

CROSSROADS

LTAP at the University of Wisconsin–Madison

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State and local governments are responsible for making sure transportation facilities in the public right-of-way are physically accessible to all.

Make street crossings accessible

FEDERAL LAW requires accessible pedestrian street crossings at intersections and midblock so people with disabilities can cross roadways safely. On the books since 1990, the Americans with Disabilities Act (ADA) specifies that state and local governments are responsible for making sure transportation facilities in the public right-of-way are physically accessible to all. One improvement local governments should make at every opportunity is the curb ramp.

Meet standard

A year ago, the Department of Justice (DOJ) and [Federal Highway Administration \(FHWA\)](#) clarified which types of road project trigger the ADA rules.

Resurfacing of a street or roadway that spans multiple intersections is one example. The full

list of projects defined as *alterations* include an asphalt pavement overlay, reconstruction or rehabilitation, open-graded surface course, micro surfacing and thin lift overlays, cape seals and in-place asphalt recycling. These require putting in curb ramps that meet the current standard.

Routine maintenance activities like crack filling, chip seals and spot high-friction treatments fall outside that definition and do not require road agencies to add ramps or other accessibility features.

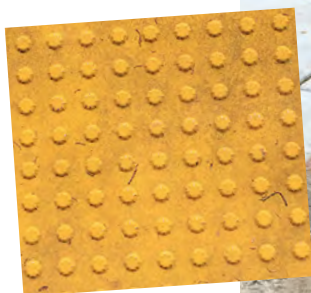
The goal is to remove barriers and make sure pedestrians with disabilities can use the transportation system in an accessible and safe manner, says Patrick Fleming, Standards Development Engineer with the Wisconsin Department of Transportation. “Where there are sidewalks or curbs, local governments need to bring all pedestrian crossings up to the federal accessibility standard,” he explains. “And despite exceptions to the rule, public agencies should do everything they can to comply.”

In the case of an improvement that is technically infeasible, agencies must comply with the law to the maximum extent possible and when they cannot do more, document why. He emphasizes that the law applies to all public agencies regardless of the funding source. Agencies must install or upgrade curb ramps if the road project qualifies as an alteration. The project must include detectable warning surfaces (truncated domes), for all new curb ramps to warn people with visual disabilities of the boundary between sidewalk and street.

Accessibility guidelines

For its projects, WisDOT follows the [Public Right-of-Way Accessibility Guidelines](#) published by the U.S. Access Board, an independent federal agency responsible for developing guidelines for design, construction and alteration of facilities

Public agencies must replace barriers to accessibility, like steps **RIGHT** with a curb ramp installation **LOWER RIGHT** as part of certain alteration projects. Ramps require truncated domes **BELOW** as detectable warning.



Accessible street crossings *continued*

to make them accessible to and usable by people with disabilities.

The guidelines include specifications on curb ramps that meet the ADA standard. It has diagrams and details about required running slope and turning space, and information about which locations need a detectable warning surface. Fleming reminds agencies the state's Facilities Development Manual (FDM) also is a reliable source for local governments on design of curb ramps that fit the requirement. Local road officials can reference *FDM 11-46-10* and Standard Detail Drawing 8D5.

Transition plans

Another way local governments comply with the requirements is doing upgrades as part of their ADA transition plan for implementing accessibility improvements. That way they can cost-effectively prioritize plans for adding access features, says Jill Mrotek Glenzinski, Statewide Bicycle and Pedestrian Coordinator for WisDOT. Mrotek Glenzinski works with public agencies in Wisconsin on bicycle and pedestrian issues.

One component of an ADA transition plan is an inventory of physical barriers to accessibility, she explains. "A plan's inventory of facilities requiring improvement, with details on measures needed, makes it easier to schedule curb ramp installations or replacements one neighborhood at a time on an annual basis."

Mrotek Glenzinski also quotes data that says about a third of the population in the state does not drive—by choice or due to age, economic status or some other restriction. That makes accessible sidewalks and crossings important for all communities. "When road agencies build upgrades like this into their



Two examples of crossings that need updating to improve pedestrian safety and accessibility. Agencies can make the improvements as part of a planned alteration or on a Transition Plan schedule.

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RESOURCES

[FAQ](#) on the role of local public agencies in ADA compliance.

[FHWA resource](#) on bicycle and pedestrian facilities.

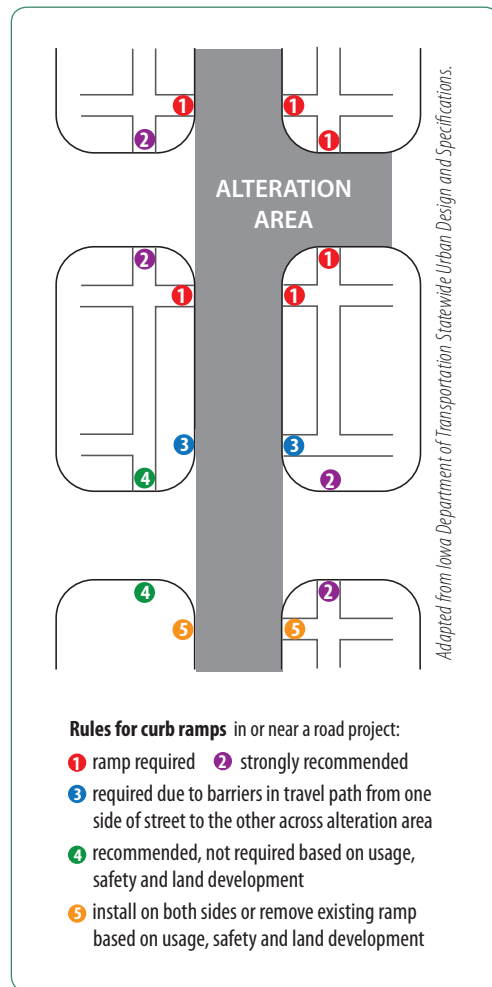
[Planning and design resource](#) from the Access Board includes case studies and solutions for accessible transportation facilities.

[Downloadable version](#) of WisDOT Facilities Development Manual.

Association of Bicycle and Pedestrian Professionals offers [technical help and courses](#) on design of accessible facilities.



Curb ramps with detectable warnings improve pedestrian safety and accessibility at all crossings.



improvement programs, it provides safe travel options for everyone." she adds.

Accessible communities

Failing to comply may lead to complaints from the public about lack of access that end up in court. An unfavorable judgment there might mean making wholesale rather than incremental upgrades. Local governments also risk the loss of funds by not including required curb ramps in a project that relies on federal funding.

"If local public agencies do the improvements over time, there are economic and other benefits to becoming very accessible for all residents and visitors with mobility issues," Fleming says.

Resources included here provide background on accessibility requirements, answer questions about the responsibility of local governments to comply with ADA rules and information on designing curb ramps that meet the current standard. ●

Accidents that involve backing are workplace risks that street and highway departments can prevent by enforcing best practices and raising awareness through good training.

Practice safe backing

ROAD CONSTRUCTION WORK ZONES, and equipment yards and garages can be dangerous workplaces. Heavy equipment operates in close proximity to workers on foot in areas busy with activity and noise. Unsafe backing maneuvers in these environments can increase the risk of death or injury. A review by the U.S. Bureau of Labor Statistics of fatal workplace injuries at road construction sites from 2003 to 2010 found 443 that involved workers hit by a vehicle or moving equipment. Backing operations accounted for almost one third of those deaths.

They also leave hundreds injured every year and cost many thousands for repair and replacement of damaged equipment. Accidents that involve backing are workplace risks that street and highway departments can prevent by enforcing best practices and raising awareness through good training.

Preventable

Risk management expert Ben Rank describes these accidents as “100 percent preventable.” Rank is a Loss Control Specialist with Cities and Villages Mutual Insurance Company (CVMIC), one of Wisconsin’s municipal pools.

“Going in reverse is not a natural maneuver because the blind spots, especially on larger vehicles, can be huge,” says Rank. “But some-

times there is no alternative but to back a vehicle during road projects or other municipal activities like fire and police operations.”

For that reason, he emphasizes three key principles for safe backing in risk-prevention training he does for CVMIC members.

1. Avoid the need to back up: Operators should park defensively and leave room to pull away going forward when leaving a jobsite instead of backing. Another option is to use a route or location that accomplishes the task while moving forward.

2. Use a trained spotter: If backing up is the only option, use a spotter with good technique and hand signals. Make sure they work from the driver’s side, stay visible, watch for obstructions and communicate with the driver. Establish a consistent standard throughout the agency that all operators and spotters understand.

3. Get out and look: When it is necessary to back up and there is no spotter around, Rank recommends the simple GOAL technique: *Get Out And Look*. Do a complete 360 of the vehicle and the area around it to assess possible blind spots, distances, height clearance and the presence of any activity or workers that could interfere with a safe backing operation.

Helpful checklists

Additional tips on any checklist for equipment operators and work zone crews that need to develop safer backing practices include:

- Position mirrors for clear sightlines before operating the vehicle.
- Make sure backup alarm is working; if it is not or fails during maneuver, use a spotter.
- Keep driver’s window down to hear and be heard; also the passenger window when backing or driving in the vicinity of workers on foot.
- Turn off the radio or other distracting devices; give complete attention to the backing operation.
- Minimize the number of work activities done near moving equipment.
- Install signs in work areas that alert employees on foot about the location of moving vehicles.



Workers on foot must stay alert to backing maneuvers when there is heavy equipment operating in work zones.



Key principles of safe backing

- Find alternatives to backing and avoid the maneuver.
- Use trained spotter whenever backing is the only option.
- Get out and look around vehicle for blind spots or activities that could interfere.

Safe backing *continued*

- No riders in the back during the backing maneuver.
- Check for changing conditions in the area if the vehicle is stationary for more than two seconds.
- Sound the vehicle horn a designated number of times to signal a backing maneuver to all crew members.
- Back slowly, at a walking speed.
- Do not back more than 50 to 100 feet before stopping and rechecking the area for a clear zone.
- Follow more stringent guidelines in confined areas and for night work.

SOPs and technology

Rank recommends that public road agencies incorporate these rules into their standard operating procedures, much like fire and bus transit departments do. "Some of them have it in writing, for example, that no one ever does a backing maneuver without a spotter."



Warning signs and barriers designate a location where workers must listen and watch out for construction vehicles backing up.

Training that regularly reinforces safe practices also prepares equipment operators, spotters and all workers to take preventive action.

Training that regularly reinforces safe practices like these also prepares equipment operators, spotters and all workers to take preventive action.

Technology in the form of proximity sensors and truck-mounted cameras are helping improve safe operation of large vehicles in work zones, on snow routes and at fire scenes. But Rank cautions against relying on technology alone. Use these tools instead to supplement assistance from a spotter or a walk around the vehicle before backing up, he says.

Enforce safe practices

According to the National Institute for Occupational Safety and Health (NIOSH), construction vehicles pose a substantial safety risk to the men and women that build and maintain the nation's road network. Like public works equipment yards and garages, work zones present local governments with a safety challenge. But by instituting and enforcing safe vehicle backing practices, public road agencies can and do prevent death, serious injury and substantial property damage. ●



Training for everyone who does their job in a work zone should include how to prevent vehicle-backing accidents.

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RESOURCES

[Workplace safety and health topics](#) on CDC site includes links to information on preventing worker injuries from vehicles and equipment in work zones.

Recent story in [Better Roads](#) reviews tips for managing safer work zones.



Richard Stadelman

Stadelman reflects on WTA's evolution into a strong and respected advocate for its members.

Stadelman of WTA retires and reflects

THE WISCONSIN TOWNS ASSOCIATION (WTA) gives the state's smallest municipalities a voice on legislative and budget issues that affect their ability to serve local needs. Richard Stadelman, WTA Executive Director and leading voice of Wisconsin's town governments for the past 35 years, retired in August.

The occasion is a chance for the Wisconsin Transportation Information Center (TIC) and *Crossroads* to applaud his leadership, and ask Stadelman himself to reflect on WTA's evolution into a strong and respected advocate for its members.

Fairer formula

Stadelman first joined WTA as General Legal Counsel in 1979, later serving as Legislative Representative. He took over the top job in 1987. Among important changes WTA helped influence, he says, was establishment of the per mile minimum in 1983 as an alternative formula for distributing General Transportation Aids (GTA). Local governments would receive the greater of the per mile rate or share of eligible transportation-related expenditures.

Getting the discussion about per mile amounts on the table was significant, Stadelman notes, and essential to achieving a fairer division of funds for municipalities with lower average transportation-related costs. Per mile calculations give them a higher and more-stable level of funding to maintain town roads. The Wisconsin Department of Transportation reports 95 percent of towns currently obtain GTA using the method.

Ratings and safety

Towns need to prove they are using money derived from the formula efficiently. Stadelman recalls working with Don Walker, the first TIC Director, to introduce the Pavement Surface Evaluation and Rating program, or PASER, to collect data on local roads. Use of PASER was voluntary at first but WTA promoted it as a good planning tool for towns with limited dollars for transportation projects. It later became the first application in WISLR, the local roads information system.

"Our argument to the legislature was towns were being responsible and prioritizing expenditures wisely. PASER helped us demonstrate the truth of that," says Stadelman.

It also was the start of a good collaboration with TIC.

Another milestone on Stadelman's watch was creation of the Local Roads Improvement Program (LRIP) that pays up to 50 percent of costs for road projects that improve safety and correct infrastructure problems. "Many are projects that would not get done but for this investment from the state," he says, adding that the next discussion is about putting more money into the GTA or adjusting the LRIP match because it is hard for every town to come up with their portion.

More heavy loads on local roads are one reason towns apply for LRIP funds. Stadelman represented WTA interests on an *Implements of Husbandry* study group convened in 2012 by WisDOT to recommend public policy changes that address the size and weight of agricultural equipment on Wisconsin roads.

"Lots of issues put pressure on local roads," he says. "Towns need to be part of the debate about where the money will come from to pay for improvements."

Good system

Stadelman asserts that Wisconsin's transportation system is as good as any in the country. Hard as it is to keep up with changing use and uncertain revenue sources, he says WTA members recognize that the network of roads they help manage remain vital to the state's economy.

Safety is the highest priority in distribution of LRIP funds but also on the agenda for WTA and its members. Stadelman says local public agencies must balance the issue against all resources they budget for roads. But they know where the problems are and, with good crash data and funding resources, are making safety improvements a high priority.

"Lots of issues put pressure on local roads. Towns need to be part of the debate about where the money will come from to pay for improvements."

“Our outreach to town officials responsible for local roads really benefits from the close connection TIC has had with Rick,” says TIC Director Steve Pudloski.

Stadelmann retires *continued*

“That includes complying with regulations related to traffic controls, meeting minimum sign retroreflectivity, creating sign inventories and other strategies,” Stadelman notes. “On this, TIC is right there with information relevant to local governments.”

The long-standing partnership with TIC is important to WTA. “Many local elected officials come to the job with little or no knowledge of roads and road issues,” Stadelman explains. “TIC resources, like **Crossroads** and fact sheets, focus at a level people who are not engineers can understand, which makes a big difference.”

For TIC, working with Stadelman has meant a direct link to an important audience.

“Our outreach to town officials responsible for local roads really benefits from the close connection TIC has had with Rick,” says current TIC Director Steve Pudloski. “His insights on a range of transportation issues have helped us develop targeted programs and materials.”

What’s next

After years of traveling to every corner of the state to meet with WTA’s many members among Wisconsin’s 1,257 towns and with county officials, Stadelman plans to stay close

to home in retirement. It means more time for fishing but also to handle the duties of his recent appointment as town clerk for the Town of Richmond, where he lives.

Looking ahead for WTA, Stadelman sees the need for more stable sources of funding for transportation aids as gas tax revenues decrease and other sources become elusive. Educating local road officials on how to build better roads is a major focus, especially as big farming operations and other industries expand their use of local roads.

As for continuing growth, Stadelman notes WTA’s success with getting members actively involved in issues that affect local services, especially transportation. “More town officials are confident articulating concerns to their legislators and reminding them what impact their decisions have back home.”

Stadelman casts a practical eye on what’s next for WTA and Wisconsin. “Local roads will continue moving people and products across the state for a long time to come and we need a network that does the job,” Stadelman concludes. “How we keep up remains to be seen.” ●

Know your roads



There are more than 115,000 miles of public roads in the Wisconsin street and highway system. The state owns and operates 10 percent of the system, and towns manage 54 percent. Counties, cities and villages operate the rest. Test your knowledge of where these roads run with this short quiz.

Take the QUIZ

- 1 Which county has more than 400 miles of state trunk highways?
 - 2 Which two counties have less than 50 miles of state highway?
 - 3 Which county has the most miles of town roads (1,840.5) and which county has NONE?
 - 4 Which two counties have more than 400 miles of village streets?
 - 5 NO village streets? Seven counties hold that distinction. Can you name them?
 - 6 Which three counties have NO city streets?
 - 7 There are more than 600 miles of county trunk highway (613.5) in Marathon County. Four counties in the state have less than 100 miles. Which ones?
 - 8 Name the county with the greatest number of miles in ALL systems—4,120 miles.
- CLICK for the answers. Any surprises?**

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RESOURCES

The online TIC Library lists resources from TIC and other outlets on topics related to managing local roads, available free from TIC. Download or request fact sheets and manuals at [PUBLICATIONS](#). TIC also loans DVDs, CDs and videos from our [VIDEO CATALOG](#) for pick up at County Extension offices.

<http://tic.engr.wisc.edu>

Upcoming Workshops and Seminars

TIC Workshops

Details, locations and registration forms sent prior to each workshop. More information and online registration at [TIC](#).

Winter Road Maintenance: Equipment Calibration Hands-On Demonstration

Program discusses and demonstrates salt management through best practices that include equipment calibration. *Fee: \$80*

Oct 14 Juneau

Highway Safety

Topics include correct installation of signs and pavement markings, effective use of guardrails and instituting low-cost safety improvements. *Fee: \$80*

Nov 13	Oconomowoc
Nov 14	Barneveld
Nov 17	Appleton
Nov 18	Tomahawk
Nov 19	Rice Lake
Nov 20	Black River Falls

On-Site Workshops

TIC brings instruction to shop or office that fits an agency's specific needs. Train more people for the same cost or less. Contact [TIC](#) to book a date and choose from these topic areas:

- Basic Surveying for Local Highway Departments
- Basic Work Zone Traffic Control
- Flagger Training

UW-Madison Seminars

Wisconsin local government officials are eligible for a limited number of scholarships for these EPD courses held in Madison. Details at [EPD online](#) or 800-462-0876.

OCTOBER

- 6-7** Lifecycle Optimization of Strategic Assets P639
- 7-8** Managing Snow and Ice Control Operations P547
- 8-9** ISO 55000: The Future of Asset Management P64
- 13-15** Mastering the Transition from Technical Expert to Manager P418
- 20-21** Using WinSLAMM v. 10.0.1: Meeting Urban Stormwater Management Goals P465

- 21-23** Essentials of Hydraulics for Civil and Environmental Professionals P400
- 21-22** Failure Mode and Effects Analysis and Root Cause Analysis in Maintenance Management P684
- 23-24** Lean Maintenance Operations P685
- 27-28** Soil Engineering for Non-Soils Engineers and Technicians P621

NOVEMBER

- 5-7** Effectively Managing Technical Teams P419
- 10-11** Managing Upwards P430
- 13-14** Coaching and Mentoring for Technical Leaders P452
- 17-18** Unsaturated Soils Engineering and Design P623
- 17-18** Engineering Economic Analysis and Management P642
- 18-20** Leading Lean: Management Tools and Techniques for Achieving and Sustaining Meaningful Results P485

DECEMBER

- 3-5** Intermediate Ammonia Refrigeration Systems P034
- 8-10** Highway Bridge Design P615

JANUARY

- 5-6** Maintaining Asphalt Pavements P550
- 7-9** Improving Public Works Construction Inspection Skills P545

Independent Study

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ANSWERS: Know Your Roads Quiz

- 1 Dane with 401.6 miles
Columbia is next closest with 278 miles
- 2 Pepin (48.5); Menominee (40.7)
- 3 Marathon County; Milwaukee County
- 4 Brown (592.8); Waukesha (590.3)
- 5 Florence, Forest, Iron, Lincoln, Oneida, Vilas and Menominee
- 6 Burnett, Florence and Menominee
- 7 Menominee (36.5); Florence (49.1), Iron (66.9), Ashland (91.4)
- 8 Dane County

← BACK to Quiz