November 2009

Technology NEWS

Providing transportation technology transfer for Iowa's cities and counties

Iowa LTAP
Local Technical Assistance Program

Inside this issue

IOWA STATE UNIVERSITY
Institute for Transportation

Davenport's crossing guard program

Each Iowa community decides if and how to implement a school crossing guard program. For 55 years, the city of Davenport has had an effective adult school crossing guard program. What's the secret to its success and longevity?

Success factors

Robin Nielsen, director of Davenport's crossing guard program, attributes its success to several factors:

- A partnership of community organizations participates in the program. Partners include the city's police department, traffic engineering/planning department, and public schools.
- The program is taken seriously. Crossing guards are professionally hired, trained, equipped, and paid.
- The guards have formed a closely knit community. They share responsibility for making sure the job gets done.

A partnership approach

Davenport's police unit, a part of the traffic division, is the lead organization for the city's crossing guard program. Nielsen and Shirley Hicks, the assistant director, are supervised by Lt. Mike Venema and Sgt. Joe Blake, and their salaries are paid equally by the police department and the public school system.

Together Nielsen and Hicks identify intersections and mid-block crossings where crossing guards are needed. At quarterly meetings, they work with representatives from the city's traffic engineering/planning department to review the identified locations. For each site, the engineer(s) provide information about any changes in intersection or crossing design, traffic volumes and speeds, and signage that could affect management decisions like

- Number of crossing guards needed
- Time periods during which guards need to be on duty
- Appropriate crossing procedures

The engineers and planners also give Nielsen and Hicks a heads-up about planned construction activities and any other special situations that will require alternative bus routes or other changes that the crossing guards should be prepared for.

Professionalism

With Hicks's help, Nielsen is also responsible for hiring, training, equipping, scheduling, and paying the crossing guard staff.

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Harvest Westerfield, Davenport crossing guard

Davenport's crossing guard program continues from page 1

Most of Davenport's crossing guards are retirees; a few are college students. When hiring, Nielsen looks for dependable adults who are supplementing their incomes. Currently Davenport employs 25 crossing guards—22 regulars and 3 rotators.

During a two-week training program, new crossing guards in Davenport learn how to

- Use gaps in traffic to help children cross safely
- Alert motorists that pedestrians are in the process of using the crossing
- Discourage children from behaving unsafely near traffic
- Observe and report any conditions or incidents that present a potential hazard to children

New guards also learn every corner at which they could be stationed. For guards' convenience, they are generally stationed at crossings as close to their homes as possible, but they are well prepared to substitute at any crossing.

In addition, says Nielsen, the guards make it their goal to be a friendly face for the children. "It is nice to see a smile in the morning," she says. "Sometimes [the guards] are just a shoulder to lean on."

A "family" affair

Davenport's crossing guards are a close-knit group, almost like a family. They have a standing weekly get-together for coffee and conversation. Sometimes they have holiday parties.

Long-term involvement is the norm; many of Davenport's crossing guards have been doing this for 20 years or more. Such loyalty is reflected throughout the program. Nielsen, for example, is only the third director, following directors who served 20-year and 30-year stints. Hicks, a former crossing guard herself, has been assistant director for 10 years.

As a result of this family atmosphere, according to Nielsen, the crossing guards feel jointly responsible for getting the job done. For example, someone is always willing to fill in if a guard is unavailable for a shift.

The crossing guards support each other in many other ways, too:

- Recently when a guard had a family tragedy, other guards donated cash to help out.
- In the harsh winter of 2008–2009, a guard needed help paying an electric bill; others donated for that cause as well.
- In May 2009 the crossing guards held a garage sale to raise money for a "pick-me-up fund." The fund covers expenses like flowers and get-well cards for hospitalized co-workers.

For more information

An excellent, free resource is the *Adult School Crossing Guard Guidelines*, prepared by the National Center for Safe Routes to School and the Pedestrian and Bicycle Information Center, www.saferoutesinfo.org/guide/crossing_guard/pdf/crossing_guard_guidelines_web.pdf. This manual clearly describes the elements of a successful crossing guard program and provides detailed information about crossing procedures for a variety of situations.

For more information about Davenport's program, contact the director, Robin Nielsen, 563-326-1504, rlinsayn@aol.com. ■

A few of Davenport's crossing guards and staff: (front l to r) Shirley Hicks, coordinator; Loretta Lease; Robin Nielsen, director; Dorothy Holst; Billy Purcell; Rita Morgan; Jeanette Jones; (back l to r) Art VanPatton; Clarence Jens; Kim Holton

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
FHWA	Federal Highway Administration
IHRB	Iowa Highway Research Board
InTrans	Institute for Transportation (at ISU)
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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2009 Roadeo winners

Nearly 80 operators competed as individuals or teams in the 2009 Snow Roadeo (truck, motor grader, and loader divisions) held September 16, 2009, at the Iowa State Fairgrounds in Des Moines, Iowa.

This annual event offers city and county operators an opportunity to challenge each other's skill on a test course that simulates various driving situations.

Congratulations to this year's winners!

Snow plow truck winners

1st place— Brett Connelly and Keith Ulrich, City of Des Moines

2nd place—Steve Doyle and Mike Rank, City of Fort Dodge

3rd place— Kevin Buttrey and Craig Shepherd, City of Des Moines Public Works

Loader winners

1st place— Rick Goehry, Polk County

2nd place—Pat Linehan, City of Davenport

3rd place— Brian Snyder, City of West Des Moines

Motor grader winners

1st place— Rick Cady, Mahaska County Road Department

2nd place—Kevin Decker, City of Des Moines Public Works

3rd place— Darryl Beach, Mahaska County Road Department ■

Snow plow truck winners: (from left to right) Brett Connelly, Keith Ulrich, Mike Rank, Steve Doyle, Kevin Buttrey and Craig Shepherd

Loader winners: (from left to right) Rick Goehry, Pat Linehan, and Brian Snyder

Motor grader winners: (from left to right) Rick Cady, Kevin Decker, and Darryl Beach

Photos courtesy of Matt Dolan, City of West Des Moines

2009 Snow Roadeo sponsors and donors

Thank you to all those who made the 2009 Snow Roadeo possible through various forms of sponsorship and donations.

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- Sprayer Specialties Inc.
- Trans-Iowa Equipment Inc.
- Tristate Truck Equipment
- Truck Country
- Vanair Compressors
- Ziegler CAT

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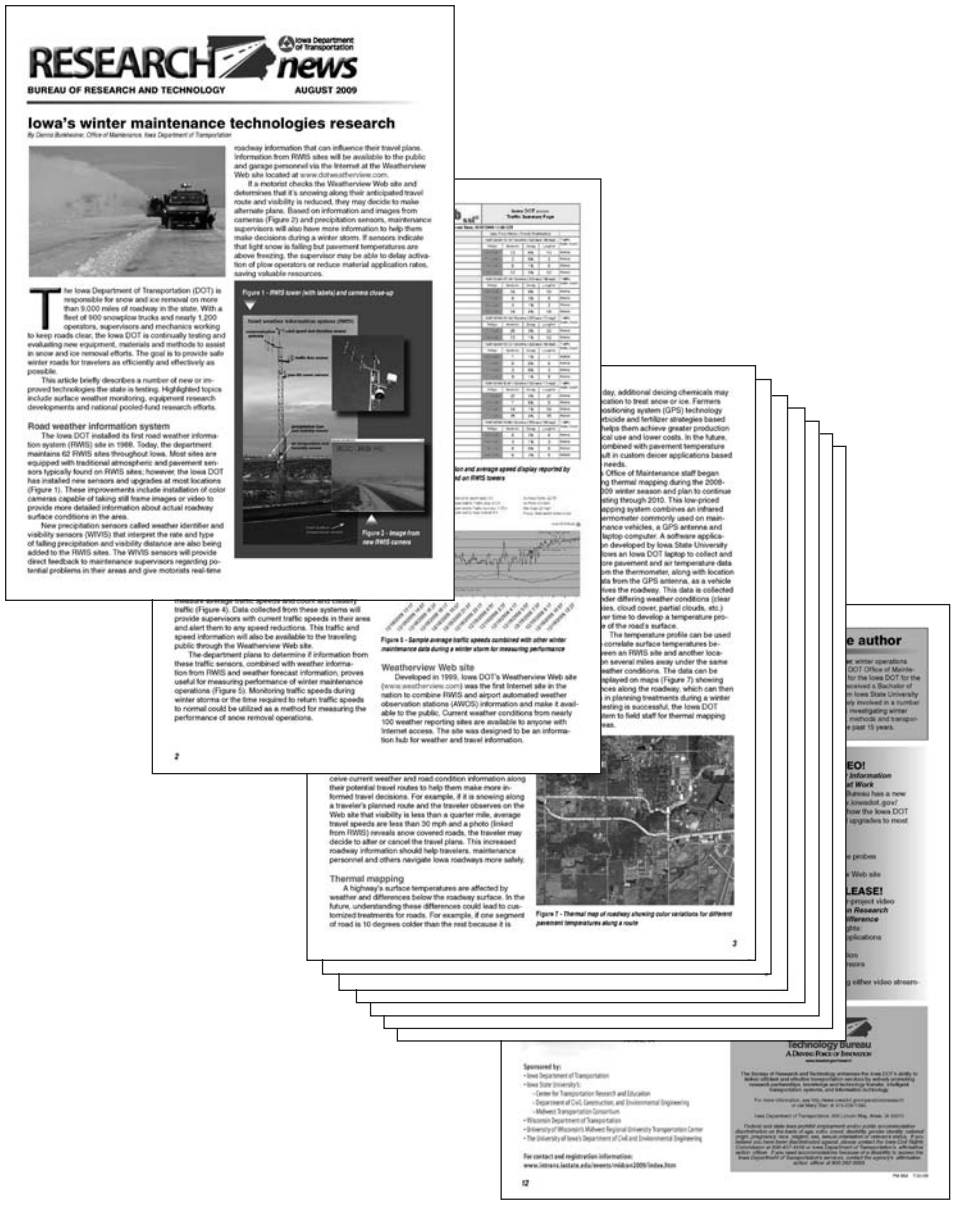
Shop focus: Iowa winter maintenance news and video online

The August 2009 issue of the Iowa DOT's *Research News* is a useful digest of Iowa research on winter maintenance technologies. With plenty of pictures and clear text, it provides up-to-date information about the following topics:

- Weather identifier and visibility sensors (WIVIS)
- Temperature data probes (TDP)
- Maintenance decision support system (MDSS)
- Thermal imaging cameras for snowplow trucks
- Salt monitoring cameras
- New equipment developments: plows, blades, cameras, and more

Research News is a biannual newsletter produced by the Iowa DOT's Research and Technology Bureau. Find it online, www.iowadot.gov/research/pdf/Research%20News%20August%202009.pdf.

You can also watch a short video providing the latest information about Iowa's road weather information system, www.iowadot.gov/research/index.htm. The video is narrated by Dennis Burkheimer, Iowa DOT's winter operations administrator. ■



This is the third in a series of summarized excerpts from the manual* Best Practices for Low-Cost Safety Improvements on Iowa's Local Roads. *This excerpt is based on Chapter 3: Pavement Markings and Rumble Strips/Stripes. Remove this page and post it, or photocopy it and distribute it to your staff.

Painted Edgelines on Two-Lane Paved Roads

Painted edgelines delineate the path of a roadway and are helpful for driver guidance and awareness, especially during nighttime travel. Since 1978, all paved roads, except for sealcoat roads, in Story County have painted edgelines. The cost varies each year, but the normal cost of implementation is $4 to $7 per station. Several studies have shown that painted edgelines reduce the number of fatalities and crashes—up to 3 percent for injury and property damage only crashes.

Two-lane roads with recently painted edgelines. (Photos courtesy of Bob Sperry)

Project contact

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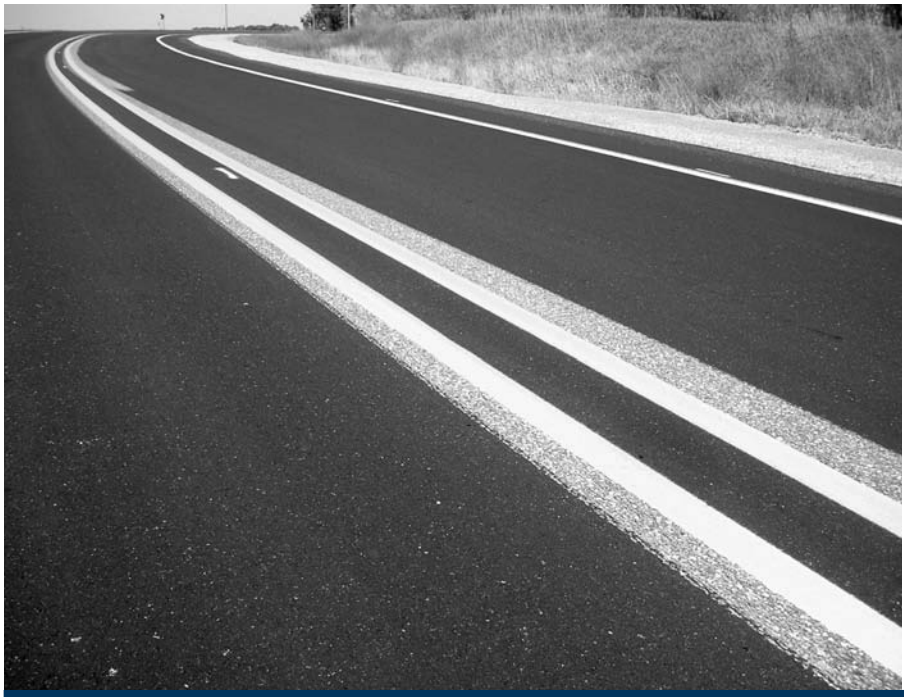
Milled in Centerline Pavement Markings

Milled in centerline pavement markings maintain effectiveness over time and wear and perform well in rain and when covered by a film of water. This technique was applied to 8.25 miles between US 65 and the town of Grouse in summer 2005. Based on retroreflectivity readings taken by the Iowa DOT twice a year, the paint performance has been excellent. The initial cost of milling and high-performance paint is approximately $20 per station—twice that of conventional paint.



A milled in centerline pavement marking. (Photo courtesy of Tom McDonald)

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This is the third in a series of summarized excerpts from the manual* Best Practices for Low-Cost Safety Improvements on Iowa's Local Roads*. This excerpt is based on Chapter 3: Pavement Markings and Rumble Strips/Stripes. Remove this page and post it, or photocopy it and distribute it to your staff.

Shoulder and Edgeline Rumble Strips

Rumble strips are bands milled into roadway shoulders or edgelines that create noise and vibration. Adding shoulder and edgeline rumble strips has become routine for Iowa DOT projects with shoulders. This technique can reduce up to 13 percent of all crashes and 18 percent of fatal and injury crashes. The cost of implementation is approximately $1,600 per mile, but currently the rumble strips can be installed only on roads with paved shoulders.

A two-lane Iowa highway with shoulder rumble strips. (Photo courtesy of Jack Latterell)

Project contact

Iowa DOT Office of Traffic and Safety
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Ames, IA 50010
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Advance Rumble Strips for Stop Signs on Paved Roadways

Advance rumble strips are grooves or strips that are milled into portland cement or asphalt concrete pavement surfaces after the pavement is in place. Most paved roads in Story County have advance rumble strips at the approach to a Stop sign at an intersection with another paved road. Concrete panels are often installed at the rumble strip location before the strips are milled in to maintain effectiveness. This strategy has been effective for reducing crashes due to Stop sign running. Each set of three approach panels costs approximately $2,000.

Advance rumble strips on a portland cement concrete pavement. (Photo courtesy of Bob Sperry)

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Stanley L. Ring Memorial Library: Current materials

Note about delivery of materials: *The library now sends orders through the U.S. Postal Service. This change is resulting in important savings for LTAP, but ordered materials do not arrive as quickly. If you have an urgent need for library materials, let us know when you place your order and we will arrange faster delivery.*

Three ways to order LTAP library materials

- Use the online catalog, www.intrans.iastate.edu/ltap/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*.

Publications

P-806 Vegetation Control for Safety

This booklet helps local road agency workers identify locations where vegetation is needed to improve traffic and pedestrian safety. It also provides guidance for maintenance crews and makes them aware of safe ways to mow, cut brush, and otherwise control roadside vegetation.

P-1744 Report of the Workshop on Intelligent Compaction for Soils and HM

This document summarizes the discussion and findings of a workshop on intelligent compaction for soils and hot mix asphalt held in West Des Moines, Iowa, in April 2008.

P-1746 Intersection Safety Strategies

This brochure provides a quick reference to short-, medium-, and long-term safety strategies at both signalized and unsignalized intersections.

P-1746 The Safety Edge

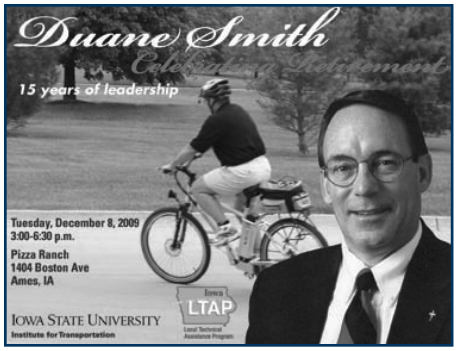
This brochure provides guidance on reducing the severity of roadway departure accidents by providing a safer pavement edge.

DVDs

DVD-264 Cable Barrier Training for Emergency Responders

This video provides basic information on cable barrier design and operation and also shows the proper way to cut the cable when absolutely necessary. (See related article in Technology News, Aug-Oct 2009.) ■

Retirement Reception for LTAP Director Duane Smith



After more than 15 years as Iowa's LTAP director, Duane Smith is retiring from Iowa State University on December 31, 2009.

Come wish him well and celebrate his years of dedication at a retirement reception in his honor:

Tuesday, December 8, 2009
3:00 to 6:30 p.m.

Pizza Ranch
1404 Boston Ave.
Ames, IA 50010

Feel free to drop by any time during the reception. Friends and family are welcome to come.

We hope to see you there! ■

From the Iowa DOT library

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Hank Zaletel, librarian, hank.zaletel@dot.iowa.gov

Lori Fiscus, library assistant, lori.fiscus@dot.iowa.gov

515-239-1200

Recent acquisitions

Concrete Shrinkage Analysis for Bridge Deck Concrete

Hani Nassif and others; Rutgers. FHWA NJ-2007-007. 2007, 115p. TE716/N42r/FHWA-NJ/07-007

Guidelines for Stream Realignment Design

Bruce M. McEnroe, C. Bryan Young and John E. Shelley; University of Kansas. K-TRAN: KU-08-2. 2009, 84p. TA1/K13r/KU/08-2

Chronic: A Report of the State of Teen Driving 2005

Allstate Foundation. 2005, 59p. HE5620/.J8/C46/2005

Phase II – Improved Work Zone Design Guidelines and Enhanced Model of Travel Delays in Work Zones.

Helmut T. Zwahlen and Erdinc Oner; Ohio University. FHWA/OH-2009/2. 2009, 201p. TE716/Oh3r/FHWA-OH/09-2

Iowa Lakes Maps from 1916

A set of maps from the Report of the State Highway Commission on Iowa Lakes and Lake Beds, 1916, has been posted on the Iowa DOT's Historical Archive website.

The 1916 report is the most recent addition to the site's records and digital images. It was developed in response to a directive from the Iowa legislature to provide the following information: which Iowa lakes and wetlands should be preserved or drained, vegetation of Iowa lakes, damage to crops caused by black birds near the lakes, and the potential to improve Iowa's lakes by forestation.

To access the maps collection, read and accept the terms of use on the archive homepage, http://historicalphotos.iowadot.gov/HistoricalPhotos_home.aspx. Then you can select from a list of collections.

To find a specific site in the collection, click on the search function. Use the drop-down tab to find individual counties or place a query in the description box. ■

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