

Crossroads

Spring 2002



TRANSPORTATION Information Center — LTAP

University of Wisconsin—Madison

Bikeways are bustin' out all over



From Beloit to Land o' Lakes, Wisconsin communities small and large are going multi-modal. Bicycle friendly streets, bridges, and paths are sprouting everywhere. Encouraged by citizens, facilitated by route plans, and supported by matching funds from state and federal transportation budgets, local governments are building more bikeways than ever before.

"We started four or five years ago," says Chris Haese, City of Neenah principal planner. "Our comprehensive planning told us that the community wanted bicycle facilities. Also, the city ranked fairly high in bicycle accidents compared to other communities of similar size."

A Neenah Trails task force identified 25 on-street miles and 5 off-street miles. The goal was to connect residential areas to popular destinations like parks, job centers, the downtown, libraries, schools, and public swimming pools.

Most of the on-street system is now in place through signing and striped bike lanes. "It was a challenge trying to retrofit existing streets and there was a fair amount of objection early on," says Haese. One issue was the challenge of learning to drive next to bikes. The city responded with an extensive educational program in the first couple years.

"I think we've gotten through that and the majority of people are happy, both users and people driving next to them," says Haese. "The system is used extensively." With the plan in place, the city has been routinely adding bicycle facilities during reconstruction projects, like the new railroad overpass that now has both a sidewalk and a striped bike lane. Last year they connected a new neighborhood without sidewalks to a nearby school by building an off-street trail as part of a street reconstruction project.



This new bicycle/pedestrian bridge crosses the Rock River in Jefferson.

"Having a plan is definitely important," says Haese. "It puts everyone involved with street reconstruction on notice. It helps make sure bike and pedestrian facilities don't get overlooked in the design phase."

A practical way to get around

Bike paths and sidewalks are not just for Sunday outings. More and more people routinely ride or walk to work, and in some unexpected places. Up north the Wisconsin River Trail links paper mills and downtown commercial areas in Wisconsin Rapids and several nearby communities. The 25 mile loop is about half completed.

"It's a big commuting trail," says Gary Popelka, Wood County planner. "We're actually getting a number of pedestrians and quite a few bicyclists commuting to paper mills and other areas."

In Marshfield, the state DOT is building a trail as part of a Hwy 13 reconstruction. The city will pay to extend the trail into its new Mill Creek business park.

"Citizens are asking for it," says Popelka.

Building bikeways to schools reduces parent and student car trips. In Waupaca, a trail opened last summer connecting a new high school and outdoor sports complex on the westerly edge of the city to the major residential and commercial areas. "It lets high school students bike or walk and provides safe passage under Highway 10 using an existing highway under-pass," says Greg Stelmacher, Wis-

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Idea Exchange

Diversity is the way to go with mowing equipment

"What we want is diversified types of mowing equipment," says Tom Dahlke, Waushara Cty Highway Commissioner. "We have 2- and 4-wheel drive tractors; two gang, side and rear mount mowers, flail-type and rotary-type. They all have different advantages." Dahlke was the shop foreman before becoming commissioner so he appreciates good equipment. Here is a summary of what he's chosen for managing roadside vegetation.

Tractors

"We use all John Deere tractors," Dahlke says. "Parts and service are available nearby and they have been very reliable over the years." The county has eight tractors with mowers to maintain 499 miles of county and state roads.

All tractors have seatbelts, canopies and rollover protection structures but no cabs. Cabs drive the cost up and the glass is at risk from branches when the mowers work in ditches and right of ways.

The county uses both 4-wheel drive and 2-wheel drive tractors. The 4WDs go better in wet or uneven ground, but they cost more initially and to run, and they weigh more. The extra weight can cut into softer soils and leave ruts. The 2WD tractors work more on state highways where they don't go as far off the road because the state limits mowing.

Dahlke prefers hydraulic drives for running the mowers now that tractors have them at both side and rear. They are phasing out their power take-offs since they require a lot of maintenance.

Mowing equipment

"We have a good selection of mowers so we can take on the different conditions on the county's roadsides," says Dahlke. "We like to have a mix of 2- and 3-blade rotary mowers because they can cut bigger brush farther off the road. Flail-types we use more on the state highways, where there's less brush." They also have some rotary mowers mounted on an arm to mow behind guardrail and on slopes. Most are Tiger Mowers, but Dahlke says he sets specs then chooses the lowest bidder.

Mowers take a beating on the roadside, so they need frequent maintenance to blades, bearings, gear boxes, PTO shafts, etc. The work is done in-house and they keep the mowers 10-15 years.

The county also has a "brush hog" that mounts on their back hoe for cutting bigger brush. "We use it in the winter," says Dahlke. "The brush cuts a lot nicer when it's frozen."

You can reach Tom Dahlke at 920/787-3328 for more information.



A mower mounted on an arm helps maintain vegetation behind guardrail.

Mow-Ho!

The growing season will be here soon. What's your policy about managing vegetation? Have you reviewed it lately for yourself and with your crew? "Often we don't realize that how we maintain the roadside is just as important as fixing potholes, filling cracks, and maintaining the shoulders in protecting the facility and providing a safe, pleasant experience for drivers," says Dick Stark, WisDOT landscape architect.

A mowing policy should address driver safety, vegetation management and health, and operator safety. Here are some recommendations and reminders from Stark:

Sight lines Cut vegetation so drivers can see traffic signs and on-coming traffic at intersections. As a rule of thumb, mow out a triangle with sides 150-300 feet long on the approach road and about 300 feet long on the crossing road. If the area is below grade and vegetation won't block the view, you can skip mowing.

Healthy turf Tight budgets mean you will likely mow your roadsides just once or twice a season. It's tempting to give the grass a "buzz cut" so it stays trim-looking longer. However, mowing short can work against you by reducing root systems and weakening the entire plant. Mowing to 6 inches or longer will keep plants healthier. They will look better and control erosion more effectively. Another advantage of mowing long is that the

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Crossroads

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Managing roadside vegetation

mower is less likely to turn rocks or other debris into missiles.

Mowing slopes It seems strange but mowing when the ground is frozen can help prevent damage to fragile roadside slopes, especially sandy ones. If slope damage is a problem, consider whether they really need mowing at all. Staying off steep slopes protects the vegetation and prevents erosion, and it helps keep operators safer, too.

Weed control Mowing short, especially when it exposes bare ground, lets invasive species gain a foothold. Healthy plant roots and tops discourage weeds, and keeping weeds out is a lot more effective than trying to get rid of them later. In most cases, mowing will not be effective at controlling weeds. It can even make them worse in species that can sprout from the roots.

"On DOT's roadsides, native grasses and wildflowers have grown up in unmowed areas," says Stark. "They are more robust because they're best adapted to local conditions, and do a good job of warding off weedy invaders where they're well established."

Clear zone Keep the area next to the road free of larger vegetation (trunks over 4 inches in diameter) so errant vehicles have a safe recovery area. Four inches is about the largest trunk that will break off when a vehicle hits it, rather than causing severe damage and injury.

Herbicides Mowing, cutting, and herbicides are common ways to control woody plants on roadsides. Mowing and cutting work in the short term but may introduce problems. When mowers shred woody stems instead of cutting cleanly, more surface area is exposed to invading insects and diseases. These can spread to desirable plants nearby.

On some species, cutting can produce more stems than before. Often, herbicides will control more efficiently, longer, and at less cost than cutting. One product, Krenite-S, is applied to foliage just before it begins to turn color in the fall. It does not cause brown-out but prevents the plant from leafing out the following spring.

Basal bark treatment involves spraying herbicide all around the lower stem. It can be done at any season but has the advantage that it can be applied in cold weather when plants are dormant and crews may have more time. Several products can be used. (Garlon 4 and Chopper are two.) This method works best on stems smaller than 3-4 inches in diameter. Use the "hack and squirt" method on larger trees: cut into the bark's cambium layer all around the trunk and squirt herbicide into the open-



Mowing long, to 6-8 inches, keeps desirable plants healthier and discourages weeds.

ings. Sometimes the chainsaw method works best. Prevent resprouting by treating the stump with herbicide. The product must be applied quickly to be effective. Even a day later may be too late.

Operator Safety "If you don't have roll-over protection on your tractors, get it!" says Stark. Roll-overs can occur even on fairly mild slopes, or a wheel can drop into an unmarked culvert entrance and flip the tractor.

Wildlife Roadsides are home to many wildlife species. By not mowing from April 1 to July 15 except where necessary for safety, you can let them complete their nesting cycles undisturbed. WisDOT follows this policy.

Aesthetics "Many people like the manicured look, but we receive more comments from people who appreciate the varied forms, colors and textures of trees, shrubs, wildflowers, and grasses in the unmowed areas," says Stark. If your policy is to leave some roadside areas unmowed, they should look intentional. Gently flowing, curved lines are more pleasing than jagged, interrupted lines which viewers find disturbing and unpleasant. "It may help the operator if he can visualize the unmowed area as the positive rather than the negative part of the roadside scene," Stark advises.

Dick Stark presented this and more information on vegetation management at an ETN session on Right of Way Maintenance last October. If you have questions, you can reach him at: 608/266-3943 or richard.stark@dot.state.wi.us.



Flowing, curved mower paths make roadsides more attractive.

Adding water to ready mixed concrete

SCENE: It's a hot July day and the ready mix truck had to sit a while. Now the finishing crews are waiting and the concrete looks stiff. The contractor calls for water. The driver adds water and revs up to mix it in. It still doesn't slump enough.

Should you add water and exceed the spec? Will that affect the strength? What are your options?

Learn the answers to these and other questions at the April T.I.C. workshops on the basics of concrete. See the *Calendar* on page 6 for details.

"Sometimes mixing alone will work out the stiffness," says Andrea Breen, technical sales engineer for cementitious supplier Lafarge North America. "Most specs allow for a one-time addition of water." Many ready mixed concrete producers print the information directly on the delivery ticket.

The mixer needs time to work the water in thoroughly. The truck should make at least 30 revolutions at mixing speed, which takes about two minutes. Shortchange the process and the front and back of the load will have different water/cement ratios. This produces concrete of different strengths, workabilities, and colors.

Too much water can weaken the concrete. "The batch needs only about a 0.28 to 0.3 water/cement ratio to begin the process of hydration," says Breen. "Extra water is not used in the chemical process and later evaporates, leaving



small capillaries." Later, de-icing salt and water can get in and cause the re-bar to rust and expand, breaking the concrete apart. A water/cement ratio of 0.45 is generally considered sufficient to provide durability for concrete exposed to freeze/thaw cycles and de-icer salts.

Extra water can also slow the finishing process. The finisher watches for water to appear at the surface, then disappear. If it's slow to bleed because of excess water in the mix, the finisher may end up finishing the surface anyway. The surface then has a higher water/cement ratio and less durability than the body of the concrete. The result can be early scaling.

To protect concrete quality, control water. Only one person on the jobsite should have authority to request it. Water additions should be measured and recorded. Once the desired slump is obtained and discharging starts, no more water should be added.

Another approach is to use admixtures to increase workability so you get a more durable concrete with the same or less water. Finishing is easier too since the admixtures disperse the cement, helping it coat the coarse aggregate.

A rule of thumb says that adding one gallon of water per cubic yard of concrete will increase the slump one inch. While this is a useful guideline, it may not apply when the concrete has water-reducing admixtures.

Contractors should be familiar with how effective a particular water reducer is and the differences in admixtures used by different suppliers. For example, a 0.45 water/cement ratio might have a 4-inch slump with a normal water reducer but a 5-inch slump with a mid-range reducer and a 9-inch slump with a high-range reducer.

"Slump is just a guide," says Breen. "What determines the effectiveness of concrete is the actual ratio of pounds of water to pounds of cement." These should be specified by the architect or engineer and designed into the mix by the supplier to produce the required strength. Add too much water at the job site and you run the risk of putting in substandard concrete.



How to do a slump test

In a slump test a sample of freshly-mixed concrete is placed and compacted in a 12-inch high, cone-shaped mold. The mold is raised and the concrete is allowed to subside. The tester measures the height of the released concrete. The slump is the difference in inches between the two. Slump generally increases with the amount of water in the concrete mixture. The test should be done carefully and precisely by a certified technician.

1. Collect a sample. If the concrete includes coarse aggregate larger than 1½ inches in diameter, use a wet sieve to remove the bigger stones.
2. Dampen the mold and place it on a flat, moist, non-absorbent surface. Hold it firmly down with feet.
3. Fill the slump mold in three layers of equal volume. The mold should be a smooth-sided, 12-inch high cone with an 8-inch diameter base and a 4-inch diameter top. (One-third is about 2½ inches deep, two-thirds is about 6 inches deep.)



4. Rod each layer uniformly in a spiral from perimeter to center with exactly 25 strokes of the tamping rod. When rodding middle and top layers, just penetrate into the layer below.
5. Heap top layer above the mold. If it subsides below the edge, add more.
6. Level the concrete with the top of the cone using the tamping rod.
7. Clear the area around the cone's base so nothing interferes with the concrete's movement.
8. Lift the cone straight up with no side-to-side or twisting motions.
9. Complete the entire test in 2½ minutes.
10. Measure immediately. Report in inches to the nearest quarter inch. If there is a decided falling away or shearing off of concrete from one side, do the test over.

It is impossible to bring concrete exactly to a specified slump on a consistent basis. Here are suggested tolerances for slump specified as a target:

Specified target	Tolerance
2" and less	±0.5 in.
2- 4"	±1.0 in.
More than 4"	±1.5 in.

Based on Standard Test Method for Slump of Hydraulic-Cement Concrete, ASTM C 143/C 143M-00. Copyright 2000 ASTM.

Superpave use now common

Many communities around the state are now routinely using Superpave for all their asphalt pavement projects. "We've been using Superpave on all contracted paving for the last three years," says Ken Pesch, Washington County Highway Commissioner. "It's working just fine as far as we're concerned."

Superpave is an asphalt mix design method that uses design equipment and techniques that better simulate actual traffic. It also specifies asphalt binder that is better suited to specific temperature zones. Superpave is now the standard for WisDOT construction projects.

"Everybody is getting on board," agrees Gerry Waelti, executive director of WAPA (the Wisconsin Asphalt Pavement Association). "We just need to get the knowledge out."

"We did it the first time in 2000," says Mike Lynett, Village of Fox Point public works director. "We were concerned whether local asphalt plants could produce this type of mix design, but we had good competition—three or four bidders—so that's not a concern any more." Lynett learned about the new specs at asphalt conferences he attended in the Milwaukee area. The pavement was laid on 12 street sections in Fox Point last year, including rural cross-section roads, residential roads, and collectors.



"It's getting pretty routine," says Washington County's Pesch. "I can't perceive why anybody wouldn't use it."

"I'm an engineering department of one and also the public works director," says Lynett. "Some smart person did the research and decided that this was a better way to specify pavements. I'm not going to try to analyze if they're right or not. Any commodity or technique that's state of the art is what we do here. We try to purchase things that will last a long time because budgets don't always cover replacements."

Superpave specs and information are available on the WAPA Web page: <http://www.wispave.org>. Also, the T.I.C.'s Road Maintenance Workshops in late March will discuss the benefits of Superpave and show participants how to include it in bid documents.

Wisconsin adopts sign rules



The state Department of Transportation has completed the *Wisconsin Supplement* to the federal millennium edition of the *Manual on Uniform Traffic Control Devices (MUTCD)*. The Supplement will be on the

WisDOT website and available in hard copy by mid-March. Adoption officially implements the MUTCD in the state.

Here is an update for local officials on some of the changes that affect your community. In most cases communities have a reasonable time period to implement signing changes. (See the Web site: <http://www.mutcd.fhwa.dot.gov/kno-compliance.htm>.) This information, supplied by WisDOT District 2 Signing Traffic Operations Engineer Tom Heydel, was reviewed in the T.I.C.'s Highway Safety workshops held in February.

All Way plaque At intersections where all approaches have stop signs, a supplemental *All Way* (preferred) or *4 Way* plaque is now required. Street and highway signing units should have a method for systematically adding the plaques, installing them at the most critical intersections first.

Down arrow Most drivers did not understand the old crosswalk symbol, parallel lines, on pedestrian crossing and school zone signs. A symbol sign, plus a sign plaque containing an arrow on a 45 degree angle pointing to the crosswalk, is now required for sign assemblies at the crossing. You may install the arrow sign plaque under the existing crosswalk sign if it is still in good condition.

Fluorescent yellow-green signs This color may only be used for school, pedestrian, bicycle, and school bus signs and not for any other regulatory or warning signs. Local communities have the option to stay with the standard yellow for these signs.

Centerline pavement markings

Centerline pavement marking is now required on higher volume roads (6000 ADT or greater). It is recommended for roads with 4000 ADT or greater.

Edgeline markings Edgelines may now be used without centerline markings, except where the Wisconsin Statutes have other requirements, as on freeways or state highways, for example.

Street name signs The Wisconsin Supplement recommends using Upper and Lower Case Letters on street names signs. Mixed case letters are more readable according to research done at Marquette University for the Transportation Research Record. Signs with all CAPITAL letters can continue to be used.

Reduced Speed Ahead The Wisconsin Supplement specifies that Reduced Speed Ahead signs must have a speed plaque under them. This modifies MUTCD guidelines which allow the signs with no speed plaque.

Warning sign placement The new Wisconsin Supplement includes a table showing how far in advance of the intersection to place warning signs such as Side Road and Stop Ahead, based on the speed limit of the road. It also has recommendations for when these signs are needed based on visibility distance.

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Calendar

T.I.C. workshops

Details and locations are in announcements sent to all Crossroads recipients. For more information or additional copies, call the T.I.C. at 800/442-4615. Registration starts after announcements are distributed.

Road Maintenance

Review the basics of good road maintenance and important spring maintenance activities in this workshop. It will help you identify the best methods to maintain your roads and the best repair and reconstruction techniques to solve problems on them.

Mar 25 Tomah	April 2 Brookfield
Mar 26 Eau Claire	April 3 Barneveld
Mar 27 Cable	April 4 Green Bay
Mar 28 Rhinelander	

Local Transportation Issues: Liability and Legal Issues (ETN) – Apr 11, 10:30 am to 12:20 pm. Improve your understanding of modern risk management practices and legal obligations relating to road, sidewalk, and bridge maintenance. \$15. Sponsored by the T.I.C. and the UW Local Government Center. Call 608/262-9960 to register.

Understanding and Using Portland Cement Concrete Learn the basics of Portland Cement Concrete and what factors affect its quality, strength, and durability. Concrete materials, proper construction, and maintenance techniques are covered. Highlights include: basic ingredients and

admixtures; proper procedures for mixing and delivery; preparing the subgrade; placing, finishing, and curing concrete; reinforcement and jointing to control random cracking; routine maintenance and repairs.

Apr 23 Tomah	Apr 29 Green Bay
Apr 24 Eau Claire	Apr 30 Brookfield
Apr 25 Hayward	May 1 Barneveld
Apr 26 Rhinelander	

UW–Madison Seminars

Local government officials are eligible for a limited number of scholarships for the following engineering courses. For details, use the form on pg 7, call 800/442-4615, or e-mail tic@epd.engr.wisc.edu. Courses are in Madison unless otherwise noted.

Improving Public Works Construction Inspection Skills, Mar 18-19

Municipal Engineering Fundamentals for Non-Engineers, Mar 19-20

Maintaining Asphalt Pavements, Mar 20-21

Effective Roadway Lighting, Apr 22-24

Trenchless Technology for Sewer and Water Projects, Apr 9-11

Upgrading Your Sanitary Sewer Maintenance Program, Apr 10-12

Designing Best Management Practices for Stormwater Quality Improvement
Apr 22-24

Effective Parking Lot and Site Design
Apr 24-26, Milwaukee

Grader Operator Training If you e-mailed Bruce Higgins about on-site grader operator training (*Crossroads*, Fall 2001) and didn't get a response, please try him by fax or phone. All his e-mails were lost. Phone: 810/730-7698. Fax: 810/732-3489.

Wisconsin sign rules *from page 6*

Narrow Bridge sign The Supplement clarifies that this sign should be used where the driving lane on the bridge is at least 16 feet but less than 24 feet wide. (A driving lane less than 16 feet wide is a one-lane bridge.)

Low volume road signs There is a new Part V in the MUTCD for low volume roads. It permits communities to use certain smaller signs on roads with fewer than 400 ADT. A table gives sign sizes.

In addition, the Supplement adopts the MUTCD's new terminology describing sign requirements as: standard (shall), guidance (should), or option (may), and support. It also better defines "engineering study" and "engineering judgement" and describes when each applies. Engineering judgment is used, for example, to decide whether to use a curve or a turn sign where the road bends. Engineering study, which requires a study and documentation, would be used to decide whether to install a stop sign at a railroad crossing where there are no gates or flashers.

For copies of the Wisconsin Supplement go to: <http://www.dot.state.wi.us> or contact Matt Rauch, 608/266-0150, e-mail: matt.rauch@dot.state.wi.us. If you have signing questions contact your WisDOT District office or Tom Heydel at 262/548-5902, e-mail: tom.heydel@dot.state.wi.us

Resources

A Walkable Community is Much More Than Just Sidewalks, FHWA, 2000. Includes a chart listing typical pedestrian/vehicle conflicts and crash types along with suggested remedies. Unfolds into a color poster illustrating 22 measures that can improve pedestrian safety. Includes illustrations of traffic calming measures.

Guide for Development of Bicycle Facilities, 3rd edition, AASHTO, 1999, \$40. Information to help accommodate bicycle traffic in most riding environments. Presents guidelines for designs that are sensitive to the needs of bicyclists and other highway users. AASHTO Publications, P.O. Box 96716, Washington, DC 20090-6716, 800/231-3475, <http://www.transportation.org>

Videotapes

The following videos are new to the T.I.C. collection. Videotapes are loaned free from UW-Extension county offices.

Why Skid? Winter Driving Techniques, #18519, Bridgestone Tire, 18 min, 2001. Reviews basic winter driving skills for car drivers: preparation, wheel grip, weight transfer, over- and under-steer, braking, and trajectory. Has a short product commercial.

Bridge Maintenance for Local Road Crews, #18524, Vermont Local Roads, 14 min. Reviews maintenance practices for bridges on low volume local roads. Includes a discussion of bridges on gravel roads.

It's About Time: Traffic Signal Management, Cost Effective Street Capacity and Safety, #18525, FHWA, 13 min, 2001. Discusses low cost improvements to traffic signal equipment and timing that can increase street capacity. Tells how to set up a program to evaluate existing signals and describes typical time and costs involved in implementing improvements.

Paving Practices for Quality Series, #18526, National Asphalt Pavement Association, 30 min. Three 10-minute segments introduce paving crew member responsibilities, paver operation and roller operation. A good introduction for paving crew workers emphasizing techniques for good ride quality. In English and Spanish.

Websites

The Transportation Information Center tic.engr.wisc.edu provides information about the T.I.C., workshop schedules, publications, the video catalog, and links to other transportation-related websites.

Maintenance of Signs and Sign Supports for Local Roads and Streets. An FHWA booklet with good basic information on maintaining, repairing and replacing signs. Available at http://safety.fhwa.dot.gov/media/sign_support.htm. To view it as an Acrobat PDF, or print it in a format that can be assembled into a glove compartment-sized handbook, go to: http://safety.fhwa.dot.gov/media/pdf/sign_support.pdf

Reader Response

If you have a comment on a **Crossroads** story, a question about roadways or equipment, an item for the *Idea Exchange*, a request for workshop information or resources, or a name for our mailing list, fill in this form and mail *in an envelope* to:

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Transportation Information Center
University of Wisconsin-Madison
432 North Lake Street
Madison, WI 53706

Or call, fax, or email us:

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Bikeways from page 1

DOT District 4 local programs manager. "It's a real improvement in safety."

In the Village of McFarland, near Madison, a new path has saved money for the school district. The school board was able to end busing to an isolated subdivision once the children had a safe route to the nearby elementary school.

Public support grows, opposition melts

Getting a bicycle system started can be an uphill battle at times, especially in rural areas. Local officials are cost-conscious and landowners are concerned about litter, vandalism, and invasion of privacy.

"The hardest part of the trail to get done is the first mile," says Gary Popelka. "When we proposed a trail near Wisconsin Rapids, one county supervisor was literally hollering against it. 'We don't need it. It's a waste of money. Nobody rides bicycles any more.' Now he's on the finance committee and one of our supporters." These days landowners near the Wisconsin River Trail promote the fact in ads when they sell their homes.



PHOTO CREDIT: BICYCLE FEDERATION OF WISCONSIN

Down south in the City of Jefferson, citizens helped raise money for a new bike/ped bridge across the Rock River into the downtown commercial district. The city engineer secured a WisDOT Enhancement Grant to pay for 80% of the bridge's \$500,000 cost. The city had agreed to finance the other 20%, but the Council later pulled back, saying they could only pay for 10%.

"Business people and citizens sold bricks to raise the other \$50,000!" says Dave McCosh, enhancements coordinator in WisDOT District 1. "When I pass through town, I drive down just to look at it. It's the prettiest bridge you ever saw."

There are many resources to help communities plan, design, and install bicycle and pedestrian facilities. The state budget provides \$7 million per year for transportation enhancement projects. Most goes to bike/ped projects. WisDOT invests at a similar level in bike-related improvements and sidewalks as part of highway and bridge construction projects. April 12, 2002, is the deadline for enhancement grant proposals for 2004 and 2005 projects.

AASHTO has updated the *Guide for Development of Bicycle Facilities* which has useful planning, design and construction information for bike facilities. WisDOT expects to complete guides for both bicycle and pedestrian facilities this year.

For information on enhancement grant proposals, contact your WisDOT District office or Tom Huber, State Bicycle and Pedestrian Safety Coordinator, 608/267-7757. Check the WisDOT web page www.dot.state.wi.us under "Programs and Services" for information and useful links. Various resources are also available through the Wisconsin Department of Natural Resources for the development of recreational trails. Many knowledgeable people in county and city planning departments are also willing to advise and assist.

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