 crashes that involved "typical lane changes." The majority of these crashes involved drivers who didn't see a vehicle in the other lane. The vehicle may have been in the driver's "blind spot."

Did you know that when you're driving a car you can virtually eliminate blind spots by rotating the side mirrors out about 15 degrees?

Ineffective mirror settings

You may have been taught to set your outside mirrors so that you can just see the sides of your car. This setting mostly overlaps, and only slightly widens, the area you can already see from your rear-view mirror. This setting leaves a blind zone on each side of the car big enough to hide a vehicle approaching from the rear in the next lane. See Figure 1.

To change lanes safely with this setting, you have to check the rear-view mirror, then check the side mirror, and then physically turn and look back through the window to see if a vehicle is in the blind spot. At highway speeds, this requires drivers to take their eyes off the forward road for 100 feet or more.

Suggested mirror settings

To reduce or eliminate blind spots, rotate each outside mirror out about 15 degrees. Adjust the driver's side mirror by leaning your head left against the window, then setting the mirror so you can just see the side of the car. Adjust the passenger's side mirror by sitting in the middle of the front seat and setting the passenger's side mirror so you can just see that side of the car.

These settings leave four narrow blind zones that are too small to hide a vehicle. See Figure 2.

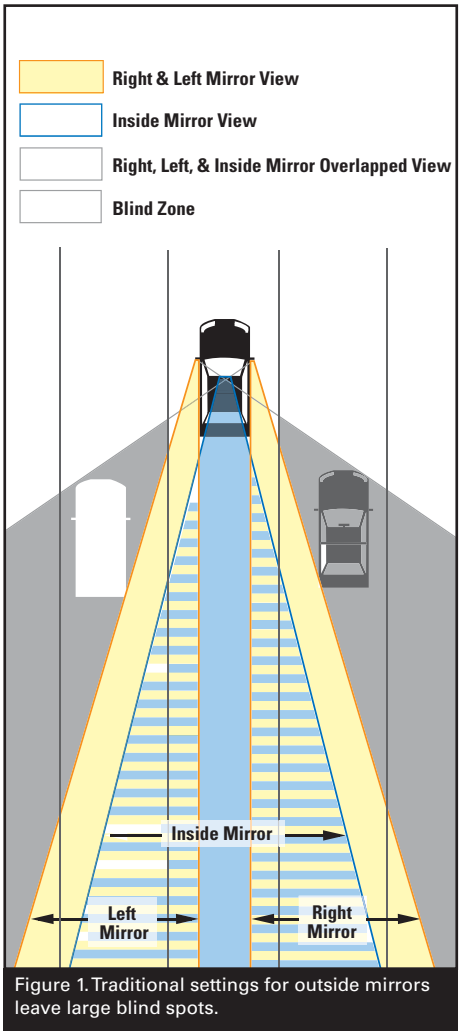


Figure 1. Traditional settings for outside mirrors leave large blind spots.

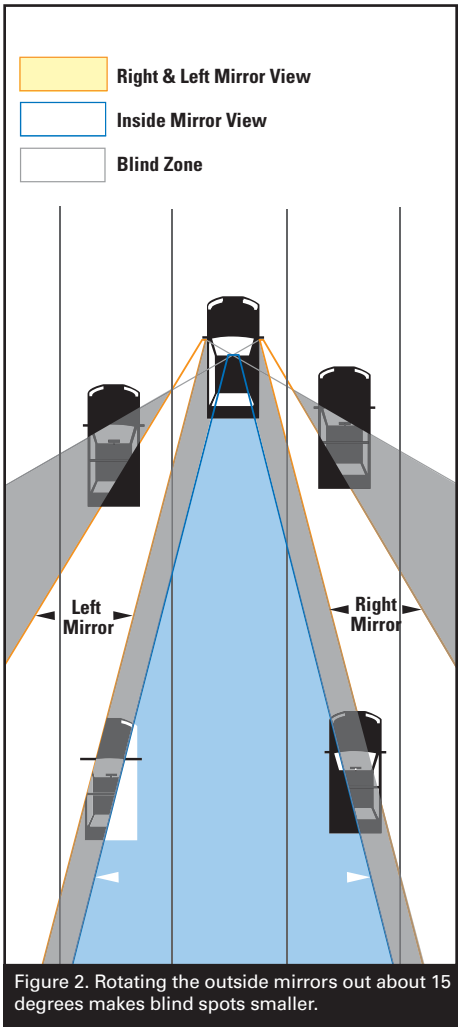


Figure 2. Rotating the outside mirrors out about 15 degrees makes blind spots smaller.

Build a Better Mousetrap

IOWA MAINTENANCE TRAINING EXPO 2005

2005 Better Mousetraps

Editor's note: *Each year during the annual Iowa Maintenance Training Expo inventors from across Iowa demonstrate their innovations in the "Better Mousetrap" competition. In this issue of* Technology News, *we've published some of the 2005 winners.*

Modified island marker

For island markers that are frequently knocked down, the Iowa DOT maintenance staff in DeSoto came up with a faster, more economical replacement.

They manufactured a steel base plate using a 1 1/2" pipe that's notched at the sides. A plastic sleeve is glued onto the plate, and three reflectors are attached to the top of the sleeve.

The base usually isn't damaged, so replacing these modified markers takes about half the time of the standard metal markers. The materials are inexpensive—less than $15 for the pipe, base, and sleeve for one marker.

For more information, contact Tim Branam, Daryl Davis, or Pete Wonders at 515-834-2368.

Judges scoring exhibits from the 2005 Mousetrap competition.

Pete Wonders (above), explains how the island marker replacement saves the DeSoto maintenance staff time and money.

Truck mounted edge rut blade

For more than 10 years, the Iowa DOT maintenance staff in LeMars have been using a truck-mounted edge rut blade system that lets a single operator do the work of several people. It's designed to use material already on the shoulder.

The equipment includes three blades. The first blade moves material from right to left to fill the edge rut. The second blade moves excess material back across the shoulder. The third blade floats along on the left side of the machine to keep material off the roadway. A roller can be pulled by the same truck to pack the shoulder.

Mounted on the front of the truck, the edge rut blade is easy to operate. It leaves no material on the roadway.

Materials cost about $559 to manufacture this blade system.

For more information, contact Kim Christensen or Dale Anderson at 712-546-6401.

The truck-mounted edge rut blade system submitted by the LeMars shop.

Improved hitch and wheels on one-man edge rutter

DOT mechanics in LeMars modified their original design of a skid edge rutter that's attached to the rear of the truck (this one is different from the one described above).

They added a hitch and adjustable pneumatic tires. The hitch helps keep the skid from tipping forward during edge rutting operations. The tires are adjusted to carry enough of the load so the shoes have minimal contact with the surface. This has helped speed up the work of adding new material.

Materials included two light trailer axle wheel hub assemblies, steel, and related materials for a cost of about $225.

For more information, contact Kim Christensen or Dale Anderson at 712-546-6401. ■

Dale Anderson (above) of the LeMars shop explains how the improved hitch helps speed up the work.

Stanley L. Ring Memorial Library: New acquisitions

Note: A few videos are available in both VHS and DVD format. New videos will generally be in DVD format.

Publications

P 1679 The Roads That Built America: The Incredible Story of the Interstate System

This year marks the 50th anniversary of the interstate system. This publication chronicles the history of the intricate interstate system, from a primitive road conceived by George Washington to the 46,000 miles of roadway that form the backbone of our economy today.

P1680 Summary of Trenchless Technology for Use with USDA Forest Service Culverts

Although prepared for the USDA Forest Service, this publication summarizes techniques for replacing or rehabilitating corrugated pipe culverts that may be useful for local agencies.

P 1681 How to Control Streambank Erosion

This manual provides information on selecting materials and methods for controlling streambank erosion, and covers advantages/disadvantages, site preparation, and installation requirements.

P 1682 Low Cost Local Road Safety Solutions

Most of the safety solutions in this compilation of case studies by the Texas Transportation Institute can be applied in rural areas; some are also appropriate for urban areas. (NACE and ATSSA members can get free copies directly from those organizations.)

DVD

DVD 24 Lifelines: Your National Forest Roads

This video celebrates the partnership between the USDA Forest Service, the FHWA, and state and local communities in providing continued stewardship and access to our national forests.

DVD 48 Gravel Road Maintenance: Meeting the Challenge Toolkit

Together with CR 78, this training package teaches maintenance workers, supervisors, and engineers good techniques—the how and the why—for maintaining gravel roads. It includes an instructor's guide. The package can also be used to educate the public about proper gravel road maintenance.

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.

CD-ROM

CR 77 Anti-Icing/RWIS Training

If your road crews have some slow days this summer, let them self-train on anti-icing with this interactive program. Training is provided in modules, so users can study at their own pace.

CR 78 Gravel Road Maintenance: Meeting the Challenge

Together with DVD 48, this training package teaches maintenance workers, supervisors, and engineers good techniques—the how and the way—for maintaining gravel roads. It includes an instructor's guide. The package can also be used to educate the public about proper gravel road maintenance.

CR 79 Introduction to the Inspection of Ground Anchors and Soil Nails

This CD explores the basics of ground anchors, the relationship between ground anchors and soil nails, and essentials for inspecting ground anchors.

CR 80 Inspection of Ground Anchors: Preconstruction and Construction

These two CDs provide field inspectors with knowledge to properly inspect ground anchor construction.

Online publications for local agencies

Several publications especially useful for local transportation agencies can be downloaded from CTRE's website:

Access Management Handbook
www.ctre.iastate.edu/research/access/amhandbook/

Access Management Toolkit: Answers to frequently asked questions
www.ctre.iastate.edu/research/access/toolkit/

Get the Word Out! (public relations tips for local agencies)
www.ctre.iastate.edu/pubs/special_LTAP/prbook.pdf

Handbook of Simplified Practice for Traffic Studies
www.ctre.iastate.edu/pubs/traffichandbook/

How to Navigate a Roundabout (brochure)

8 ½ x 11 format (www.ctre.iastate.edu/pubs/ltr_roundabout.pdf)
8 ½ x 14 format (www.ctre.iastate.edu/pubs/legal_roundabout.pdf)

IDNR's Iowa Construction Site Erosion Control Manual
www.ctre.iastate.edu/erosion/manuals/const_erosion.pdf

Iowa Drainage Law Manual
www.ctre.iastate.edu/pubs/drainage_law/

Iowa Statewide Urban Design Standards Manual
www.iowasudas.org/design.cfm

Iowa Statewide Urban Standard Specifications for Public Improvements Manual
www.iowasudas.org/specs.cfm

Iowa Traffic Control Devices and Pavement Markings: A Manual for Cities and Counties
www.ctre.iastate.edu/pubs/itcd/

Low Water Stream Crossings in Iowa: A Selection and Design Guide
www.ctre.iastate.edu/pubs/LWSCguide.pdf

Miscelleneous safety-related publications
www.ctre.iastate.edu/pubs/trafficsafety.htm

Short (two to four pages) technology transfer summaries for the majority of research conducted at CTRE since 2004
www.ctre.iastate.edu/research/t2summaries.cfm

Traffic and Safety Informational Series
www.ctre.iastate.edu/pubs/tsinfo/

Conference calendar

July 2006

24–28	Biodiesel Technology Workshop	Ames	Get more information online at www.ucs.iastate.edu/mnet/biodiesel04/home.html

August 2006

17–18	Mid-Continent Transportation Research Forum	Madison, WI	Get more information online at www.mrutc.org/ResearchPaysOff/

September 2006

20–22	APWA Fall Conference	Des Moines	Duane Smith 515-294-8103 desmith@iastate.edu
25–27	Iowa Streets and Roads Conference	Ames	Duane Smith 515-294-8103 desmith@iastate.edu

October 2006

3 5 10	Intersection Safety Workshop	Ames Iowa City	Tom McDonald 515-294-6384 tmcdonal@iastate.edu
10 12	Iowa Snow and Ice Conference	Ames Storm Lake	Duane Smith 515-294-8103 desmith@iastate.edu
12 17 24	Intersection Safety Workshop	Ottumwa Iowa City Mason City	Tom McDonald 515-294-6384 tmcdonal@iastate.edu
24 25	Iowa Snow and Ice Conference	Burlington Cedar Rapids	Duane Smith 515-294-8103 desmith@iastate.edu
26	Snow Plow Roadeo	Cedar Rapids	Duane Smith 515-294-8103 desmith@iastate.edu
31	Intersection Safety Workshop	Carroll	Tom McDonald 515-294-6384 tmcdonal@iastate.edu

Get more information and/or register online for these events at www.ctre.iastate.edu/calendar/.

Safety training aids

Not sure what to do at your next monthly safety meeting? Iowa LTAP can help.

We've prepared a series of safety training modules that can be downloaded from the web.

Each module includes a handout that can be copied for all workers and a trainer's guide that includes a lesson plan and information about publications and videos available through the Stan Ring Memorial Library. Brief, simple suggestions for conducting training are also included.

The first six topics include hard hats, lifting and carrying, shop safety, work site safety, snow and ice operations, and safe vehicle operation. When the series of training aids is complete, there will be 15 topics in all.

To view and download these training aids, see www.ctre.iastate.edu/pubs/worker_safety/. ■

Iowa LTAP has moved

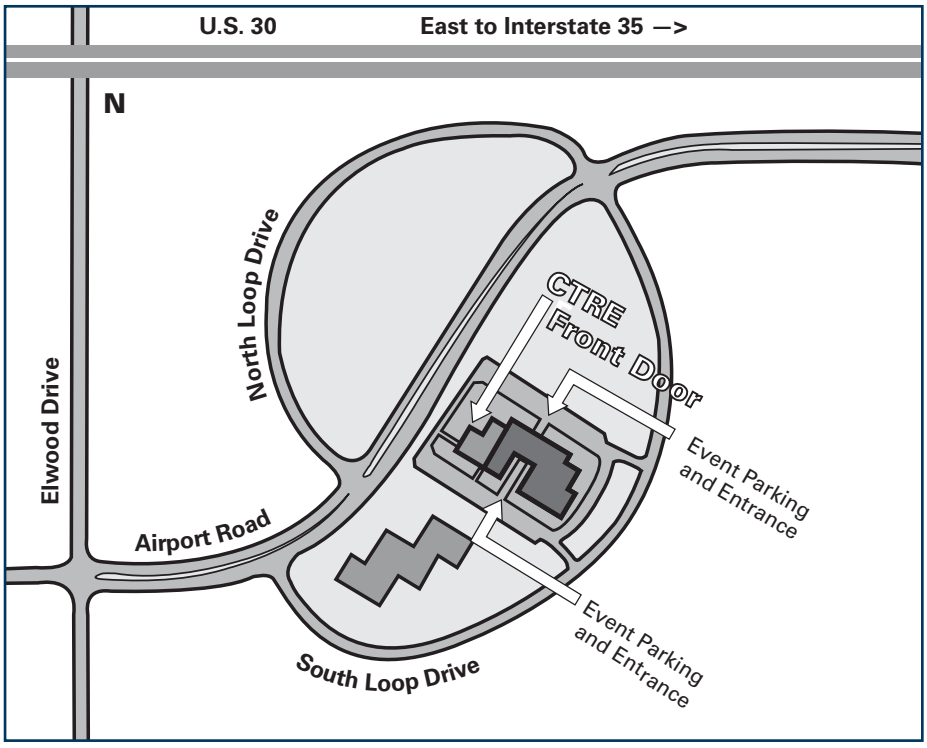
One building east.

The new address for the Center for Transportation Research and Education (which houses and administers Iowa LTAP) is

2711 South Loop Drive, Suite 4700
Ames, IA 50010-8664

We are still located in the ISU Research Park in Ames, Iowa, south of Highway 30, east of Elwood Drive, and just off Airport Road. CTRE is now in Building 4. Telephone/fax numbers and email addresses remain the same.

Next time you're in Ames, visit our new digs. The offices of Duane Smith, LTAP director, and Tom McDonald, safety circuit rider, are just inside CTRE's main entrance. The large LTAP library space is nearby, convenient for browsing. ■



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