TECHNOLOGY NEWS

roads / bridges / transit

Transportation technology transfer for Iowa's local governments

Superpave arrives in Iowa

THE NAME SUPERPAVE—short for **su**perior **per**forming asphalt **pave**ments—sets up high expectations, but what exactly will Superpave do? Based on Strategic Highway Research Program (SHRP) research, Superpave was designed to solve the persistent problems of rutting, low-temperature cracking, and fatigue cracking in asphalt cement concrete (ACC) pavements.

The hope is that Superpave mixes will extend the service life of an ACC pavement from its current 10 to 12 years to its full design life of 20 years.

Superpave is not an actual product. It's more accurate to think of Superpave as a process for designing and analyzing performance-based mixes. The specifications classify binders into performance grades based on a range of climates and pavement temperatures. That way developers of asphalt pavement can tailor the mixes to their unique conditions.

As of January 1997, performance-graded asphalt binder specifications will be required for projects let through the Iowa Department of Transportation (Iowa DOT), says John Heggen, Iowa DOT bituminous engineer. A majority of ACC paving projects throughout Iowa are let through the DOT.

Heggen says the Iowa DOT has six projects with a full Superpave design planned for 1997. The projects are distributed around the state and include Highway 61 in Louisa County, I-29 in Harrison County, I-35 in Polk and Story counties near Huxley, Highway 1 in Linn County, Highway 69 in Worth County, and I-680 in Pottawattamie County.

Most of the projects are on roads with a higher traffic volume, although the Linn and Worth County projects are on lower volume roads. Heggen says the Iowa DOT plans to do "lots of research on the Superpave designs for lower traffic level." By 2001 or 2002, he says, lower volume roads may be able to benefit from the design process and use local materials in their Superpave mixes.

How to implement Superpave in Iowa was the focus of a SHRP implementation task group composed of contractors, aggregate and asphalt suppliers, a member of the Iowa Asphalt Paving Association, and Iowa DOT employees.

The task group came up with an ambitious implementation calendar. For primary and interstate

A portion of Iowa 175 in Hardin County, Iowa, was constructed in 1995 using Superpave specs.

Photos here and on page 2 courtesy of John Heggen.

highways, six percent of the asphalt paving projects in 1997 will use Superpave designs (see the six projects mentioned above). In 1998 that percentage rises to 25, in 1999 it's 50 percent, and in 2000 it's 100 percent.

Cost will be a significant issue for local governments. Initial costs have been predicted to be 10 to 15 percent higher than conventional mixes, but if Superpave extends the pavement service life to 20 years, it will pay for itself over time.

On Iowa projects, cost increases for Superpave are expected to be more moderate, in the range of zero to five percent, Heggen says. This will be clearer as additional projects are let and constructed.

For more information about Superpave in general, see the list of CTRE's library resources on pages 2 and 3 and contact Stan Ring, CTRE librarian, 515-294-9481.

On the World Wide Web, check out the Superpave Regional Center at Austin, Texas, at **http://www.utexas.edu/research/superpave** for articles about Superpave and links to related sites. To access the SHRP homepage, try **http://www.hend.com/shrp/shrp.htm**. (Uncertain about the World Wide Web? See our series of articles beginning on page 6.)

For more information about Superpave in Iowa, contact John Heggen, Iowa DOT bituminous engineer, 515-239-1003.

Superpave: specifications for binders

THE STRATEGIC HIGHWAY RESEARCH PROGRAM (SHRP) was established by Congress in 1987 as a five-year, $150 million program to improve roads and make them safer. One of SHRP's objectives for improving pavements was to figure out why some asphalt pavements perform well and others don't. Another objective was to develop specifications for materials that will outperform and outlast conventional ACC pavements. After five years of research and testing, Superpave was introduced in 1992.

Superpave binders have "PG" (performance grade) ratings, which vary depending on the climate and traffic conditions where the pavement will be constructed. For example, a binder rated PG58-34 makes the mix adequate for a high temperature of 58 degrees C and a low temperature of -34 degreees C (136 to -29 degrees F).

In 1995 the City of Des Moines rehabilitated East 29th Street using a Superpave binder rated PG 58-34.

A majority of states built Superpave pavements in 1996 and are adopting the new binder specifications in 1997 or 1998.

Want to know more about Superpave? Check out CTRE's resources

THE FOLLOWING SHRP publications and videos about Superpave are available on a loan basis from the CTRE library. Contact Stan Ring, librarian, 515-294-9481. These resources are also available for purchase from the Transportation Research Board, Box 289, Washington, D.C. 20055.

Videos

V 339 Superpave Video (SHRP) 5 min. This video explains the benefits of performance-based asphalt specifications.

V 460 Understanding Superpave Mix Design (US DOT-FHWA) 13:10 min.

This videotape provides a brief overview of the Superpave process for designing hot mix asphalt pavements and of the equipment required. This mix design system will be fully implemented by 2000.

Publications

List of lead states. The Superpave lead states team has prepared a list of engineers and technicians to provide technical support and assistance with Superpave processes.

P 1171 The Superpave System (US DOT/FHWA, 1996) 8 pages. FREE COPIES AVAILABLE from CTRE library. This brochure describes the SHRP Superpave system of tests and specifications of materials that take the guesswork out of binder selection.

P 2410 Superior Performing Asphalt Pavements (Superpave): The Product of the SHRP Asphalt Research Program (SHRP, 1994) 156 pages. This report describes the Superpave system, the final product of the asphalt research program, and the various parts which comprise its operation characteristics. In all, the final report of the SHRP asphalt research program consists of five parts, the contents of which are briefly described in this report.

Reference is made within this report to specific details within the other four parts, the contents of which are briefly described in this report. The report includes specific details within the other four parts for readers who want a more detailed description of the methodology, test methods, and theory behind Superpave.

P 2379 Superpave Mix Design System: Specs, Test Methods, and Practices (SHRP, 1994). Documents the Superpave mix design system for new construction and overlays. This system employs a series of new performance-based specifications, test methods and practices for material selection, accelerated performance testing, and mix design. Specifications and procedures formats are suitable for eventual AASHTO standardization.

P2407 Superpave Mix Design Manual for New Construction and Overlays (SHRP, 1994) 172 pages. Represents the Superpave mix design system in a complete step-by-step format intended for engineers and technicians in public and private organizations to use when designing paving mixes for all classes of highways, from farm-to-market roads to urban freeways.

P 1105 An Industry Discussion on Superpave Implementation (NAPA, 1995) 9 pages. This paper offers an industry perspective for an appropriate implementation of the Superpave level-one analysis system.

P 2699 Performance Prediction Models in the Superpave Mix Design System (SHRP, 1994) 88 pages. SHRP's asphalt research program developed performance-based asphalt binder and asphalt paving mix specifications to control three distress modes: permanent deformation, fatigue cracking, and low-temperature cracking. Detailed pavement performance models support the development of these specifications. They are an integral tool for mix design in the Superpave mix design system.

This report summarizes the theoretical development, structure, and features of these performance models. The models can minimize a specific distress or combinations of different distresses, or they can set specification limits for specific materials and environments.

P 1106 Superpave Asphalt Mixture Design Illustrated (US DOT-FHWA, 1995) 62 pages. This manual provides sequential, illustrated steps for performing the Superpave test procedures on asphalt mixtures. It also serves as a self-contained laboratory reference document on procedures.

P 2648 Weather Database for Superpave Mix Design System (SHRP, 1993) 119 pages. Contains a database of 5,313 United States and 1,515 Canadian weather stations, which can be used to select a suitable performance grade of asphalt binder for a paving project, based on prevailing weather conditions in the area. This report briefly describes how the Superpave software functions and presents selected contents of the weather database in tabular form.

P 2698 Development and Use of the Repeated Shear Test (Constant Height): An Optional Superpave Mix Design Test (SHRP, 1994) 94 pages. This study investigates rut development in asphalt pavements to establish the foundations for the prediction of rutting in pavement structures. This paper presents advances in the characterization of asphalt-aggregate mixes by using finite element technology to predict permanent deformation. Although fatigue and thermal cracking may affect permanent deformation, such mechanisms are not discussed as they are considered of secondary importance. ≡≡

Iowa Department of Transportation

CTRE
Center for Transportation Research and Education

IOWA STATE UNIVERSITY

Ready for bicycle season?

IT'S SPRING, and bicyclists are taking to the streets. According to the Consumer Product Safety Commission, 560,000 Americans were treated in emergency rooms for bicycle-related injuries in 1992. In addition to planning safe and well-marked bike-ways, city road departments can help prevent some of those injuries by taking extra care with their summer maintenance programs.

Researchers at the Center for Transportation Research at the University of Texas at Austin have compiled suggestions for reducing or eliminating potential road hazards in *Detection and Mitigation of Roadway Hazards for Bicyclists* and the accompanying manual, *Bicycle Hazard Mitigation Manual.*

Some of the suggestions are basic:
• Repair pavement irregularities.
• Remove debris such as sand and gravel on roads.

• Replace parallel bar grates that can trap tires.
• Patch or resurface areas with poor surface drainage.
• Replace curbed sidewalks with curb ramps.
• Provide sufficient lighting in cycling areas.
• Add grooves to pavement to increase pavement friction.
• Install "Wrong Way" and "Right Way" signs to deter bicyclists who ride against traffic.
• Maintain safe bicycle routes in roadway work zones.
• Provide bicycle routes in high-speed or high-volume roadways.

Both publications are available in CTRE's LTAP lending library (publication numbers P1213 and P1214). To check out either publication or to receive a comprehensive list of publications on bicycle safety, contact Stan Ring, library coordinator, 515-294-9481.

Bicycles aren't just for fun anymore

THE OPEN ROAD is built for speed and that means cars, trucks, and heavy vehicles. Bicycles are another story—or at least that's the opinion of many transportation planners and engineers.

County engineers are "conditioned to move motorized traffic. It's hard for us to back off and think about other kinds of traffic," says Dennis Osipowicz, Lee County engineer.

The general perception of county and city road planners is that biking is recreational rather than utilitarian, Osipowicz says. The Iowa Department of Transportation's bicycle coordinator, Nancy Burns, agrees. That perception may prevent planners from considering all bicyclists' needs and trip purposes. "Nobody cares [about your trip purpose] when you're in a car," Burns says.

In 1990, bicycle trips for earning a living accounted for about 10 percent of all bicycle trips.

Burns points out that commuting to work is just one transportation function of bicycles. The 1990 Nationwide Personal Transportation Survey found that bicycle trips for earning a living accounted for about 10 percent of all bicycle trips. Bicycling to school, church, or other civic destinations accounted for 14 percent of the trips. Personal or family business, such as trips to the dentist, accounted for about 20 percent. Social or recreational trips made up the majority of bicycling trips, about 55 percent.

Whether people ride bicycles for recreation, transportation, or both, the fundamental issues regarding bicycle transportation planning are safety and cost.

Safety
The safety of bicyclists and motorists together on the road is a serious concern. In Iowa in 1994, the

Bicyclists can access Duck Creek Parkway in Davenport, Iowa, from many city streets.

National Highway Traffic Safety Administration reports 11 bicyclist fatalities out of 478 total traffic fatalities, or 2.3 percent. Statistics on non-fatal accidents are unavailable.

Davenport Senior Park Manager Paul Eickhoff cites safety of the Duck Creek Parkway trail as one of its primary attractions. The recreational trail, which crosses town and connects to another trail in Bettendorf, runs through a flood plain for Duck Creek and connects six parks. It's used by bicyclists, walkers, joggers, and in-line skaters.

Eickhoff says Davenport doesn't have a designated bike route on city streets. The many entrance and exit spurs on the Duck Creek Parkway encourage its use for recreation and utilitarian purposes.

Dallas County Engineer Bradley Skinner believes that most county engineers in Iowa would prefer to keep bikes on off-road trails for "the obvious safety reasons" of bicycles mixing with high-speed traffic.

Nancy Burns suggests that off-road trails are not inherently safer. Off-road trails that intersect with driveways, for example, can be dangerous when drivers are not used to bicycle traffic. When bicycles share the road, drivers become more accustomed to their presence.

Wide shoulders on county roads make good bike lanes. For the safety of cyclists, extra care should be taken to maintain a smooth seam between pavement and shoulder and to keep the shoulder clean of debris.

Dollars and sense

In addition to safety concerns, planners and engineers raise the issue of the cost of bicycle facilities. Skinner points out that urban bikeways have higher usage, more practical application, and more potential for diverse funding sources than rural bikeways.

Osipowicz believes that initiatives for developing bike facilities won't come from county governments because the cost takes away from highways. A seven-mile rural bike lane, comprised of four-foot wide shoulders along the scenic, lower speed limit, river road between Keokuk and Montrose, cost $450,000. Osipowicz says the county received a 50 percent grant from the Intermodal Surface Transportation Efficiency Act (ISTEA) for the bike lane.

Tourism interests in Lee County are pushing hard for bikeways, Osipowicz says. He believes that more bikeways will be developed through the efforts of tourism interests in conjunction with counties.

Skinner thinks the "bottom line cost would be much lower" to build a separate bike trail than to pave shoulders along county highways. The shoulder pavement would have to be thicker than for a paved trail because it would have to support heavy farm equipment. Plus, if paving a shoulder, both sides of the road would have to be paved so bicycles wouldn't create opposing traffic flows.

If building an off-road trail includes land acquisition, Burns says, that increases the cost. Widening shoulders makes a road safer not only for bicycles but for other traffic as well. The additional cost of widening shoulders on rural roads may benefit an even wider population than a rural off-road trail would. And bicycles provide a cost-effective and environmentally friendly means of transportation, points out Duane Smith, associate director for outreach at CTRE.

For more information about developing bike facilities, contact Nancy Burns at the Iowa DOT, 515-239-1621. ▬

CTRE offers FREE access to the World Wide Web

IF YOUR ORGANIZATION has not yet obtained access to this fast-growing source of transportation-related (and a whole lot of other) information, the Center for Transportation Research and Education offers you a chance to use the World Wide Web (the Web)—at no charge—through its electronic bulletin board service (BBS). The next few articles describe:

• what the Web is and how it works, in very basic terms

• how to connect to the Web through CTRE's BBS

• how to get full Web/Internet service for your organizations

• some transportation-related resources on the Web

• an example of a new resource on the Web developed by CTRE and the Iowa Department of Transportation ≡

The Web: a primer for the uninitiated

IF THE INTERNET is the information superhighway, the World Wide Web is one route you don't want to miss. Here's a quick rundown of basic terms to get you on your way.

The *Internet,* the backbone of the information superhighway, is a collection of computer networks around the world that communicate with each other to share information. It originated as a research project for the U.S. military through the National Science Foundation. Several years ago, the government made the Internet available to universities, government agencies, commercial organizations, and private individuals.

The World Wide Web (also called the *Web*) is a user-friendly interface to the Internet. Rather than using conventional text-based commands, the World Wide Web uses graphics, enabling users to point their cursors and click on text and graphics to access information.

Web pages or *home pages* are sites on the World Wide Web that contain information about various public and private organizations or individuals. CTRE, for example, has a Web page, as does the Iowa Department of Transportation (Iowa DOT) (see addresses on page 9). Web pages contain a variety of text, graphics, sound, and even video information on diverse areas from news and weather, to transportation-related agencies, to product advertisements from private organizations. Web pages of some private organizations even allow you to order their products on line.

> *The World Wide Web (also called the Web) is a user-friendly interface to the Internet.*

Web pages are created using a simple programming language called *Hypertext Markup Language* (HTML). HTML documents contain special commands that enable you to click on text or graphics to connect to other text, graphics, and other locations on the Web.

Very generally, HTML works by controlling text and graphics with tags. For example, the code to boldface a word in an HTML document looks like this:

 word

The beginning tag turns on the boldface and the ending tag turns it off. When you look at the page with a Web browser, you see

word

HTML is fairly easy to learn. Many Web pages and several publications are available to help you learn how to use HTML. For example, Iowa State University's Web page (http://www.iastate.edu) contains a link to *A Beginner's Guide to HTML*, an online instruction manual on basic HTML commands.

Publishing a Web page depends on the method you use to access the Web. Many Internet Service Providers (ISPs) provide space on their servers for customers to create personal Web pages. (See *Want to Do More with the Web?* on page 8.) If you access the Web through your agency or firm, contact your Webmaster to see how you can post your own Web page.

Linking is an important concept related to the Web. HTML makes Web documents easy to use because it allows you to connect to other pages on the Web

by simply pointing and clicking with your mouse on text or graphics that reference subjects for which you want more information. CTRE's Web page has links to pages containing its publications (like *Technology News*), information about current research, seminar schedules, as well as to the Iowa DOT's and other agencies' Web pages.

The World Wide Web is a vast and growing part of the Internet, and you can use it to find information on virtually any topic. Millions of Web pages already exist and more are added every day. This brief introduction can give you only a rudimentary understanding of the Web. The best way to experience the power and capabilities of the Web is to sit down at your personal computer and start navigating.
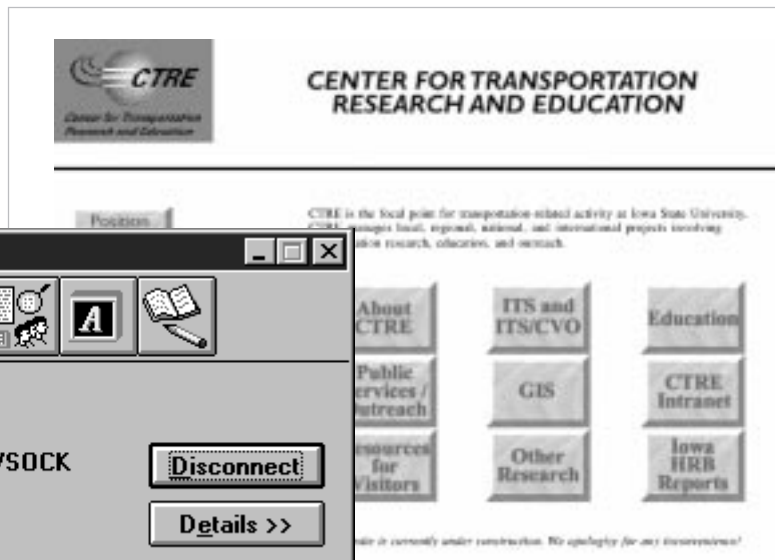
For more information on obtaining limited access to the Web via CTRE's Bulletin Board Service (BBS), see *Surf the Web via CTRE's BBS* below. ═══

Surf the Web via CTRE's BBS

IF YOU HAVE modem access to CTRE's electronic bulletin board service (BBS) and your PC has Windows 3.1 or Windows 95, you can gain limited access to the World Wide Web (the Web).

To access CTRE's BBS you need communications software and a modem; dial 515-294-9784. However, to access theWeb through CTRE's BBS, you need to install Wildcat Navigator software on your system and access the BBS via the Navigator and a modem. Wildcat Navigator is a client that enables you to use Netscape or the Internet Explorer to surf the Web and access the BBS.

CTRE will provide authorized BBS users free copies of Wildcat Navigator to access the Web for business purposes. To get your free copy of the Navigator, contact Pam McColley, CTRE's network administrator, 515-296-6768.

After you have installed Wildcat Navigator, you need to add a new connection with the BBS phone number, 515-294-9784. Then you'll use the Navigator to call the BBS by clicking on your newly created icon.

The Navigator allows you to use all the BBS files, including e-mail. In addition, you'll be able to access CTRE's Web site, the Iowa Department of Transportation's site, and sites for many other transportation-related agencies. By just pointing to highlighted text and clicking, you'll be able to "surf" or move from site to site.

If you'd like a brochure about using CTRE's BBS, call 515-294-8108 or e-mail your request to **georgia@ctre.iastate.edu**. If you have questions about using the BBS or its Web Navigator, contact CTRE's network administrator, Pam McColley, 515-296-6768. ═══

CTRE's Web site

HERE'S a sampling of the resources available via CTRE's Web site:

- **integrated GIS and transportation planning software to download**

- **GIS metadata and data sets**

- **traveler information like weather and road reports**

- **CTRE newsletters, including *Technology News* and *CTRE en route* (for *read* and *print*)**

- **link to the national LTAP page, where you can search all LTAP newsletters for articles on specific subjects**

- **recent Iowa Highway Research Board reports (for *read* and *print*)**

- **schedule of weekly transportation seminars sponsored by CTRE's educational program**

- **summaries of current CTRE projects**

- **final CTRE project reports (for *read* and *print*)**

- **position openings at CTRE**

- **calendar of workshops and conferences**

- **staff biographies, photos, and areas of expertise**

- **direct links to dozens of other resources** ═══

When you connect to the BBS through the Wildcat Navigator, you'll see the screen below. The Web is just a click away (the left-most button). First stop: CTRE's home page, right.

Want to do more with the Web?

CTRE OFFERS Internet e-mail services and limited World Wide Web (Web) access through its electronic bulletin board service (see *Surf the Web Via CTRE's BBS* on page 7). However, if you want complete access to the Internet and the Web, you need a regular Internet connection and Web browser software.

Internet connection

Many universities and public and private organizations have full-time direct connections to the Internet for their employees and students. A direct connection accesses the Internet via a super-high-speed modem or router from a host computer or network. This method can cost hundreds to thousands of dollars per month, depending on the speed of the connection, making this option impractical for private users or small organizations.

A less expensive (although slower speed) option for private users is to obtain a Point-to-Point Protocol (PPP) account through an Internet Service Provider (ISP).

ISPs like America Online, CompuServe, Microsoft Network, and Prodigy Internet have direct connections to the Internet. Customers obtain access through their PPP account, which acts as a bridge to the Internet through a modem in a personal computer.

For optimal access using an ISP, you need a modem capable of transferring data at 28.8 Kbps. Access charges vary—some ISPs charge hourly fees while some now offer flat monthly fees for unlimited access.

Many local companies also provide Internet access, as do telecommunications companies like AT&T, Sprint, and MCI. Check your local telephone directory for a listing of ISPs specific to your community.
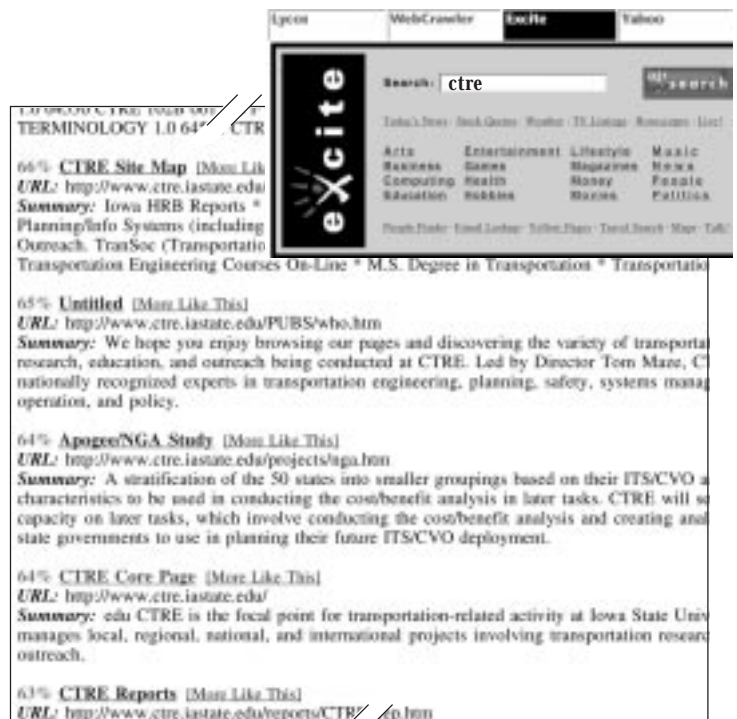
Web browser

Once you have Internet access, you'll need special Web *browser* software to interface with the Web. A Web browser is an Internet application that downloads and displays HTML documents from Web servers. Many ISPs provide users with browser software. If you obtain Internet access through your agency or firm through a Point of Presence (POP) connection to your PC, you will need to load browser software onto your hard drive.

The two most popular Web browsers are Microsoft Internet Explorer and Netscape Navigator.

To access a Web site, type in its *address* using your Web browser. An address (also called an *URL* or *universal resource locator*) is a pointer to a Web page. For example, to access CTRE's Web page, type the following:

http://www.ctre.iastate.edu/

URLs are the standard method for specifying a location on the Internet. The first part before the colon (in this case **http**), specifies

Excite is one of many search engines available through Web browsers. Here, a search for "ctre" (see inset) resulted in 115 URLs, including several pages from CTRE's Web site.

the access method. *Http,* which stands for *hypertext transfer protocol*, makes the computer recognize that the document can be found on a Web server on the Internet. The part after the colon is the actual Web address, while the two slashes indicate a machine name. Many Web addresses begin with *www*, which stands for World Wide Web, followed by the name of the organization's Web page, and ended by a three character extension—*.com* for commercial, *.edu* for education, *.gov* for government, and *.org* for organization.

If you don't know the address of a particular Web site or you want to look for information on a broad topic, you can perform a *net search*. Various methods to search the Web called *search engines*, such as Yahoo, Alta-Vista, Web Crawler, and Excite, are available through your Web browser. Search engines index information contained on the Web. Simply enter one or a few keywords, and the search engine will return a list of URLs for Web pages related to your request.

Microsoft Internet Explorer is manufactured by Microsoft Corporation. You can download it free of charge through Microsoft's Web page:

http://www.microsoft.com

Or order it by calling Microsoft, 800-426-9400.

Netscape Navigator, manufactured by Netscape Corporation, is available in several versions ranging in price from $49–$79. You can download any version of Netscape Navigator through Netscape's Web page:

http://www.netscape.com

Or order it by calling Netscape, 415-937-3777.

Useful Web addresses

THE FOLLOWING Web addresses will get you started. Each site contains links to information located at that site and to other sites around the country and the world. Happy surfing!

CTRE .... **http://www.ctre.iastate.edu/**

Other LTAP centers .... **http://www.ltap.org/**

Alternative Fuels Data Center .... http://www.afdc.doe.gov/

American Association of State & Highway
Transportation Officials (AASHTO) .... **http://www.ashto.org/main/**

AASHTO Metrication Clearinghouse .... http://tti.tamu.edu/metric/

American Concrete Pavement Association .... http://www.pavement.com/

American Public Transit Association .... http://www.apta.com/

American Public Works Association .... **http://www.pubworks.org/**

American Society of Civil Engineers .... http://www.asce.org/

American Traffic Safety Services Association .... http://www.atssa.com/

ASCE: Transportation, Research, Education,
and Development .... http://transnet.ce.gatech.edu/tread/

Asphalt Emulsion Manufacturers Association .... http://rampages.onramp.net/~prime/AEMApage.htm

Asphalt Institute http://204.251.236.52/A-INSTITUTE/index.html
(authorization required)

Asphalt Recycling and Reclaiming Association .... http://rampages.onramp.net/~prime/arra.htm

Bureau of Transportation Statistics .... http://www.bts.gov

Community Transportation Association of America .... http://www.ctaa.org/

Des Moines Metropolitan Transit Authority .... **http://metro.ctre.iastate.edu/**

Federal Transit Administration .... **http://www.fta.dot.gov/**

Federal Highway Administration .... **http://www.fhwa.dot.gov/**

FHWA/NHTSA National Crash Analysis Center .... http://www.ncac.gwu.edu/

Institute of Transportation Engineers .... http://www.ite.org/

International Road Federation .... http://is.eunet.ch/customers/irf/index.html

Iowa Counties .... http://www.iowa-counties.com/yellow/index.shtml

Iowa Department of Transportation .... **http://www.state.ia.us/government/dot/index.html**

Iowa Geographic Information Council .... http://www.geo.drake.edu/igic/index.htm

Mid-America Transportation Center: http://www.unl.edu:80/matc/

National Association of Counties .... **http://www.naco.org/naco.htm**

Office of Minnesota Road Research .... http://mnroad.dot.state.mn.us/

The Salt Institute .... http://www.saltinstitute.org/

State web sites .... http://www.dot.gov/internet/states.html

Transportation Research Board .... **http://www.nas.edu/trb/index.html**

US Army Center for Public Works .... http://www.usacpw.belvoir.army.mil/

US Department of Transportation .... **http://www.dot.gov/** ▄▄▄

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http://www.ctre.iastate.edu/

Work zone maps on the Web

EXPECT THE UNEXPECTED . . . IN THE WORK ZONE. The Iowa Department of Transportation's new work zone motto warns motorists and work zone workers to watch out for each other. But some of the dangers—and motorist frustration—involving work zones can be eliminated if drivers know where the zones are and take other routes to their destinations.

The Iowa DOT publishes its summer work schedule each year and makes it available to the public through its regional offices, newspapers, and radio. Now CTRE is helping the department put this information on line on the World Wide Web, where it can be regularly updated and always accessible to Iowans and travelers from out of state.
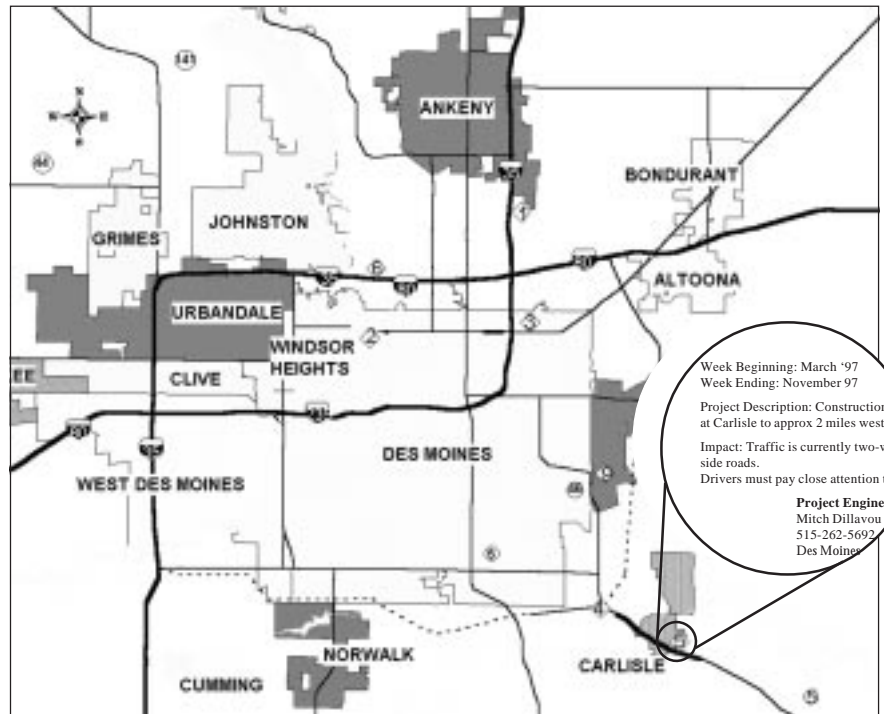
Beginning April 1, work zone maps of the Ames-Des Moines area are available through the Iowa DOT's road construction Web page:

**http://www.state.ia.us/government/dot/
roadcons.htm**

or through CTRE's site:

http://www.ctre.iastate.edu/dot/dsm.htm

If proven a popular and helpful resource for travelers, the maps may be expanded to cover work zones in other parts of Iowa.

Week Beginning: March '97
Week Ending: November 97

Project Description: Construction of
at Carlisle to approx 2 miles west to th

Impact: Traffic is currently two-way f
side roads.
Drivers must pay close attention to si

Project Engineer
Mitch Dillavou
515-262-5692
Des Moines

Clicking on a project number takes you to a detailed description of the project, including advice to motorists traveling in the area.

Complain, complain

This article is the last in a series on public relations.

IF EVERY SINGLE RESIDENT'S complaint were a dandelion, you'd probably like to douse the whole field with herbicide and be done with it. Like pesky dandelions, complaints from residents keep cropping up. Your office does the best it can by handling complaints over the phone, but frankly, some callers are a nuisance. Is there another way to handle complaints? You bet. If you can see a dandelion as a flower, you can see a complaint as an opportunity.

The city of Indianola wants its citizens to complain. Last year Mayor Jerry Kelley created a "citizen work order form" for residents to let their city government know what needs fixing.

Tim Zisoff, Indianola's city manager, says the city heard about problems from potholes to trash in the parks. Complaints were routed to the appropriate department, which took care of the problem within two weeks. Then a letter describing what was done to correct the problem was mailed to the resident who reported it.
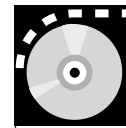
The city also received some good suggestions, such as extending an existing sidewalk to connect to a trail. The city liked that idea and built the sidewalk. "It's been a good program," Zisoff says.

When the citizen work order was first implemented last spring, Zisoff says the city received 50–60 work orders. The city advertised the work orders in the newspaper and in the city's quarterly newsletter, which is sent to all residents. The work order is also available at city hall and at several local public places like grocery stores.

A new version of the work order dealing specifically with traffic issues is currently being implemented, Zisoff says. He says Indianola would like to hear from citizens about the need for stop signs, appropriate speeds, one-way streets, and the like. Zisoff emphasizes that changes won't be implemented without commitee review or sufficient justification. For more information, contact Indianola Mayor Kelley, 515-961-9410.

Eliciting the participation of citizens turns ordinary complaints into opportunities for community betterment.

FOLLOWING IS A SAMPLING of new or popular materials available from the CTRE library. To obtain materials or a catalog of library materials, contact Stan Ring, library coordinator, Monday, Wednesday, and Friday mornings at 515-294-9481. Or use this page as an order form. Check the box next to the materials you want and return this form to the Center for Transportation Research and Education, ISU Research Park, 2625 N. Loop Drive, Suite 2100, Ames, Iowa 50010-8615. (Please limit your request to four items.)

Publications

Hand Signals (Michigan Department of Labor, 1978) 17 pages.

This publication presents standard hand signals for the operation of various types of equipment. Loan copies.

Request #P1219 ☐

Crushed Stone Granular Surfacing Materials (ISU-ERI 90-411, 1990) 79 pages.

This is the final report on a project that surveyed all county engineers in Iowa on current practices, selection of test areas, materials used, and construction and evaluation of road surfacing materials. Loan copies.

Request #P1221 ☐

Earth & Aggregate Surfacing Design Guide for Low-Volume Roads (USDA-Forest Service-EM-7170-16, 1996) 302 pages.

This guide provides a set of procedures, with discussion and examples, to aid in understanding the function, selection, design, and maintenance of an earth or aggregate surfaced road. Loan copies.

Request #P1222 ☐

Use of Scrap Rubber in Asphalt Pavement Surfaces (US Army Corps of Engineers 91-27, 1991) 21 pages.

This research involved the use of larger chunk rubber sizes in a more dense AC design mix to increase strength and provide an ice disbonding effect under traffic. Loan copies.

Request #P1225 ☐

Gravel Road Test Selections Insulated with Scrap Tire Chips (US Army Corps of Engineers-94-21, 1994) 52 pages.

This report describes a test section using tire chips in a six-to-twelve inch thickness as an insulating layer to limit frost penetration beneath a gravel surfaced road. Loan copies.

Request #P1226 ☐

Videotapes

What is Anti-Icing? (USDOT FHWA-Project 28, 1996) 8:00 minutes.

This videotape, based on SHRP research project 28, discusses the spreading of an ice control chemical before a bond develops between the pavement and ice or packed snow.

Request #V499 ☐

Anti-Icing for Maintenance Personnel (USDOT FHWA-Project 28, 1996) 12:45 minutes.

This videotape reviews tools available to maintenance managers regarding materials, equipment, personnel, and strategy.

Request #V500 ☐

Utility Cuts in Paved Roads Parts I and II (LTAP, 1996) Part I: 19:00 minutes, Part II: 21:45 minutes.

This two-part videotape reviews the problems in making cuts and restoring the surface in a proper manner and reviews management's concerns regarding the location and identification of underground utilities, proper cutting techniques, and traffic control.

Request #V502 ☐

Crack Sealing Flexible Asphalt Paving (US Army Corps of Engineers-CRREL, 1990) 8:00 minutes.

This videotape discusses the reasons for sealing cracks and the planning and practices used in operations.

Request #V503 ☐

Winter Driving (Summit, 1996) 12:00 minutes.

This training program identifies safe driving skills under winter conditions and includes understanding vehicle inspection, vehicle operating space requirements, traction, braking, and all safety aspects. A facilitator's guide and an employee handbook are provided.

Request #V504 ☐

Stan Ring, library coordinator

Name _____

Address _____

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Phone _____

☐ Please send a complete catalog of all publications and audiovisual materials available from your office.

conference calendar
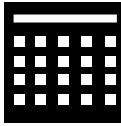
April 1997		Location	Contact
10	Fundamentals of Wastewater Treatment Short Course	ICN	Jim Cable, 515-294-2862
16	**Performance Measures and Strategic Planning Using Case Studies in Public Works**	**Satellite downlink sites across the country**	**Sarah Kerwin, 816-472-1610**
17	Fundamentals of Wastewater Treatment Short Course	ICN	Jim Cable, 515-294-2862
24	**Fundamentals of Wastewater Treatment Short Course**	**ICN**	**Jim Cable, 515-294-2862**
27–30	North American Snow Conference	Kansas City	Jim Cable, 515-294-2862

May 1997			
1	**Fundamentals of Wastewater Treatment Short Course**	**ICN**	**Jim Cable, 515-294-2862**
6–7	Iowa DOT Maintenance Conference	Ames	Jim Cable, 515-294-2862
8	**Fundamentals of Wastewater Treatment Short Course**	**ICN**	**Jim Cable, 515-294-2862**
8–9	Workzone Safety: "Train the Trainer"	Lincoln, NE	Duane Smith, 515-294-8103
14	**Fundamentals of Wastewater Treatment Short Course**	**Creston**	**Jim Cable, 515-294-2862**
14	Son of Privatization: Managed Competition in Public Works	Satellite downlink sites across the country	Diane Smith, APWA, 816-472-6100
15	**Fundamentals of Wastewater Treatment Short Course**	**Cherokee**	**Jim Cable, 515-294-2862**
15	ITSCA Spring Conference	Ames	Duane Smith, 515-294-8103
16	**Fundamentals of Wastewater Treatment Short Course**	**Ottumwa**	**Jim Cable, 515-294-2862**
19	Fundamentals of Wastewater Treatment Short Course	Ames	Jim Cable, 515-294-2862
21–22	**Culvert Design Workshop**	**Ames**	**Jim Cable, 515-294-2862**

July 1997			
9, 23	CTRE Satellite Teleconference (topic to be announced)	Satellite downlink sites across the country	Duane Smith, 515-294-8103
27–30	**National LTAP Conference**	**Duluth, MN**	**Duane Smith, 515-294-8103**