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It's a bird, it's a plane, it's a . . . bridge?



THE CITY PARK in Fredericksburg, Iowa, has a new old bridge. The historical pin-connected truss bridge, which was built in 1875–1876 before Custer's last stand in the Little Big Horns, was sold to the city by Buchanan County for one dollar.

Once Buchanan County decided it wasn't economically feasible to preserve the bridge or relocate the roadway, the bridge was advertised, and the City of Fredericksburg made arrangements to acquire it. The bridge, known locally as Bordners Dam Bridge, spanned the Wapsipicon River west of Otterville and was part of a gravel farm-to-market-class road averaging 120 vehicles per day. A three-ton load limit was posted on the bridge.

To begin the moving process, the bridge was disassembled and moved off the water by Taylor Construction of New Vienna. Buchanan County Engineer Brian Keierleber worked with a consulting engineer to choose the proper pick points along the bridge to accommodate the various stresses of being moved.

Before the Iowa Army National Guard attempted to move the bridge, the Iowa Department of Transportation's weight enforcement division weighed the 100-foot main truss. After all the floor beams were removed, but with all its rigging, the main truss weighed 18,700 pounds.



Pilots with an aviation battalion in Davenport used a Chinook helicopter to fly two spans of the bridge from a field near its original site on December 5 and 10, 1998. The Guard agreed to move the bridge for free.

The Guard pilots had trouble with the main truss, partly because the Chinook helicopter had too much weight itself with all its fuel. So the smaller 64-foot truss was moved first. Meanwhile portals were pulled off the ends of the 100-foot truss to make it a bit lighter. It was successfully moved several days later. The Guard pilots flew the two truss bridges approximately 35 miles to their new site. The longer truss was set on its new pilings.

In its new location, the historical truss bridge will be open to pedestrian and bicycle traffic.

In the old bridge's place, a new federal-aid concrete beam bridge will be built and should be finished by June 1999, says Keierleber. ■



The preparation of this newsletter was financed through the Local Technical Assistance Program (LTAP). LTAP is a nationwide effort financed jointly in Iowa by the Federal Highway Administration and the Iowa Department of Transportation. The mission of Iowa's LTAP:

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

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Jennifer Reed.



Green cleaning



IOWA'S TRANSPORTATION agencies continue to experiment with environmentally friendly winter road maintenance methods. Simply prewetting salt before spreading it, for example, helps salt stick to the roadway better so that less salt is needed. Spreading salt brine or other chemicals *before* snow and ice bond to the roadway (anti-icing) also reduces the total amount of chemical required.

This winter the Iowa Department of Transportation (Iowa DOT) is testing one of a breed of new, environmentally friendly, anti-icing/deicing agents: ICE BAN™. Made of liquid byproducts from the processing of grains and other agricultural products, ICE BAN™ is highly soluble in water, biogradable, non-toxic, and non-corrosive, according to the manufacturer. When mixed with brine or used as a prewetting agent, it could reduce the amount of damaging chlorides in the environment. According to ICE BAN™'s Iowa distributor, a mixture of as little as 20 percent ICE BAN™ to 80 percent sodium chloride is less corrosive than tap water.

Preliminary results in Iowa DOT operations indicate that ICE BAN™ is no more or less effective than plain salt brine. However, at about 65 cents a gallon, ICE BAN™ is significantly less expensive than another environmentally friendly product, calcium magnesium acetate (CMA). CMA is manufactured in Fort Madison but, because of its cost, is used by the Iowa DOT in only one area: the new Burlington bridge. ICE BAN™ could become a reasonably priced alternative in environmentally sensitive areas.

Dan Laing, operations assistant in the Tipton garage, says his shop mixes ICE BAN™ 50/50 with salt brine. They have used the mixture four or five times this winter for after-storm cleanup and as a prewetting agent. "We haven't seen a whole lot of difference" between the ICE BAN™ mixture and just straight salt brine, Laing says.

The ICE BAN™ mixture is "pretty thick," according to Laing, and the Tipton crew has experienced some settlement of ICE BAN™ in the tank. They had some trouble at first with excessive foaming when filling the tank. The manufacturer suggested filling from the bottom, which helped. "We've also found some corn hulls in the nozzles," Laing says, but clogged nozzles have not been a significant problem.

The Ames garage also uses a 50/50 blend of ICE BAN™ and salt brine. According to Paul Durham, maintenance supervisor, the maintenance crew is testing the mixture in two applications: pretreating bridges to prevent frost development, and prewetting salt in deicing activities.

Other than some valve shut-downs caused by viscosity of the mixture, Durham says there have been no real problems with the product but no real advantages either. "It turns the pavement brown," he says.

According to Dennis Burkheimer, winter operations administrator at the Iowa DOT, in addition to its brown color ICE BAN™ has a "funny smell." Sometimes it smells like chocolate but, more often, like a cereal processing plant—not particularly pleasant. But the strange smell is not necessarily a problem, Burkheimer says.

In Spirit Lake, Roger Vigdal, highway maintenance supervisor 2, reports the shop is using a 50/50 ICE BAN™/salt brine mix primarily as a prewetting agent. They have recently saturated a salt pile with the mixture, taking a cue from New York state, which has claimed that salt treated in this way may work faster as a deicer.

"We haven't been able to get a handle on whether it's less corrosive," Vigdal says. "The shop floor is a little cleaner" when using the ICE BAN™ mixture compared to using straight salt or salt brine.

The Council Bluffs garage is mixing ICE BAN™ 50/50 with calcium chloride. Todd Frank, highway maintenance supervisor 2, says that after only three test runs, they have found no difference in melting capabilities of the 50/50 mix compared to straight calcium chloride.

One positive aspect, Frank says, is that the ICE BAN™ mix is visible coming out of the sprayer. The traveling public can see the product being sprayed on the roadways. But the spray also covers the tail lights with a dirty film "like a slimy road grime," requiring the spreader to be hosed down more often to keep it clean and visible on the road.

The jury is still out on ICE BAN™. Burkheimer will continue to monitor operational tests this winter and next. For more information, call him at 515-239-1355. Or see the manufacturer's web page, www.iceban.com/.

LTAP advisory board provides direction

by Duane Smith, Associate Director of Outreach



THE IOWA LTAP advisory board met with LTAP staff on January 21, 1999, to review the work plan and to provide input into the 1999 accomplishment plan.

Goals and strategies provide guidance for completing the Iowa Local Technical Assistance Program's (LTAP) mission "to foster a safe, efficient, environmentally sound transportation system by improving skills and knowledge for local transportation providers through training, technical assistance, and technology transfer. By working together we strive to enhance the quality of life for all Iowans."

The goals are to

- obtain sustaining and predictable funding
- continue to diversify and to deliver quality customer services
- communicate the program's value to LTAP partners and customers
- develop a premiere technology transfer network in Iowa and contribute to a national network

The strategies are to

- secure funding resources
- integrate research delivery with local agency needs
- expand and strengthen partnerships
- deliver quality services
- improve LTAP recognition
- develop and implement measurement and evaluation methods

The advisory board reviewed each LTAP activity and shared comments and input with staff members.

Technology News

The possibilities for reducing costs of the LTAP publication *Technology News* were reviewed. After discussing options (reduced distribution, fewer issues per year, fewer pages per issue, and improved management of the mail list), the advisory board recommended keeping *Technology News* as it is with six issues per year and 12 pages per issue. Staff will work on improving the management of the mail list, which will be a top priority for 1999.

Workshops

The board reviewed workshops that are the core of LTAP such as construction inspection, sign management, the summer and winter expos, motor grader operator (MoGO), and the Iowa Secondary Road Maintenance Supervisory Association conference. The board suggested that scheduling workshops farther in advance will help with budgeting and scheduling. As suggested by the board, staff will work more closely with local communities and provide facilities for workshops in more locations, allowing for a wider audience.

Library

The library and reference activities continue to be a staple of the Iowa LTAP. Library resources are kept current and older resources are removed. The catalog has been distributed widely and is well known by most of the local agencies. The library catalog is also available online with full search capabilities and the ability to place online orders. There is not yet a large demand for this Internet service, but the demand will grow in the near future. LTAP staff continues to provide reference information on an as needed basis.

Safety Circuit Rider

The growing Safety Circuit Rider program is a critical element in providing safety training for local governments. The program will continue offering flagger training, PC-ALAS training, signing workshops, and work zone safety training to local agencies in conjunction with the Iowa Department of Transportation. Input from local governments about their needs is important. See the survey on CTRE's web site at www.ctre.iastate.edu/outreach/survey/surveyform.cfm.

The board will continue to meet twice annually to review the LTAP program and progress made on achieving goals and objectives, and to provide guidance to the program in general. The next meeting of the advisory board is scheduled for April 20, 1999. If you wish to have input to the program you can contact any of the LTAP staff or any of the board members. The board members are listed in the margin on this page in every issue of *Technology News*. All input is valued and will be considered for implementation.

For more information, contact Duane Smith, 515-294-8103, desmith@iastate.edu.

LTAP Advisory Board

The people listed below help guide and direct the policies and activities of the Center for Transportation Research and Education's Local Technical Assistance Program (LTAP). The board meets at least annually.

Contact any of the advisory committee members to comment, make suggestions, or ask questions about any aspect of LTAP.

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 Iowa Department of Transportation



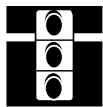
Center for Transportation Research and Education

IOWA STATE UNIVERSITY

Traffic calming concepts

with Keith Knapp, Manager, Traffic Engineering and Traffic Safety Programs at CTRE

This article is the second in a series about traffic engineering and traffic safety.



“TRAFFIC CALMING” is a relatively new approach to roadway improvements. Until recently in the United States, the general emphasis of roadway design has been on serving vehicular traffic. Whether by widening a thoroughfare or implementing intelligent transportation system technologies, roadway designers have generally focused on accommodating vehicles.

Traffic calming provides an alternative roadway design approach that, in appropriate neighborhoods, also accommodates pedestrians, bicyclists, and other non-vehicular traffic. Traffic calming measures may be considered wherever motorists tend to drive too fast or carelessly for the mixed-traffic character of the neighborhood, e.g., residential streets, developed rural roadways, collector/distributor streets, school neighborhoods, and main streets. Such measures serve to slow motorists, requiring them to be more attentive and perhaps even diverting them to other roadways. Properly implemented, traffic calming measures may make

roadways safer (or at least *feel* safer) for foot traffic and wheeled traffic alike.

The primary objectives of most traffic calming measures are to decrease the number and severity of vehicle-related accidents and increase pedestrians' and bicyclists' feelings of security. In addition to slowing vehicles, traffic calming measures may reduce the number and types of vehicles on a roadway. Discouraged by required speed reductions and vehicle maneuvers, some drivers (e.g., those on through trips and/or driving commercial vehicles) may find more suitable routes. Other benefits may include less vehicle noise and/or emissions, enhanced roadway appearance or identity, and increased pedestrian and bike flow.

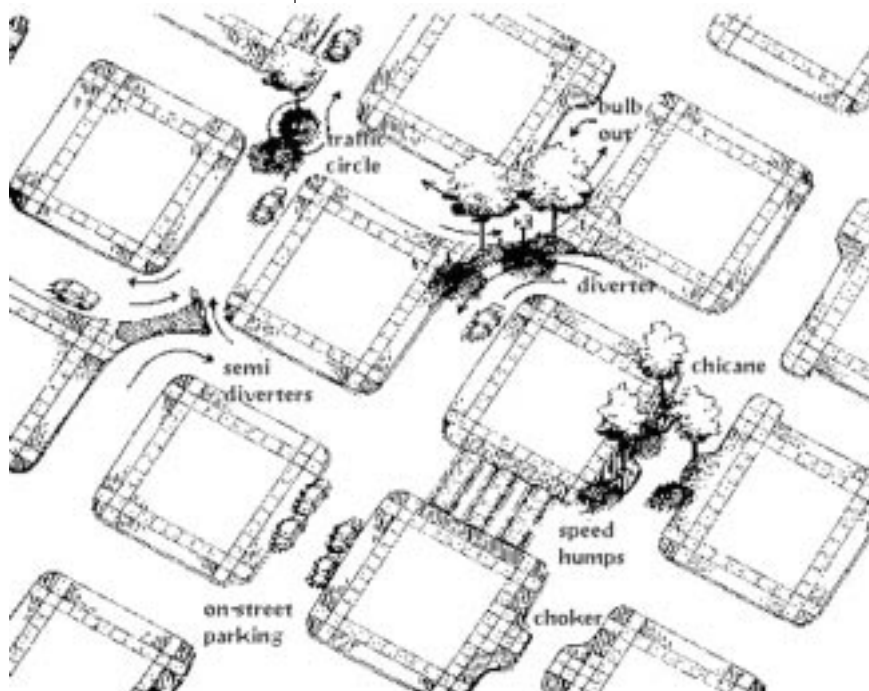
Many engineers and planners who may not be familiar with the term “traffic calming” have nevertheless implemented measures that have similar effects. Most transportation professionals could probably identify at least one traffic engineering device in their jurisdiction that changes vehicle traffic patterns. For example, one-way roadways and turning restrictions at specific intersections are common and effective devices for re-routing traffic.

Examples of specific traffic calming measures, some of them borrowed from Europe, being implemented around the country include the following:

- roadway closures (full or partial)
- speed humps
- speed tables (wide, flat speed humps)
- rumble strips/thumps
- changes in pavement texture/color
- splitter islands
- gateways
- roadway narrowings/pinch points/chokers
- jogs
- chicanes
- raised junctions
- traffic circles/mini-roundabouts

Many established neighborhoods are feeling the pressures of increased traffic congestion. Heavy vehicle traffic on through streets sometimes causes

Schematic examples of a speed table, roadway narrowing, and fully-diverted roadway are shown in the figure below. Figure courtesy of the City of Iowa City's web site (www.iowacity.com/city/planning/Frame.htm).



TRAFFIC CALMING . . . continued on page 5

traffic to shift to parallel streets in neighborhoods that were never intended or designed to handle significant numbers of fast-moving vehicles. In recent years, prompted by increased surface street congestion, some planners are turning to traffic calming measures that help re-claim the intended character of these neighborhoods. Traffic calming measures are also being implemented in new neighborhoods to prevent similar problems.

Before implementing a traffic calming measure on an existing or planned roadway, however, carefully consider several issues:

Is the measure a viable alternative for improving safety and/or pedestrian mobility and comfort? Before and after implementing a traffic calming measure in an existing neighborhood, take traffic counts, check speeds, review crash records, and/or conduct origin/destination surveys to identify the amount of through and local traffic.

Is it self-enforcing? An effective traffic calming measure automatically controls motorists' driving behavior without police enforcement.

What impact will the measure have on street maintainance, emergency response, and the surrounding street system? Street maintenance departments are concerned about navigating their equipment through traffic calming devices. Firefighters and other emergency personnel worry that traffic calming measures will increase their response time. Surrounding streets will likely experience additional traffic as motorists select alternate routes.

What are the liability issues? Could your traffic calming measure be considered an obstacle to safe driving?

Perhaps most important, does your proposed project have the support of city agencies and surrounding neighborhoods? To improve your chances for successful implementation, involve adjacent property owners, surrounding neighborhood groups, and relevant city agencies in the planning, design, and implementation stages.

Because answers to these questions are not always clear, some agencies implement traffic calming measures on a temporary basis. Then, if the outcome is positive, a permanent solution can be constructed.

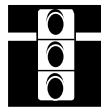
As described in the accompanying article, many of Iowa's urban areas have or soon will have all the ingredients needed to implement traffic calming. Expect an increase in requests for traffic calming measures—especially after that first successful project.

For more information

- Contact Keith Knapp, 515-294-2744, kknapp@ctre.iastate.edu.

- The August 1997 issue of *ITE Journal* contains several excellent articles on traffic calming that address liability issues, questions concerning AASHTO design specifications, and measures being implemented around the country.
- CTRE's LTAP library includes several publications, videotapes, and taped public service announcements regarding traffic calming; to borrow any of these materials contact librarian Stan Ring, 515-294-9481, stan@ctre.iastate.edu. You can also search the library catalog and place an order online at www.ctre.iastate.edu/Outreach/ltap/library/search.cfm.
- CTRE recently conducted a study on speed humps; it is online at www.ctre.iastate.edu/projects/other/roadhump/speedhump.htm

Traffic calming, Iowa style



A BIT OF EUROPE is making its way to Iowa, as our cities experiment with traffic calming techniques that are common across the Atlantic.

Des Moines

You don't have to spend a lot of money to implement some very effective traffic calming measures, according to Mike Ring, senior traffic engineer for the City of Des Moines.

The city recently re-striped Ingersoll Avenue between Polk Boulevard and 56th Street to narrow the lanes and slow drivers down. The 24-foot-wide surface used to be two 12-foot lanes, with a four-foot sidewalk bumping up against the curb along one lane. After restriping, the roadway now has two 10-foot lanes with edge lines that create a four-foot buffer area between the sidewalk curb and the edge line.

The result? Before-and-after speed studies show that the narrower lanes along the 30-mph stretch "slow people down," Ring says. In fact, the 85th percentile speed was reduced by three miles per hour, and the number of drivers exceeding 40 mph was cut in half. The slower speeds, along with the buffer area, create a more comfortable environment for pedestrians on the sidewalk.

Ring has experimented with other traffic calming devices that have worked "extremely well." His department constructed a traffic circle near East High School to slow vehicles. Traffic circles are smaller and less expensive to construct than roundabouts. This particular circle, about 16 feet in diameter, was built within an existing intersection without other major reconstruc-

IOWA STYLE . . . continued on page 6

tion of the intersection geometry. With support of the neighborhood, the city first constructed a temporary asphalt circle. After the device proved effective, it was replaced with a permanent concrete curb in the fall of 1998.

At either end of a block in the same school neighborhood, the city constructed intersection “knuckles” that narrow the street and make drivers slow down. Again, before-and-after speed studies demonstrated that the devices effectively “calmed” traffic. In the area, 85th percentile speeds were reduced four miles per hour, and the number of drivers exceeding the 25-mph speed limit was cut by 35 percent.

Iowa City

Iowa City has had a traffic calming policy in place for more than two years. (See

www.iowa-city.com/city/planning/Frame.htm.) Along with physical changes to streets, the city includes police enforcement and driver education as elements of its traffic calming program.

Doug Ripley, Iowa City’s traffic engineering planner, says that since the policy was adopted the city has installed speed humps in one neighborhood and is planning two other installations: traffic circles in one neighborhood, and chicanes and bulb-outs (sometimes called bump-outs) in another. For all three projects, the city has worked closely with the affected neighborhoods.

Reaction to the speed humps has been mostly positive. In a follow-up survey, most people affected by the humps liked them because of perceived reduced speeds and reduced traffic. “Not everybody wanted to keep

the humps,” Ripley says, “but the majority did.” The fire department, however, “doesn’t like them” because they may reduce response time.

The traffic circles and the chicane-and-bulb-out projects will be temporarily constructed out of asphalt. After a year, the city will evaluate their effectiveness, using follow-up neighborhood surveys and before-and-after speed studies. If the projects are proven worthwhile, they will be replaced with permanent construction.

Clive

The City of Clive is addressing the issue of emergency responders when it constructs several roundabouts in a residential neighborhood this year. The radius of the roundabouts will be large enough to accommodate emergency vehicles. Also, the center island will have a two-foot mountable curb that allows emergency vehicles to drive through the roundabout in a straighter (i.e., faster) line.

Clive’s street maintenance crew is concerned about snow plowing activities in the roundabouts, according to Doug Ollendike, community development director for the City of Clive. Maintenance workers will experiment when the first snow falls next winter.

“We got our ideas for the roundabouts from the Florida and Maryland DOTs,” Ollendike says. Both states provided Clive’s design engineers, Snyder & Associates, with design manuals and videotapes that helped the city design the roundabouts as focal points in a parkway connecting fragmented neighborhoods.

“The roundabouts have an aesthetic purpose as much as a functional purpose,” Ollendike notes. He believes they will create safer, more efficient intersections along the connector street.

In another Clive neighborhood, a calming island has been approved for construction this spring in conjunction with a highly debated re-zoning from residential area to office park. Including the traffic calming device was critical to approval of the re-zoning. Its inclusion helped alleviate some of the neighborhood’s concern about office traffic moving through the residential area. Now, Ollendike says, “the city is excited to get this project moving forward.” ■

This temporary asphalt curb was installed during the summer of 1998. It has since been replaced with a permanent concrete curb.



This 16-foot traffic circle is located at the intersection of E 12th Street and Buchanan Street in Des Moines.



Concrete award winners



IOWA LOCAL governments were among the 1998 award winners for the ninth annual National Awards Program for Excellence in Concrete Pavement. The 1998 awards recognize contractors, engineers, and owners who completed outstanding projects in 1997.

The City of Decorah won the “municipal streets-rural” award for nine blocks of a business district reconstruction. The storefront-to-storefront paving included streets and sidewalks.

The Cities of Des Moines and Windsor Heights won the “municipal streets-urban” award for the reconstruction of the 63rd Street and University Avenue intersection. Contractors widened one of the intersecting streets to four lanes and added left-turn lanes to both streets at the intersection. All the construction and paving was done without closing the road to traffic.

Fremont County took home the “county roads” award for an eight-mile stretch of county highway L-68. Most of the original pavement was 22-foot wide, the width of the new unbonded concrete overlay, but a 1.6-mile section was only 18 feet wide. To avoid displacing the original centerline, county engineers capped the narrow section with a thickened, tied, and jointed two-foot widening on both sides. ■■■

Get ready for 2000



IT'S NOT TOO LATE to protect your department from serious impacts of the Y2K bug—the computer programming glitch that renders some programs, particularly older ones, incapable of handling the year 2000. But Blake Redfield, traffic supervisor for the City of Council Bluffs, encourages cities to act now.

“The Y2K issue is a major concern for all cities throughout Iowa,” Redfield says. “Practically every conceivable automated system now utilizes microprocessors and must be considered a candidate for Y2K problems.”

His suggested timetable for applying these steps for all computer systems in a typical city agency, including traffic controllers, is reproduced here. If you're behind schedule, start today.

Redfield's timetable is part of a small handbook, “Year 2000 Computer Problems in Transportation,” he prepared for the Iowa Traffic and Traffic Safety Forum in Des Moines in December 1998. For more information, contact him at 712-328-4634, cbtraffic@mail.neonramp.com. ■■■

Mo/Yr	Traffic Controllers	Computer Workstations	Server	Network	Notebook Computers	Obsolete Computers
Previous Months	Identify software related problems	Identify hardware, software problems	Identify hardware, software problems	Upgrade to T100 Cat 5 cabling and 100 Mbs hubs	Place order for compatible notebook	Identify hardware, software problems
October 1998	Upgrade revisions & software IOPs	Survey system to identify upgrade requirements. Upgrade to Win 95 or 98.	Survey system to identify upgrade requirements	Survey system to identify upgrade requirements	Survey system to identify upgrade requirements	Remove non-compliant computers from service
November 1998	Upgrade revisions & software IOPs	Replace as inventory requires. Add computer to sign shop	Temporary server upgrade to T100 LAN card	Switch to T100 LAN cards system	Set up new notebook to utilize network	
December 1998	Complete software upgrade	Switch to T100 LAN cards & system				
January 1999		Upgrade meter, signal, and sign software				
February 1999		Upgrade meter, signal, and sign software				Remove usable components
March 1999		Switch to upgraded software	Upgrade server with Y2K compliant unit			Send to recycle center or scrap
April 1999		Test updated software	Test server		Test upgrade	
May 1999		Final compliance inventory				
June 1999	Test system	Test system		Test		
July 1999	Complete system test				Final tests	

Spin your web: Planning the site

If you think it's time for your transportation agency, either by itself or as part of a city or county government, to publish a web site, this series of articles will help you think through the planning stages of developing a web site and then provide several how-to articles to guide you through the nuts and bolts of web site creation. More detailed versions of these articles will appear online at www.ctre.iastate.edu/outreach/web/ with links to even more resources. The series will also be reprinted in a handy booklet and distributed to local transportation agencies.

First in a series of articles about web site development.



A WELL PLANNED World Wide Web (web) site takes time to develop, but it's worth the extra effort when your customers can easily find the information they need. Even if you plan to outsource your web site's design and maintenance, answering the questions below will help your future webmaster (and you) understand your vision for the site.

1) What's your purpose for publishing a web site?

Remember that the web is an interactive medium. Not only can you provide information to your constituents, but they can interact with your department or agency. Think of a web site as an extra customer service counter, one that can be accessed 24 hours a day.

2) Who are the intended audiences?

Knowing who you're planning this web site for will help you decide what kind of information to include on your site, how to organize it, and how to present it. Potential audiences include

- people who live in your city or county
- visitors to your area
- other city or county agencies/departments
- your city council or county supervisors
- utility companies
- local businesses

3) What are the short- and long-term goals of your web site?

Is the web the best way to meet those goals? Possible short-term goals include

- publishing information and e-mail link to contact staff
- publishing this year's construction plans
- describing your department's/agency's primary mission
- advertising job openings
- announcing bid openings
- announcing snow emergencies and road closures
- providing an e-mail link for customers to request maintenance

- publishing news releases

Possible long-term goals include

- providing an online service request form for customers to report maintenance problems on their streets or roads
- publishing an online newsletter for your constituents
- providing an online library of all agency policies
- publishing maps of future construction plans

4) What can you afford?

There are several factors to consider here that basically break down into four categories: short-term and long-term costs, personnel, and equipment. In addition to the initial development costs, remember that a web site needs regular maintenance. If you put all your money into setting up a web site and then never update the information or make sure all the links still work, you've wasted your time and money because your site will lose credibility with the very people you're trying to reach.

Specific personnel costs can vary dramatically:

- Will you hire someone to be a webmaster to create and maintain your site?
- Will you contract with someone to develop the site but have existing staff maintain it?
- Will your staff do all the development and maintenance?
- Will you hire an outside firm to develop, maintain, and host your site?
- Who will oversee or manage the site?

A web site needs a computer, called a server, to run on. Your department doesn't need its own server in order to have a web site. If your city or county already has a network and server in place, it's possible the city or county would host your site. Another option is to have an Internet service provider host your site for a monthly fee, usually about \$50 for small sites.

The City of Ames saves \$3,000–4,000 per year by maintaining its own site. Clare Bills, the city's public relations officer, is the overall webmaster, but each department maintains its own pages. Bills says "we looked for natural talents" when it was decided

SPIN . . . continued on page 9

that existing city employees would maintain the site. "Each department has a sense of ownership," Bills says. Interested people volunteered and were trained on Microsoft's FrontPage software. No additional salary is paid to anyone. The city's site is hosted by Lighthouse Communications, an Internet service provider in Des Moines. Bills sends the changes people have made to the web site to Lighthouse Communications at the end of each day.

The next article in this series will address hardware and software needs for developing and maintaining a web site and how to get connected to the Internet.

For more information about the City of Ames' site (www.city.ames.ia.us/), call Clare Bills, 515-239-5101. For more information about developing a web site for your transportation agency, call Michele Regenold, communications specialist and webmaster at CTRE, 515-296-0835, michele@ctre.iastate.edu. ■

More about the web



IN CONJUNCTION with this new series of articles on developing a World Wide Web site, CTRE is sponsoring a two-day, eight-hour satellite conference, "Transportation Agencies and the Internet." Mark your calendar for May 5 and 12, 1999, from 10:00 a.m. to 2:00 p.m.

The May 5 session will cover basic uses of the Internet and World Wide Web for transportation agencies and professionals, including planning and developing a web presence. The May 12 session will cover advanced uses of the web.

Registration materials will be mailed soon, with information about reserving satellite downlink sites. Sites are available at many educational and governmental locations like university extension offices, community colleges, city and county administration offices, and some public schools.

For more information contact Duane Smith, associate director for outreach, 515-294-8817, desmith@iastate.edu. ■

Hot tip? Earn \$100

WANT TO SHARE your tips for doing your job better, smarter, faster, safer, or cheaper?

We'll publish the best tips in the "Tip from the Field" column in *Technology News* and send you \$100.

To submit a tip, write a short description of your innovation. Explain how you use it and how it solves a problem or saves your department time, money, or accidents. Include brief instructions for building any special equipment.

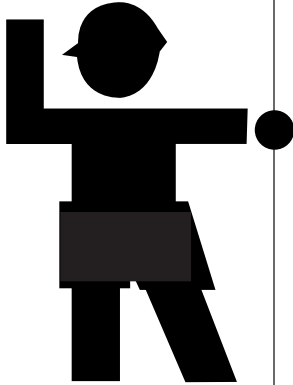
A good tip should be about something easy to do or easy to construct in a shop. Please don't send tips that focus on a commercially available product or that endorse any specific product.

Take several photos of your innovation and send them with the tip. We'll happily return photos at your request.

Send your tip to Marcia Brink, editor, *Technology News*, CTRE, 2625 N. Loop Dr., Suite 2100, Ames, Iowa, 50010-8615. For more information call her at 515-294-8103 or e-mail her at marcia@ctre.iastate.edu. ■



Examples of successfully published tips include a saw rack that attaches to the front of a truck, and a bedliner made from old barrels.



Fluorescent yellow green signs in Iowa

by Tom McDonald, Safety Circuit Rider

OVER THE PAST few years we have all noticed the use of fluorescent yellow green (FYG) colored school crossing signs in various test locations around the state, and more recently, its increased occurrence on vests of flaggers and other roadway workers.

Of course the intent for this unique color is to increase the awareness of the driving public when passing through areas where heightened attention for pedestrians, particularly children, is needed.

After review of responses from test use, the *Manual on Uniform Traffic Control Devices* was revised in June 1998 to permit optional use of the FYG color in specific applications. The specific signs approved are

- Bicycle Crossing (W11-1)
- Advance Pedestrian Crossing (W11-2)
- Pedestrian Crossing (W11A-2)
- School Advance Sign (S1-1)
- School Crossing (S2-1)
- School Bus Stop Ahead (S3-1)

Because the FYG color is used only in work zones and areas involving pedestrians or other non-motorized traffic, the signs will be an immediately recognizable warning to drivers to be alert to non-vehicular traffic.

In response to this opportunity, the Iowa Department of Transportation (Iowa DOT) is acting to upgrade all signs of this type on primary highways and extensions in the state. Although details of the transition have not yet been finalized, replacement efforts should be underway in the next few months.

In recognition of a similar potential benefit on other systems, the Iowa DOT is also considering a program to assist local agencies in converting their signs as well. After the scope of such an undertaking is determined and funding obligations are identified, a local program will be announced, which could include furnishing all or many of these signs in the new color to qualifying cities and counties for installation. Expect to hear more about this in the near future. ■

Retroreflectivity standards update

by Tom McDonald, Safety Circuit Rider

IN THE 1993 TRANSPORTATION Appropriations Act, Congress mandated that the Secretary of Transportation "revise the *Manual on Uniform Traffic Control Devices* to include a standard for a minimum level of retroreflectivity that must be maintained for pavement markings and signs which shall apply to all roads open to public travel."

The Federal Highway Administration (FHWA) has had an ongoing retroreflectivity research program to define minimum nighttime visibility requirements for traffic control devices and also develop measurement equipment and computer management tools which will be necessary to effectively implement those requirements. Part of that research was conducted here in Iowa with participation by the Iowa Department of Transportation (Iowa DOT) and Linn, Clinton, and Black Hawk counties.

Based on that research, the FHWA has issued preliminary guidelines for pavement markings ranging from 55 millicandelas/meter squared/lux for yellow markings on roads under 40 mph to 150 mcd/m²/lux for white markings on roads with speeds over 55 mph. These values are based on readings with a 30-meter geometry retroreflectometer.

Due to the potential materials and maintenance costs as well as possible additional liability exposure, state and local governments are concerned about the adoption of standards. At this time, the FHWA has deferred any further action on these proposed standards and a Notice of Proposed Rule Making for retroreflectivity has been placed on hold pending reviews and reports from several workshop groups.

A task force for sign retroreflectivity, to be formed by AASHTO, will be headed by Pennsylvania Department of Transportation Director Gary Hoffman and include representatives from ITE, NACE, APWA, and the FHWA, as well as state traffic and materials engineers. In addition, a series of three workshops will be conducted around the country in 1999 to study and consider recommendations for pavement markings.

Only after thorough review and comment from these groups, possibly late this year, will the FHWA be ready to proceed with rule making.

If you have concerns or suggestions for consideration, you may wish to address them through your agency organization. ■



March 1999

16	National Workshop on Sign Vandalism	Kansas City, Missouri	Sharon Prochnow 515-294-3781
17-18	Iowa State Association of Counties Spring Meeting	Des Moines	Tom McDonald 515-294-6384
23	Excavation Safety	Carroll	Tom McDonald 515-294-6384
31	Signing Conference	Ames	Tom McDonald 515-294-6384

April 1999

1	Soil Construction Workshop (in conjunction with APWA Spring Conference)	Ames	Duane Smith 515-294-8103
1-2	APWA Spring Conference	Ames	Duane Smith 515-294-8103
19-20	Summer Maintenance Expo	Ames	Duane Smith 515-294-8103

May 1999

5 and 12	Transportation Agencies and the Internet (satellite conference)	various locations	Duane Smith 515-294-8103
13	Iowa Traffic Control and Safety Association Spring Conference	Ames	Tom McDonald 515-294-6384

Update on signing conference

by Tom McDonald, Safety Circuit Rider

BY NOW YOU should have received a registration brochure for the Signing Conference in Ames on March 31. Following is some new information about conference speakers.

Due to the ongoing reorganization of the Federal Highway Administration (FHWA) in Washington, D.C., the keynote speaker will be Ernest Huckaby instead of Rudy Umbs. Huckaby has almost 30 years of service with the FHWA. As leader of the MUTCD team, he has extensive experience with the *Manual on Uniform Traffic Control Devices*. This position involves extensive interpretation of the manual to the public, reviewing the ongoing reformatting of the document, and many other MUTCD-related matters.

The topic for our guest speaker will be MUTCD standards and revisions and will include presentation of the latest information about retroreflectivity standards currently under consideration. This issue is sure to draw significant interest from local agencies.

To present the second general session subject, the history and development of signing, we are very pleased to welcome Susan Chrysler. Chrysler's work at 3M includes involvement in product development by identifying driver needs and evaluating candidate products for visual performance. She has conducted research in traffic sign legibility, headlamp illumination, and reading comprehension. ■

If you need a conference brochure, check CTRE's web site at www.ctre.iastate.edu/whatsnew.htm. We put all of our conference materials online. Or call CTRE, 515-294-8103, to request that a brochure be mailed to you.

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