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Designing roads for older drivers



IOWA RANKS fourth in the nation in percentage of residents age 65 and older and has the highest percentage of population age 85 and older. By 2020 the number of Iowans over 84 will have increased by more than 70 percent.

These statistics, from the University of Iowa's Center on Aging, are reflected behind the wheel; Iowa's drivers are getting older. In 1998, 17 percent of Iowa's licensed drivers were age 65 or older, compared to only 12 percent in 1975.

Researchers have been examining issues related to the aging of America's drivers for more than a decade, and some of their findings are surprising. For example, many of us assume that people's response time slows with age, but this varies widely among people and depends on the kind of activity.

OLDER DRIVERS . . . continued on page 2

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Thanks for helping us use Iowa's LTAP dollars efficiently. **Respond today so you don't miss an issue!** •



Drivers' response time does not necessarily slow with age, but the ability to process complex information from a variety of sources often does.

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.

Subscriptions to *TECHNOLOGY NEWS* are free, and we welcome your comments, questions, and suggestions. To subscribe, or to obtain permission to reprint articles, contact the editor at the address below.

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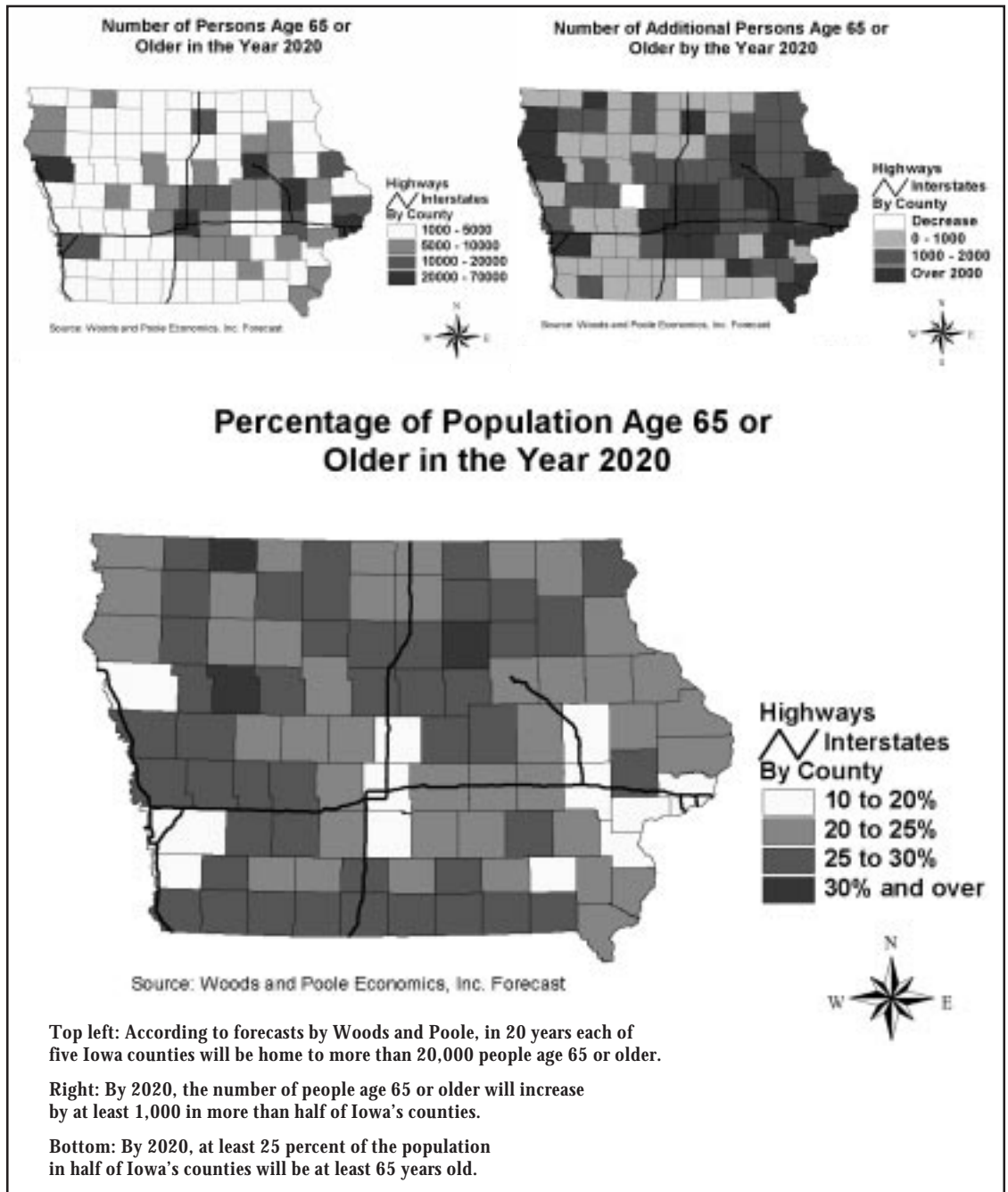
OLDER DRIVERS . . . continued from page 1

Actually, age is a poor predictor of pure motor response time, according to the Texas Transportation Institute (TTI). Age does affect reaction time when complex choices and decision-making are involved; in these situations, older people tend to react more slowly than younger people.

Older drivers generally have no more trouble navigating or operating a car's controls and reading the instruments than younger drivers. But combine

these activities with making decisions (like when it's safe to make a left turn), especially in areas of high-speed and/or high-density traffic, and older drivers experience more difficulty.

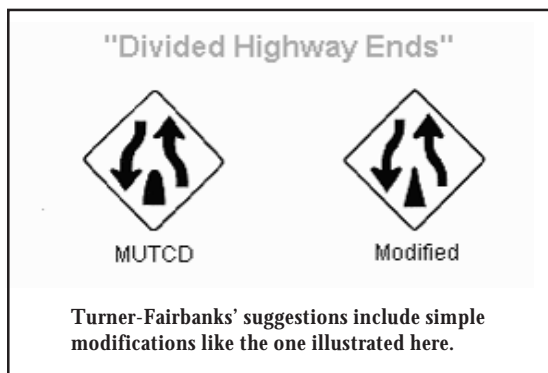
The most common errors of older drivers are failure to yield right-of-way and obey traffic signs and markings, and improper turns. According to the Insurance Institute for Drivers Safety, more than half of fatal accidents for drivers age 80 and over occur at intersections (compared with 24 percent or less for drivers up to age 50).



Another common denominator among older drivers is reduced visual capabilities. Although there are exceptions, visual performance—especially at night—becomes progressively poorer with age. According to TTI, only 30 percent of daytime light recovered by the retina of a 20-year-old gets to the retina of a 60-year-old. As we age, we have a harder time seeing detail, contrast, dim objects, and objects in a cluttered background or glare. Peripheral vision also deteriorates.

Understanding older drivers' visual limitations can help highway designers specify particular design elements, such as the brightness of curb markings and the size of signage lettering, to meet the needs of older drivers.

Researchers at Turner-Fairbanks Highway Research Center have experimented with altering MUTCD standard signage to enhance visibility for older drivers. Based on their experimental results and redesign techniques, a number of guidelines have been suggested, including minimizing symbol complexity and maximizing the distance between symbol sign elements.



In its newly published "Older Driver Highway Design Handbook: Recommendations and Guidelines," the Federal Highway Administration recommends highway, signage, and marking designs and specifications that address the needs of drivers age 65 and older. Topics include:

At-grade intersections

- intersecting angle (skew)
- receiving lane (throat) width for turning operations
- channelization
- intersection sight distance (sight triangle)
- opposite (single) left-turn lane geometry, signing, and delineation
- edge treatments/delineation of curbs, medians, and obstacles
- curb radius

- traffic control for left-turn movements at signalized intersections
- traffic control for right-turn/right-turn-on-red movements at signalized intersections
- street-name signage
- one-way/wrong-way signage
- stop- and yield-controlled intersection signage
- devices for lane assignment on intersection approach
- traffic signal performance issues
- fixed lighting installations
- pedestrian control devices

Roadway curvature and passing zones

- pavement markings and delineation on horizontal curves
- pavement width on horizontal curves
- crest vertical curve length and advance signing for sight-restricted locations
- passing zone length, sight distance, and passing lanes on two-lane highways

Construction/work zones

- advance signing for lane closure(s)
- variable (changeable) message signing practices
- channelization practices
- delineation of crossovers/alternate travel paths
- temporary pavement markings

The FHWA's recommendations do not constitute a new standard of required practice. When and where to apply them remains at the discretion of practitioners. Neither do they address all of the diverse problems that can occur at unique locations. However, the recommendations are grounded in an understanding of older drivers' needs and capabilities and can significantly enhance all drivers' safety and ease of use of the highway system.

For a copy of the FHWA's "Older Driver Highway Design Handbook: Recommendations and Guidelines," contact Stan Ring, LTAP librarian, 515-294-9481, stan@ctre.iastate.edu. Ask for publication number P1386.

Turner-Fairbanks' study is available online at www.tfhrc.gov/; click on *Human Factors*, then *Report Index*, and then "Improvements in Symbol Sign Design to Aid Older Drivers."

TTI's guide for addressing older drivers' unique needs through simple changes in signage, pavement markings, and other roadway design features—"Positive Guidance and Older Motorists: Guidelines for Maintenance Supervisors"—is available at cost from National Technical Information Services; 800-553-6847. •

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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Center for Transportation Research and Education

IOWA STATE UNIVERSITY

The changing face of Iowa's gravel roads

This article is the first in a two-part series.



LONG GONE are the days when building new roads was the primary occupation of city and county road departments.

Most counties today have all the paved roads they need or can afford. Occasionally however, due to new development or increased traffic volumes or politics or public demand, a gravel road will be paved.

In a state rich with a road-building tradition, paving the occasional gravel road, for even the most modern of reasons, is a curious bridge to the past.

In the "old days"

The first recorded Iowa road census in 1904 reported approximately 104,000 miles of roads. There were probably no paved roads, says Stan Ring, CTRE librarian, and few of them were surfaced with gravel. The rest were simply dirt or just tracks between fence rows.

In 1919 a 6,400-mile system of roads connecting county seats and market towns was established by Iowa's first Primary Road Act. This system connected more than 90 percent of Iowa's city and town population.

Twenty years later the farm-to-market system, composed of 10 percent of the state's secondary roads, was designated by the Farm-to-Market Act of 1939. The Act established a farm-to-market road fund and provided for maintenance and improvement of the farm-to-market roads. These Acts encouraged hard surfacing of roads.

Today

The number of miles in Iowa's total road system hasn't changed much in 94 years. According to the Iowa Department of Transportation (Iowa DOT), as of 1998 there were 112,830 miles of public roads in Iowa, with 61 percent or 68,820 miles of gravel. Excluding primary and interstate roads, county roads total 89,100 miles with 76 percent gravel and five percent unsurfaced. The city total of 13,219 miles of roads, excluding primary and interstate roads, includes nine percent gravel and 0.5 percent unsurfaced.

Modern processes

To better understand today's processes for

getting gravel roads paved, the Center for Transportation Research and Education (CTRE) recently invited to an informal discussion three county engineers and a city public works director, Dave Anthoney of Boone County, Harold Jensen of Story County, Nicholas Konrady of Hamilton County, and Paul Wiegand of the City of Ames.

The need to pave a gravel road doesn't come up as frequently anymore, at least for the counties, the men said. They suggested the following reasons for paving gravel roads and listed them in approximate order of priority, but they can vary dramatically by location:

- new developments, including housing and industry
- continued road network development (more of an urban concern)
- increased traffic volume
- politics
- petitions from the public
- maintenance

Wiegand says the main reason for paving gravel roads in Ames is for network expansion. Paving is often done in conjunction with housing or industrial development, and the developer pays the majority of the cost. Wiegand says that a city with the proper development regulations in place has "a better opportunity to receive outside funding through the assessment process" when a new development is planned adjacent to an existing unpaved road.

For example, approximately one-quarter mile of Elwood Drive on the south edge of town was paved in 1997 in conjunction with the construction of a new apartment complex which will eventually house approximately 500 people. Part of South Riverside Drive was also paved when Visionaire Corporation, a new company that plans to build small jets, moved in south of the Ames Municipal Airport. By working with developers, Wiegand says such paving projects have a better chance of being approved by the city council.

Konrady, on the other hand, says he has not paved any gravel roads in Hamilton County since he arrived six years ago. The network is virtually complete, and there aren't any other roads he would really like to see paved. In a county with one of the

"In a state rich with a road-building tradition, paving the occasional gravel road, for even the most modern of reasons, is a curious bridge to the past."

highest concentrations of hog confinement operations, Konrady doesn't recommend paving gravel roads along hog confinements even though the truck traffic really chews up the gravel roads. Konrady says the county "couldn't begin to afford it—there'd be no end to it."

Anthony says Boone County will soon be paving a gravel road 20 years after the project was first proposed. It's a half-mile stretch to a residential subdivision in the county's first and only assessment district. The board of supervisors finally approved the project once approximately 85 percent of the affected parties were in favor of the project. Another road he's been trying 15 years to pave is a two and one-quarter mile length of the 4-H Camp/Arboretum road which, during the busy season, has about 300 vehicles per day. That's a lot of traffic for a gravel road, Anthony says, which makes the road difficult to maintain.

The decision process for a gravel road paving project includes the following steps:

1. The engineer evaluates the project's feasibility. This evaluation is based in part on the budget and availability of funds for the project. If there's no money for the project, it dies. Although city councils and boards of supervisors rely on their engineers' "mature engineering advice," says Story County Engineer Harold Jensen, sometimes they don't follow it.
2. Public meetings are held to get input from citizens/property owners.
3. The board of supervisors or city council weighs in on the issue and makes a decision about whether to proceed with the project.

The timeline for a paving project that gets approved differs dramatically between cities and counties. Wiegand says the whole process in Ames takes about five months. The process includes the steps described above as well as the following:

- For an assessment project, preliminary assessments are sent.
- Once the council accepts a project, bid dates are set and contracts awarded.

The county process takes four to five years and includes:



- developing the road and drainage designs
- awarding contracts
- obtaining multiple approvals such as wetlands, historical, and archeological
- acquiring right of way
- addressing drainage problems
- regrading the road to paving standards and allowing it to sit (settle) for two winters

According to an old county engineer's tale, it's easy to figure out when to pave a gravel road. If you see one wheel track, it's a low volume road, so leave it alone. Two tracks, still no problem. Three tracks, keep an eye on it. Four tracks? Then the road better be in your paving program. In some ways, this rule of thumb still makes sense.

For more information about their experiences with gravel roads, contact round table participants:

Dave Anthony, 515-433-0530

Harold Jensen, 515-382-7355

Nicholas Konrady, 515-832-9520

Paul Wiegand, 515-239-5160

Part two of this series will report how local transportation agencies are dealing with changes affecting gravel roads, such as road closures and the economic impact of rural development. •

New housing developments are one of the primary incentives for paving gravel roads. This quarter-mile of Elwood Drive on the south edge of Ames, Iowa, was paved in 1997 in conjunction with construction of a new apartment complex.

FHWA reorganizes

by Duane Smith, LTAP Director, with Bobby Blackmon, Administrator, FHWA Iowa Division



IN KEEPING WITH President Clinton's priorities to create a government that works better and costs less, the Federal Highway Administration (FHWA) launched a comprehensive evaluation of the agency's organizational structure in May 1997. The result has been a major restructuring of the FHWA.

The reorganization reflects significant changes in the national transportation environment, as indicated by the following events and trends:

- Completion of the interstate highway system and the recent designation of the National Highway System.
- Transportation legislation stressing less federal oversight, greater program flexibility, increased emphasis on productivity, enhanced environmental and planning considerations, and intermodal solutions.
- Legislative changes that have shifted motor carrier emphasis from federal inspection and enforcement to funding state and local agencies' performance of these functions and to addressing critical safety issues.
- Globalization of the economy and its impact on the nation's transportation system.
- Continued growth in highway usage and resulting congestion.
- Increased recognition of transportation challenges that are intermodal in nature and that are prime candidates for the application of new technologies.
- Exponential growth in the availability and use of information technologies.

To develop an organizational structure that works efficiently in this transportation environment, the FHWA has taken the following steps:

- Proposed a new headquarters structure designed around five core businesses.
- Closed its regional offices.

- Delegated almost all program and project responsibilities to the division offices.
- Established four resource centers to provide expert advice to the division offices and FHWA partners.

Iowa is included in the area served by the new FHWA Midwestern Resource Center in Olympia Fields, Illinois (near Chicago). The director is George Ostensen. The accompanying figure lists the other states served by this center. The list may look familiar, since it includes the states that were formally in Regions 5 and 7.

The resource center functions are:

- Provide leadership and support for the agency's strategic planning goals and initiatives.
- Promote technology deployment and adoption of best practices by state and local agencies.
- Provide expert assistance to division offices, other USDOT modes, state, local, and industry partners.
- Develop and provide training to division offices, states, local agencies, other federal agencies, and industry partners.
- Provide intermodal and interagency coordination and assist USDOT modes in such areas as air quality, innovative finance, and engineering.
- Provide advice and assistance on civil rights matters.
- Serve as a technical resource for assisting division offices and partners in resolving issues involving multiple states.

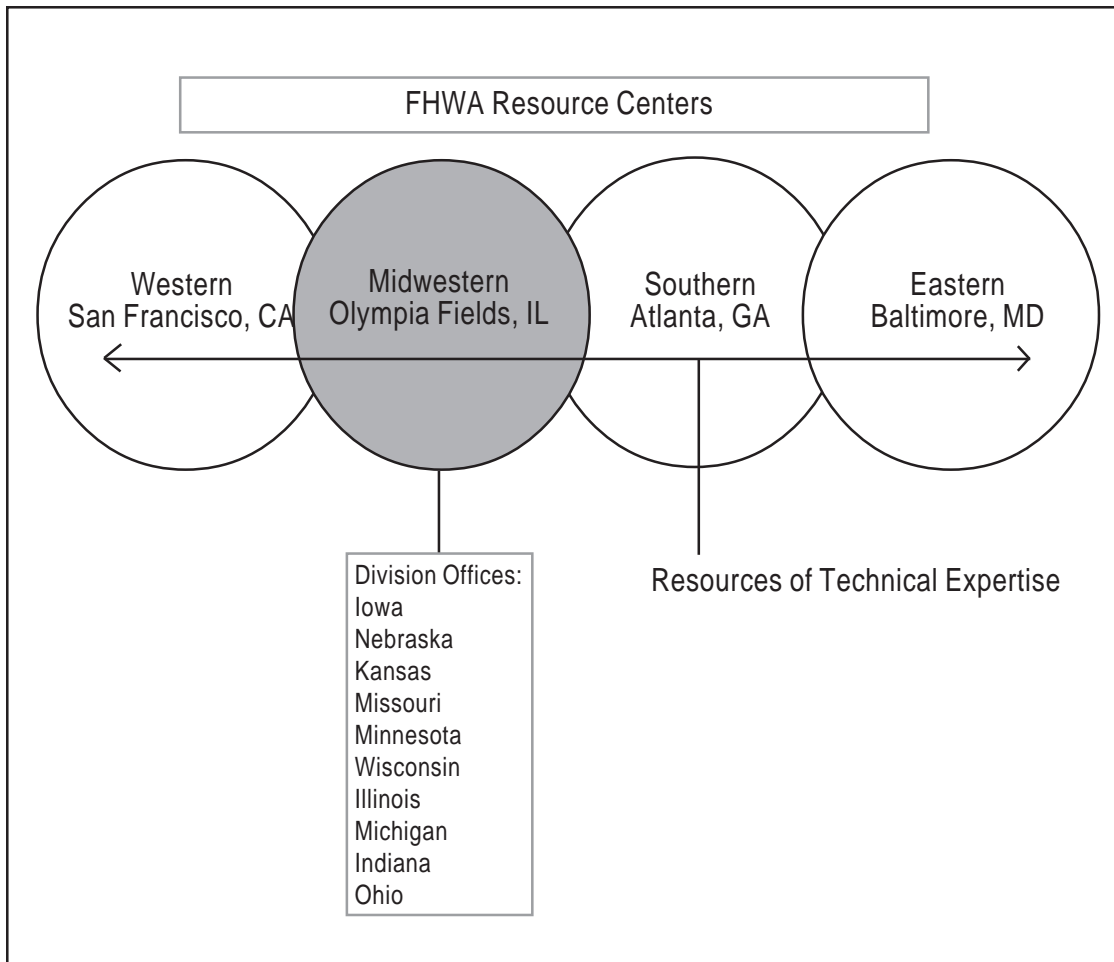
The resource centers' staffing will primarily consist of technical specialists who will provide technical and program assistance to FHWA's divisions and partners and deliver new technology and best practices. A major emphasis will be placed on developing the level of expertise of these technical specialists. For the first time, a career development plan has been implemented that will allow these specialists to advance to higher grade levels as they develop their expertise. In the past, technical specialists often had to move into management

FHWA staffing changes affect Iowa's LTAP

ONE important change at FHWA's Iowa division, which is not directly associated with FHWA's reorganization, is the reassignment of Jennifer Balis. Jennifer, who currently works in Contract Administration, Office of Engineering, in FHWA headquarters, will be reassigned to the Iowa division around the middle of May 1999. One of her primary responsibilities will be as FHWA liaison with Iowa's Local Technical Assistance Program (LTAP) at CTRE.

As a result of the FHWA's reorganization, some employees at the former regional offices have been reassigned to division offices. Roger Port, former technology transfer specialist at the Kansas City regional office, is now working out of the Tennessee division office. We worked closely with Roger on Iowa's LTAP outreach programming and will miss his guidance and expertise.

At the same time, we look forward to developing a similar relationship with Jennifer Balis and benefiting from her close proximity in the FHWA Iowa Division's Ames office. •



FHWA's four resource centers will provide expert advice to division offices and FHWA partners.

positions to allow them an opportunity to compete for higher grades. These changes will enable the resource centers' staff to have stability while continuing to enhance their overall level of expertise, making them more valuable resources to the divisions, states, local agencies, and other partners and customers.

Iowa and its transportation agencies will have access to the services provided by the four resource centers. The division office should be the first point of contact by any agency desiring to use these services. Division office employees are committed to obtaining the best and quickest service from all FHWA resources.

The major impact of reorganization at the division level was the delegation of authority to act on almost all programs and projects without having to refer to a higher level of the organization. This additional

delegation of authority was given to divisions to improve the efficiency and effectiveness of their program delivery responsibilities.

In summary, we can expect to see the FHWA assume a different role than we have been accustomed to. FHWA is very positive about these changes and is committed to allocating resources where the impact will be maximized. This is best illustrated by its new position statement: "Making What's Good Even Better." The future of FHWA depends on delivering quality services quickly, working with its transportation partners toward the common goal of building the finest transportation system in the world.

For additional details about FHWA's restructuring, access its web site at www.fhwa.dot.gov/. •

Glossary of Internet terms

dial-up access: method of connecting to the Internet via modem and phone line

download: the method of retrieving files or programs from the web or a server so that they will reside on the user's computer

freeware: software available on the web that may be downloaded and used for free

Internet service provider (ISP): a company that sells Internet access including e-mail accounts, news groups, the World Wide Web

search engine: a commercial service for locating web sites and other online information

shareware: software on the web that usually may be downloaded for free, but the author requests a small fee if you use the product regularly

upload: to send files electronically to a computer called a server that is hosting a web site

URL (uniform resource locator): the address of a web page

web browser: a program that allows you to see images and text on the web

web server: a computer dedicated to hosting web sites and providing Internet access

Spin your web: Acquiring the tools

The following two-part article is the second in a series about web site development.



PART OF THE PLANNING involved with developing a World Wide Web (web) site for your transportation agency includes gathering the right tools for the job. These days the tools are extremely user friendly. Even if you decide that your agency will be outsourcing its web work, understanding the tools others need to create your web site will help you plan your end of the partnership—the content. No web design firm or hosting service will know your customers the way you do. That's why it's important for someone in your agency to be involved in the development of your web site, especially when it comes to selecting/creating text and images to represent your agency.

Part one: Connecting to the Internet

A computer and a modem are the basic pieces of equipment you'll need to access the Internet, create your web site, and eventually upload your site to a host computer, known as a server. A phone line is the most common way of connecting to the Internet. If this is how your agency connects to the Internet, you may want a phone line dedicated to that purpose. People trying to reach you on that line while you're connected to the Internet will get either a busy signal or a continuous ring.

Many companies in Iowa offer Internet access, which usually includes an e-mail account as well as access to the web; subscribers then access the Internet by dialing up the server via their phone line. Check your local phone company and your local Yellow Pages. Over 100 local telephone companies in rural Iowa can offer Internet access at reasonable rates. With the proliferation of Internet service provider (ISP) businesses, it's likely that you'll be able to find a company that suits your needs and budget.

For many places in Iowa, including rural Iowa, Internet access can be accomplished by dialing a local number rather than a long distance number. Monthly fees for Internet access with local dial-up range from \$20–25 and up. This fee usually includes an unlimited number of hours online.

The ISP you choose should be able to give you all the software and instructions you'll need for making your computer ready to contact the outside world. At this stage don't worry about choosing a server for your website. Your ISP may also be your host provider, but it doesn't have to be.

By connecting to the Internet before your web site is ready to go, you will have a chance to see what other sites look like and how they function. You'll probably get lots of good ideas about what you want your own site to do and how it will look.

The web is also a good source for some of the software you may want for developing your site.

Part two: Selecting software

The basic pieces of software you'll need to develop your web site include the following:

- a simple text editor like Notepad or Wordpad to write and edit html code (Microsoft Word is not a simple text editor; it allows you to save as html, but it's difficult to edit the html code itself.)
- a web browser such as Netscape Communicator or Internet Explorer to view your work
- an ftp (file transfer protocol) program (such as WS_FTP for PCs and Fetch for Macs) to upload your files to the web server that will be hosting your site; you can get this from your ISP or download it free from the web
- an image editor, such as the photo editor included with MS Office 97, if you want to create or manipulate images for your site

Many different text editors and image editors are available online as demonstration models (or betas), which expire after 30 days or a set number of uses, or as freeware or shareware, software that can be downloaded from the web for little or no cost and little or no technical support. Check out the link "development tools" at www.download.com for many of these options. There are also tips about downloading.

Two other types of software that may be nice to have but aren't strictly necessary include WYSIWYG (what you see is what you get) editors and web authoring tools. WYSIWYG editors such as Home

Site and RoboHELP, beta freeware which can be downloaded from the web, allow you to design your pages without writing html code. You may be thinking you'll skip the text editor, thank you very much, and just use a WYSIWYG editor. Consider this: would you reconstruct a road without knowing the load-bearing capacity of the sub-base, base, and pavement you plan to use? Learning the basics of how html works will help you understand the underlying structure of web pages, the building blocks of the World Wide Web.

Web authoring tools like Adobe PageMill or Microsoft FrontPage 98 help you manage your web site, especially if you anticipate that your site will grow beyond 10 or so pages. They also allow you to

create web pages without knowing html code. Keep in mind, however, that all these different programs require time to learn. Research your needs and select software that you'll stick with in the long run so you'll become proficient with it.

The next article in this series will jump into the nuts and bolts of web site creation, including choosing and organizing content and developing a logical structure and navigation scheme.

For more information about developing a web site for your agency, contact Michele Regenold, communications specialist and webmaster at CTRE, 515-296-0835, michele@ctre.iastate.edu. •

Navigating the web



NEWCOMERS to the World Wide Web (web) can feel overwhelmed when trying to find a particular site or specific information online if they don't know the URL (uniform resource locator, or web address). Here are some suggestions for navigating the web without getting lost in it.

All search engines are not created equal

You can "search" the web using commercial online services, or search engines. A few popular search engines include the following:

Alta Vista	www.altavista.digital.com
Excite	www.excite.com
HotBot	www.hotbot.com
InfoSpeak Guide	guide.infoseek.com
Lycos	www.lycos.com
Metacrawler	www.metacrawler.com
WebCrawler	www.webcrawler.com
Yahoo!	www.yahoo.com

Search engines generally function as either subject catalogs or as automatic search indexes.

With subject catalogs, staff review thousands of web sites daily and classify them for you. Subject catalogs work best when you're trying to find information that easily falls into a general category, like education or government. Yahoo! is a popular catalog search engine.

To use a subject catalog, go to its web site and select the category that most closely matches the subject you're searching for. Click down through the levels to find the information you want. For example, to find a council of governments' web site using Yahoo!, click the category *government*, then *web directories*, then *COGs*, then *state*.

If you're looking for something more specific, like the FHWA's latest recommendations for designing well drained pavements, use an automatic search index. WebCrawler, Excite, and Alta Vista are popular search indexes.

When you enter a term in an automatic search index, the engine searches thousands of web servers and collects and displays URLs for pages that include the same term, or perhaps related terms. The URLs are generally displayed from highest to lowest order of possible relevance.

Useful web links

www.iowacounties.org/
Check out registration information for the one-day, hands-on Iowa Association of Counties' "Introduction to the Internet" course in Des Moines/Indianola, May 26/May 27.

www.obriencounty.com/
Several Iowa counties have web sites. O'Brien County's is one of the newest.

www.statelocal.gov/
This site provides easy access to federal information. Check out the "best practices" link and "transportation/infrastructure" to see how other local governments are handling these issues.

govt.net/
This site encourages citizen involvement in local government. It might be one to link to from your own site.

www.ota.fhwa.dot.gov/roadsvr
The RoadSavers web site includes more than 100 case studies, a series of in-depth technical reports, a family of brochures, and a summary report about Strategic Highway Research Program (SHRP) products.

www-ltap.eng.ohio-state.edu/ltapcourses/flagging.htm
Flagging 101 is an online refresher course by the Ohio LTAP.

SEARCH . . . continued on page 10

“Using the same search terms, different engines will return different URLs.”

Before using an automated search index, develop a list of words related to your subject (e.g., drainage, FHWA, pavement, highway, transportation, base materials, etc.). Be as specific as possible. If you search for a few general terms, the engine will find many, perhaps thousands, of “hits”; if you search for specific terms, the engine will find a more manageable and perhaps useful number of hits.

Tips

Here are some suggestions for refining a search using an automated search index:

- Use boolean (“and,” “or”) and other operators to include or omit terms and to combine words into phrases (e.g., “drainable pavement” is more specific than “drainage” and “pavement”). Most engines offer tips on conducting advanced searches using operators and specialized syntax.
- Try the search with different combinations of specific words and phrases. Substitute synonyms for your terms (e.g., “highway” for “road”).
- Use the search engine’s built-in tools for refining your search.
- Do the same search with at least one other search index. Using the same search terms, different engines will return different URLs. In fact, the same engine may return a slightly different list of URLs from day to day, even hour to hour!
- Find a general web site (e.g., the FHWA’s) through a subject catalog and then use the site’s internal search engine (e.g., to find the FHWA’s online information about drainable pavements).
- Try a meta-search service that combines results from several search engines into one search. Such a service saves you the trouble of switching back and forth between search engines. However, results of a meta-search may be more limited than results of separate searches using several engines. Metacrawler is a popular meta-search service: www.metacrawler.com/.
- When your searches yield helpful sites, save the URLs of your favorite sites so you can return to them later. In Netscape browser, use the bookmark menu to save URLs; in Explorer use the favorites menu.

Searching for “pavement” and “drainage” and “fhwa” with AltaVista resulted in 23,000-plus web addresses. Searching for “fhwa” and “drainable pavement” using Metacrawler resulted in six hits. Interestingly enough, the first item on AltaVista’s list matched one item on Metacrawler’s list: <http://ota.fhwa.dot.gov/tech/pave/index.html>. This site includes state-of-the-practice information about designing drainable pavements published by the FHWA’s Office of Technology Applications.

For more information

An excellent beginner’s resource for searching the web can be found at IowaAccess’s online site: www.iowaccess.org/main/projects/3/mod3.html.

Learning to untangle the web takes patience and persistence. Experiment to find the engines and search strategies that work best for you. •

Simple solutions on the web



DOES YOUR AGENCY have a problem that must be solved without a major cost commitment? The answer may be as close as your computer, at the World Wide Web (web) site www.inform.enterprise.prog.org/.

This web site lists numerous “simple solutions” to transportation needs. These low-cost, low-tech solutions have been developed by local professionals across the country. The web site is a service of the Inform project sponsored by the Federal Highway Administration, the Minnesota Department of Transportation, and a consortium of international transportation agencies.

All solutions on the site have been proven effective in real-world applications by city and county engineers. Solutions range from automated field reporting, to activating warning beacons with wireless pagers.

A publication containing the same information is available through CTRE’s LTAP library. Contact Stan Ring, librarian, at 515-294-9481, stan@ctre.iastate.edu. Ask for “Simple Solutions,” publication number P1312. •

Use the LTAP Library on the web or person-to-person

by Stan Ring, LTAP Librarian



IF YOU HAVE ACCESS to the Internet, CTRE's World Wide Web (web) service gives local users the opportunity to search online for resources from Iowa's LTAP library. See the online library catalog at www.ctre.iastate.edu/Outreach/ltap/library/search.cfm. You can search the catalog by title or subject.

Do a title search simply by typing in the title or a consecutive letter string from the title.

Do a subject search by selecting from a given list of subjects (access, capacity, environment, etc.). You can modify or further refine a subject search by also selecting from a list of functions (maintenance, administration, design, etc.) and/or a list of modes (highway, rail, mode, etc.).

Your search may result in a list of one or more library publications and video tapes. To provide further information, each item on the list links to an abstract. If you find something you want to borrow from the library, select it and complete the online e-mail order form.

Using the online catalog and order form may save time compared to searching through the library catalog at your desk and ordering items by phone or fax.

If you are searching for publications or video tapes in a very specific subject area, however, we offer an individualized, personal service. For example, if you are interested in job safety training, contact me and I will do a full search of all library holdings. I'll send you an abstracted list of relevant holdings, and you can review the abstracts and make your selections. Much easier.

If you have a question such as "Where can I find information on _____?" I will find out or guide you to someone who can. Contact me at 515-294-9481, stan@ctre.iastate.edu. •

- Top to bottom: Portions of pages from CTRE's online library catalog show
- (1) the search page,
 - (2) results of a search for the subject "asphalt,"
 - (3) an abstract of one of the found items, and
 - (4) the online order form.

Thanks to Steve DeVries, Executive Director of the Iowa County Engineers Association Service Bureau, for supplying information for this article.

“The bureau’s key services are provided via the Internet’s World Wide Web: www.iceasb.org.”

County engineer service bureau



A NEW RESOURCE for Iowa’s county engineers—the Iowa County Engineers Association Service Bureau—is online.

The bureau serves counties’ information technology needs and advances their ability to use computer and Internet tools. Services include collecting, reformatting, and distributing data; developing work aids; and providing specialized communication services.

How it started

The bureau is the result of many years of research and planning. The Center for Transportation Research and Education (CTRE) at Iowa State University managed a precursor electronic bulletin board service (the ITCBBS) from 1992 to 1997, using funding provided by the Iowa Highway Research Board. That experience helped identify data categories and services of greatest use to county engineers. It also revealed the importance of frequent updates and overall management by someone intimately knowledgeable about county engineering.

When funding lapsed for the bulletin board, the Iowa State Association of Counties (ISAC) led the formation of the full-time service bureau, relying on lessons learned from the ITCBBS, ideas shared by the County Road Administration Board in the state of Washington, and considerable assistance and cooperation by the Iowa Department of Transportation’s Office of Local Systems. The Iowa Highway Research Board provided some funding to see the organization through its first three years, after which the bureau will operate solely on membership dues paid by participating counties.

The bureau’s executive director, former Mills County engineer Steve DeVries, assesses county information technology needs and identifies and implements technical methods for answering needs. A technical assistant provides web management, application development, and technical support. The bureau is governed by a board of directors consisting of three county engineers, three county supervisors, and the immediate past president of the Iowa County Engineers Association (ICEA) and works closely with the ICEA executive board and the ICEA computer committee.

Services

The bureau’s key services are provided via the Internet’s World Wide Web: www.iceasb.org. These services include packaging and distributing data;

converting CADD files; providing news, a calendar of events, online reference materials, FAX/e-mail services, and a venue for idea-sharing; supporting ICEA committee activities; developing and deploying templates; facilitating electronic data interchange; and acting as the counties’ agent in information technology issues. Many of these services are under development.

Specific projects include publishing a database on project development status, providing access to the Iowa DOT’s Office of Contracts bid letting information, publishing ICEA committee minutes, converting Iowa DOT Intergraph plan details to the AutoCAD format used by counties, and converting paper forms to Microsoft Word format.

The bureau is also lead sponsor for a major work automation project. Called Transportation Program Management System (TPMS), it involves creating an Internet-based system to support project programming and project development tracking for about 1,750 local government road projects. Using a centralized database server, it will link the multiple participants: counties, cities, planning agencies, DOT transportation center staff, DOT central office staff, and consultants.

Benefits

To be a key resource for Iowa’s county engineers, the bureau must provide content and technology services that fulfill day-to-day needs more conveniently and effectively than previous methods. Staff are confident that users will find the bureau’s services worthwhile and will experience many direct and indirect benefits:

- more timely access to information
- access to information in ready-to-use formats
- avenue for ICEA to function more cohesively
- clear point of contact for outside agencies, like the Iowa DOT, to discuss future information technology initiatives with counties
- support in use of computer and software tools to provide the public with the best road system possible for the money available

For more information, contact DeVries, 515-244-0779, steve@iceasb.org. See also www.iceasb.org. •

Web course covers winter maintenance strategies



WHILE THE HEADACHES of winter roadway maintenance are fresh in your mind, consider a program that could make next winter's activities a little easier, or at least more effective. In the fall of 1999 the University of Iowa will offer a semester-long course on winter roadway maintenance, highlighting strategies developed as part of the Strategic Highway Research Program (SHRP).

Professional engineers from state and local agencies can take the course via the World Wide Web (web). Class lectures and assignments will be posted on the web, and web-based students will submit assignments via e-mail. The course covers the following topics:

- cost-benefit analyses of winter activities
- chemical usage and eutectic diagrams
- toxicity, effectiveness, drawbacks of chemicals
- anti-icing versus deicing
- mechanics of snowplowing
- ice removal and cutting edges
- aerodynamics of blowing snow; snow fences
- countering poor visibility
- weather forecasting and RWIS
- thermal mapping, GIS, AVL, and their uses
- road surface friction and new technologies

"I'd recommend this course for anybody who does highway maintenance," says Don Bethards, assistant county engineer in Wayne County. Bethards took the class in 1998 via the Iowa Communications Network. "We used information from the course to help us refine our winter maintenance program."

For more information about course content, contact Professor Wilfrid Nixon, 319-335-5166, wilfrid-nixon@uiowa.edu. To request registration information for course 7P:195 Contemporary Topics in Civil and Hydraulics Engineering—Winter Highway Maintenance (3 semester hours), contact the University of Iowa/Center for Credit Programs, 116 International Center, Iowa City, IA 52245, 800-272-6430 (voice), 319-335-2001 (fax). See also www.uiowa.edu/~ccp/reach.html. •

Fielding common questions about traffic safety

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

HAVE YOU EVER asked yourself "How many times have I answered that question?" or "Did I give the same answer to that question last week?"

It is common in our profession to repeatedly field the same questions about traffic safety issues from many people—city council members or county supervisors, business people, neighborhood residents. Clear and consistent communication about these recurring issues is a vital part of the job, but it can take a significant amount of time.

In the next few months the Center for Transportation Research and Education, with funding and guidance from the Iowa Department of Transportation, will start a traffic engineering and safety informational series project. The objective is to produce a series of one- to two-page information and fact sheets that address the public's common traffic engineering and safety questions in understandable terms. These information and fact sheets will then be distributed to transportation professionals throughout Iowa to use as a resource for communicating with their constituents.

We need your help to identify the 20 to 25 questions we should address. A survey will soon be distributed to Iowa's local transportation agencies that includes possible questions and topics for the series. Example questions include:

- Why can't we have a four-way stop to reduce accidents?
- Why can't we have stop signs to reduce speeding along my street?

Respondents will be asked to weigh the importance/relevance of these sample questions and topics, and to suggest additional subjects.

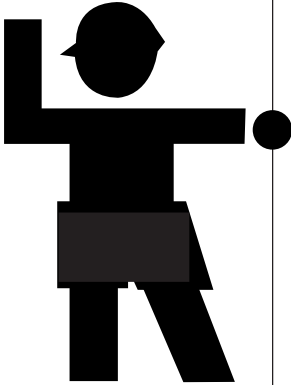
Your survey responses are an important part of this project. We want to answer the questions that the general public is asking you, and not the questions we think are being asked.

The survey will be posted soon on CTRE's World Wide Web page (www.ctre.iastate.edu) and distributed by fax or mail. By completing and returning the survey, you will help develop a useful communication tool for yourself and other Iowa agencies. •

This article is the third in a series about traffic engineering and traffic safety by Keith Knapp.

"Your survey responses are an important part of this project. We want to answer the questions that the general public is asking you, and not the questions we think are being asked."

by Tom McDonald,
Safety Circuit Rider



Update on fluorescent yellow green signs

IN THE February-March issue of *Technology News*, we informed readers of the Federal Highway Administration's recent approval of the optional use of fluorescent yellow green (FYG) warning signs for applications related to pedestrian, bicycle, and school use. Official notification has just been released allowing FYG signs for additional related uses through the "request for interpretation" procedures allowed in the Manual on Uniform Traffic Control Devices, section 1A-6.

Please add these signs to your list for considering FYG coloration:

- School (S4-3)
- School Speed Limit (S5-1)
- Advance Bicycle Crossing (W11A-1) •

Resources for managing vegetation



ARE YOU developing or expanding your roadside management program? Looking for qualified staff? A new program at Hawkeye Community College in Waterloo prepares students for jobs as technicians in integrated roadside management. The curriculum focuses on restoration and management of natural areas, incorporating the principles of ecology and equipment operation, with an emphasis on preserving native vegetation. It includes advanced computer training, using global positioning systems and geographic information systems, and certification in chemical application and fire management.

The program has an advisory committee of natural resource practitioners in Iowa, and Hawkeye has established several cooperative partnerships that have resulted in opportunities for students to collaborate on projects with field professionals. For example, students have conducted prescribed burns at public sites and have helped agencies, including Dallas County, hydroseed roadside ditches.

For information about the program and graduates, contact instructor Terri Rogers, 319-296-4008. •

In-house training on roadside safety

LOOKING FOR A TOPIC for your office safety meeting? A timely subject for the monthly foremen's meeting? How about a presentation on roadside safety? Run-off-the-road crashes occur often on our rural roads, and improperly maintained roadsides create a liability exposure for local jurisdictions. A well trained and alert staff can identify and address many potential problems before crashes happen.

The topic of roadside safety was included on the agenda of a recent Iowa State Association of Counties meeting, sparking interest in addressing this subject through Safety Circuit Rider presentations to county foremen and other staff. We have developed a one- to three-hour presentation on roadside safety that can be tailored to address topics of particular interest to your staff, including slopes, guardrails, clear zone obstructions, or other topics.

If you are interested, contact Safety Circuit Rider Tom McDonald to schedule a presentation in your office or shop at a convenient time, 515-294-6384, tmcdonald@cre.iastate.edu. •

Make your voice heard!

IN THE COMING MONTHS, you may receive a short survey from the Federal Highway Administration (FHWA). The questionnaire will ask about your organization's use of Local Technical Assistance Program (LTAP) training and technology transfer services, provided in Iowa by the Center for Transportation Research and Education.

Surveys will be mailed to 2,400 local and tribal governments to get feedback from LTAP customers in all states and Puerto Rico. It's important for the FHWA to hear from Iowa organizations. Responses will be combined to assess the program's national impact.

If you receive a survey, you can provide valuable feedback that will affect a federal program designed for *you*. Please answer and return the survey promptly in the postage-paid, pre-addressed mailer provided. Everyone who completes the questionnaire will receive a summary of the responses.

We appreciate your help. If you have questions about the survey, contact Nelda Bravo at FHWA's Office of Professional Development, 202-366-9633, nelda.bravo@fhwa.dot.gov. •

Note: The satellite conference "Transportation Agencies and the Internet" scheduled for May 5 and 12, 1999, has been **postponed**. Watch this calendar in future issues for the new dates.



conference
calendar

April 1999

19-20 Iowa Summer Maintenance Expo Ames Duane Smith
515-294-8103
desmith@iastate.edu

May 1999

13 Iowa Traffic Control and Safety Association (ITCSA) Spring Conference Ames Tom McDonald
515-294-6384
tmcDonald@ctre.iastate.edu

July 1999

14-15 Iowa County Engineers Association (ICEA) Mid-Year Conference Ames Jim Cable
515-294-2862
jkcable@iastate.edu

28 4th Annual Iowa GIS Users Conference Buena Vista University Storm Lake Michelle Lantermans
515-281-4293
michelle.lantermans@its.state.ia.us

August 1999

18-19 Iowa Chapter American Public Works Association (APWA) Fall Conference Cedar Rapids Jim Cable
515-294-2862
jkcable@iastate.edu

19-21 Iowa Bike Conference Ames Nancy Burns
515-239-1621

September 1999

27-29 Iowa Winter Maintenance Expo and Snow Plow "Rodeo" Ames Duane Smith
515-294-8103
desmith@iastate.edu

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Fold down first.

Fold down last so return address shows, and tape shut. ↓



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If the mailing address or addressee below is wrong, please provide the correct information here.

Name _____
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Organization _____

Optional: share your views

In April 1998 we began publishing lists of all new LTAP library acquisitions on three-hole punched, removable inserts in *Technology News*. Please indicate your reaction to this format.

- I prefer the new, removable inserts that I can add to my desk copy of the library catalog.
 I prefer the old format—a few library acquisitions highlighted in each issue of *Technology News*.
 No preference.

Comments/suggestions about *Technology News*: _____

Optional: share your news

Send us your story ideas about interesting projects, new ways of doing things, noteworthy co-workers/employees, or other topics.

Give us the idea—we'll write the article for *Technology News*.

Name of person with information: _____
Phone and/or e-mail: _____
Project/innovation/story idea: _____

Idea for "tip from the field": _____

P486-0524

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