Choosing salt hardy plants and grasses

Dead grass. Stunted, lopsided trees and shrubs. Browned leaves, and undersized leaves, fruit or flowers. All of these may be symptoms of salt damage in roadside vegetation and the subject of citizen concern. Since road salt is the most effective and economical way to make winter roads passable, it is a good idea to find a compromise between salting and roadside vegetation. Here are some suggestions:

• Be sure you are salting at the minimum effective rate. Calibrate spreaders. Use air and pavement temperatures to time salting operations.
• Reduce or eliminate salt application where possible and substitute abrasives.
• Plant grass, shrubs and trees with high salt tolerance. For example, white ash, honey locust, and Chinese juniper have high salt tolerance. Red and white pine, American and littleleaf lindens, and euonymus bushes have low tolerance. Others are listed in a new UW-Extension publication Salt injury to landscape plants.
• Plant on berms to keep salty runoff water from moving into root zones.
• Put barriers like burlap around plants to cut salt spray exposure.
• Don’t pile salt-laden snow over the root-zones of sensitive plants.
• Redirect drainage away from landscape plants.

Damage to landscape plants and grasses can have other causes than salt, according to UW-Extension Specialist K.A. Delahaut, so if you suspect salt damage, take soil samples early in spring before rain washes salts out of the soil. Delahaut co-authored the new Extension publication.

Many seed companies offer salt tolerant grass mixes, but they have never been tested says UW-Extension Turf Management Specialist Amy Sausen. She planted 18 test plots on the UW Madison campus last fall. She will be evaluating their growth and hardiness, along with measuring temperature changes and other factors, over the next three years.

For a list of salt tolerant grass species, contact the T.I.C. by phone, fax or e-mail. Salt injury to landscape plants, UW-Extension publication A2970, is available from county Extension offices or Cooperative Extension Publications, Rm. 170, 630 W. Mifflin St., Madison, 53703, 608/262-3346.

Making roadsides safer

Running off the road killed 263 people and injured another 14,545 in 1995 in Wisconsin, according to WisDOT crash data. Trees, embankments, guardrails, bridges, utility poles, and mailboxes were the most frequently cited obstacles struck in these crashes.

It is easy to overlook potentially dangerous obstacles along roads unless you go out hunting for them. Making the hunt easier and more systematic is the goal of a new T.I.C. booklet: SAFER — Safety Evaluation for Roadsides. The booklet has more than 100 photographs showing obstacles, unsafe conditions, and good practices. They are grouped into categories including: roadsides, intersections, railroad crossings, geometrics, signing, pavement markings, road maintenance, and special conditions.

“The goal is to help locals systematically review safety conditions on their roads,” says T.I.C. Director Don Walker. “Then they can set priorities and decide which conditions need action right away and which to put into plans for future improvements.”

The T.I.C. is also offering workshops on safety evaluation in January at which the new SAFER booklet will be distributed and discussed. SAFER workshops will be held January 8-10, and 21-24 at seven locations around the state. See Calendar for details.

The slope of a roadway embankment can become a hazard if it is steep. This steep slope will carry an errant vehicle down to hazardous trees.

Large tree close to the travel lane is a hazard. Tree damage indicates previous vehicle accidents increasing the desirability of removing the tree.

Choosing salt hardy plants and grasses
For more information on the paddles and their evaluation contact WisDOT Highway Operations Engineer Bob Fasick, P.O. Box 7986, Madison, WI 53707-7986, phone: 608/266-3438, e-mail: fasicr@mail.state.wi.us.

Double the blades and halve the time
Mounting a second blade at the back of a grader has made shoulder repairs safer and more efficient, says Walworth County’s Highway Commissioner Ben Coopman.

"It’s faster and it’s safer. You don’t have to put a grader on the pavement in live traffic," Coopman says. The second blade, which is a small moldboard with a standard cutting edge, mounts at the back using the same controls and hydraulic hoses as the benching wing blade. A small “bogey” wheel supports the blade allowing it to be raised or lowered to match the slope of the shoulder.

Writing better bid documents
Ensuring high quality work and reasonable cost for road projects is a challenge. Getting competitive bids, as required on most road projects, can add to the challenge, especially if bidders have different understandings of the project.

The bid documents you prepare are your primary way of communicating with contractors. These written materials describe the nature of the project so that all bidders have the same understanding and can offer fair and competitive prices. To help local officials with preparing these documents, the T.I.C. has developed some guidelines and sample bid documents.

Initial decisions
A checklist for highway and street owners in sample documents prepared by the T.I.C. reminds you of the critical decisions you must make. Talking with contractors and other knowledgeable experts can help you make these initial project decisions. You decide on the type and quality of the work. It’s usually a good idea to let the contractor decide how to do the work.

Timing
The warm summer months are the best time to complete asphalt paving and sealcoating. The owner needs to ask for bids early enough in the spring or winter to let the contractor finish the project in favorable weather.

Qualification
You must assure that the contractor can do quality work on your project. It may be easiest just to require that all bidders be pre-qualified by the Wisconsin Department of Transportation. If this excludes qualified local contractors, however, you must check their qualifications yourself. Check their references, determine that they have the equipment needed for the job, and find out how much experience the work force has.

Preparation work
On paving and sealcoat projects there can be confusion over who is responsible for pavement repairs and exactly what will be done before the overlaying or Shoulder repairs

"One operator went around our whole 200 mile system this year, and went back in the fall to hit some bad spots," says Coopman. “Usually two graders only do about 150 miles.”

For more information, contact Kray Brown, Patrol Superintendent, or Shop Foreman Larry Hensel at the Walworth County Highway Department, 414/741-3114.
Getting unsafe mailboxes off highways

Two WIDOT Districts have taken action to reduce the number of unsafe mailboxes along state trunk highways. In District 7, the District staff spent the summer of 1995 surveying unsafe boxes and supports. They found 1,952 of them along 500 miles of roadway, 75 miles more than the district’s 1994 survey. After cleaning out the boxes and notifying the owners seems to be the most effective approach to making roads safer.

In District 5, they spent the summer of 1996 examining unsafe mailboxes. They have seen a significant decrease in the number of unsafe mailboxes along state trunk highways. In the summer of 1996, they found 1,130 hazardous mailboxes along 500 miles of roadway, a decrease of 30 percent compared to the 1995 survey.

In both districts, the surveyors found that many mailboxes were too close to the road, making them hazardous for drivers. They also found that many mailboxes were too large, protruding too far into the road, making them dangerous for both drivers and pedestrians.

In District 7, they have taken steps to remove hazardous mailboxes. They have written letters to homeowners, notifying them of the hazards and asking them to remove the mailboxes. They have also asked the Wisconsin Department of Transportation to take action to reduce the number of hazardous mailboxes along state trunk highways.

Writing better bid documents

from page 2

Sealing phase. Be careful to clearly define the extent of the work and to assign specific responsibility. This will help ensure that bids are fair and competitive.

Specifications

All bid documents should require that work be done in accordance with the Wisconsin Department of Transportation Standard Specifications for Road and Bridge Construction. Local officials will need to make some additional specification decisions because the standard has many options, some of which are not appropriate for local roads. For example, the specs say asphalt materials may conform to HV, MV, or LV mix specifications. Most local roads would benefit by conforming to HV (low volume) specifications; materials designed for very high volume roads (HV) are generally not appropriate.

Sample specifications and sample bidding documents for small projects are available through the T.I.C. for free. These documents are available online at the T.I.C. website, or by calling the T.I.C. at 608-264-1526.

All bid documents should require that work be done in accordance with the Wisconsin Department of Transportation Standard Specifications for Road and Bridge Construction. Local officials will need to make some additional specification decisions because the standard has many options, some of which are not appropriate for local roads. For example, the specs say asphalt materials may conform to HV, MV, or LV mix specifications. Most local roads would benefit by conforming to HV (low volume) specifications; materials designed for very high volume roads (HV) are generally not appropriate.

Sample specifications and sample bidding documents for small projects are available through the T.I.C. for free. These documents are available online at the T.I.C. website, or by calling the T.I.C. at 608-264-1526.
Owners of unsafe mailboxes routinely get notifications. Leave the shoulders white (with a small residue of snow). Policies needn’t be elaborate. Richland County’s is just two.

Having a clear written policy has saved time for office staff. Combining local newsletter articles with an ordinance provides a broader perspective. Workshop participants are a good source of ideas and information.

“Here’s a summary of ideas gathered this year. For even more good ideas, see last year’s winter Crossroads. (If you’re still confused, contact the T.I.C. for a copy.)

Winter maintenance ideas from workshop participants

Maintaining highways and streets in winter is hard work. It takes planning, innovation, training, and good management to meet the challenges of citizen expectations and tight budgets.

Fortunately, a lot of good ideas for better policies and better methods have been developed and used around Wisconsin. Attending the T.I.C.’s fall Winter Maintenance Workshops puts you in touch with some of those ideas, from speakers and from other participants.

Here’s a summary of ideas gathered this year. For even more good ideas, see last year’s winter Crossroads. (If you’re still confused, contact the T.I.C. for a copy.)

Watch what you eat on snow-plowing nights

Road crews often battle snow and sleet throughout the night, but usually only up to about two or three. That means they are also battling sleepiness since their bodies are adjusted to the usual daytime sleep pattern. Sleepiness can be dangerous. At least 10,000 accidents a day are sleep-related and 200,000 traffic accidents annually are due to driver fatigue.

Recent research on sleep deprivation shows what you eat before and during nighttime work can affect sleepiness. Since the body slows down at night, it does not want to digest a heavy meal, “a Big Mac,” or other fast foods. Greasy, heavy, protein foods bring on sleep according to information in The Shiftworker’s Handbook.

Drivers can still enjoy eating, though. Take light, well-balanced meals and eat snacks that are compatible with slower, nighttime digestion.

Main meal before night work (5:00-7:00 pm) Eat light protein foods like chicken, turkey, fish, or cooked beans and peas. Vegetables, fruits, breads, pasta and potatoes are good, as are low-fat milk, cheeses, and yogurt. If you’re planning to sleep before work, make this a lighter and smaller meal.

Meals during breaks Eat soup and salad, soup and a light sandwich, or light protein foods and vegetables.

Snacks before and during work Good snacks include low-fat dairy products, fresh and dried fruit, popcorn, cereal, plain cookies, pretzels, and baked crackers.

Avoid caffeine and nicotine Coffee and tea contain caffeine; smoking and chewing tobacco contain nicotine. These are stimulants at first but soon become depressants. They make the heart beat slower.

Do not consume alcohol before or during snow plowing operations. Adapted from Road Business, Fall 1994, University of New Hampshire T2 Center. The Shiftworker’s Handbook is by Marty Klein, PhD, SynchroTech, Lincoln, Nebraska.
Winter maintenance ideas from workshop participants

Maintaining highways and streets in winter is hard work. It takes planning, innovation, training, and good management to meet the challenges of citizen expectations and tight budgets.

Fortunately, a lot of good ideas for better policies and better methods have been developed and used around Wisconsin. Attending the T.I.C.’s fall Winter Maintenance Workshops puts you in touch with some of those ideas, from speakers and from other participants.

Here’s a summary of ideas gathered this year. For even more good ideas, see last year’s winter Crossroads. (If you haven’t, contact the T.I.C. for a copy.)

Policies and publicity

- Combining local newsletter articles with an ordinance prohibiting private snow removal operators from pushing snow onto the roadway has helped curb the problem in Town of Washington, says Administrator Michael Peterson.
- Appearing live on a local radio show, Richland County Highway Commissioner John Huth informs citizens about safety around snow plows, timing of plowing operations, and how to make good winter driving decisions. The county’s patrol superintendent and one of the patrol truck operators join Huth on the radio.
- Having a clear written policy has saved time for office staff who now receive fewer calls and complaints, says Charles Smrcka, streets foreman for the City of Rice Lake. Staff also can answer questions better and elected officials understand what’s happening.
- Policies needn’t be elaborate. Richland County’s is just two pages. It’s in hours of operation (4:00 a.m. to 10:00 p.m.) and the statement, for liability purposes, that crews will cover all the roads in the county.
- Leave the shoulders white (with a small residue of snow) is in Adams County’s policy. Highway Superintendent Donald York says this helps protect gravel shoulders, especially in the fall and spring before the ground freezes.
- Owners of unsafe mailboxes routinely get notifications from Adams County, and City of West Bend refuses to replace mailboxes that were not installed according to guidelines in a local ordinance.

Prohibiting county equipment from towing private vehicles, and having a copy of the policy in the truck, lets drivers blame “the bosses” for not helping friends or acquaintances in stranded vehicles. Towing is unsafe, says Portage County Patrol Superintendent Dale Peterson. Patrol trucks are not equipped to tow vehicles. Besides, their primary mission is to open the roads.

Equipment and methods

- Don’t skimp when you order patrol trucks, says Michael Peterson, Town of Washington administrator. A plow driver himself, he specs firsthand the safety benefits of such items as right-side power windows, and heated mirrors and wipers that clear fog quickly and prevent snow and ice buildup. On tri-axels he also specs engine “jake” brakes and a steerable pusher axle.
- Interiors with fabric headliners cut down on noise and keep the cab warmer, and air ride seats provide comfort and support to the driver during those 16 to 20 hour plowing days.
- Air conditioning and stereo radios with tape decks are also standard equipment on patrol trucks. “These items added about $4000 to the $94,000 cost of the newly ordered Ford L9000 Tri-Axel, 13-speed trucks,” says Peterson. “The additions also bring greater trade-in value.”

Winter 1997

- Contracting out for graders and operators saves on capital costs and fringe benefits, says Jack La Plant, Green Bay’s streets superintendent. Some graders stay in the city, equipment yard all winter while others stand by at the contractors. Payment is for actual hours worked, plus $150 a month for equipment parked on site. All contract operators have a CDL. They are paid to attend an evening service and how-to session and to drive the route once in daylight before the first snowfall.
- Rental trucks haul snow from downtown areas in West Bend, says Street Superintendent Richard Heisler. Cul-de-sac plowing is also under contract, and drivers from other city departments help extend operations during continuing snowstorms.
- Naming each plow route after its regular driver promotes pride and ownership, says Stevens Point Street Superintendent Howard Kriewski.
- A written form for each plowing event records the equipment, driver, and route when a backup driver plows a Stevens Point route. If someone complains, Kriewski checks the form and sends the responsible driver back to fix the problem.
- Snow plow “roadies” help train drivers in Adams and Portage Counties, and they promote good public relations.

- Do not consume alcohol before or during snow plowing operations.
- Do not smoke or chew tobacco, both increase alertness and coordination.
- Avoid caffeine and nicotine. Caffeine is a nervous system stimulant at first but soon becomes depressant. Nicotine in chewing tobacco contains nicotine. These are stimulants at first but soon become depressants. They make the heart beat slower.
- Keep food consistencies soft and chewable.
- Main meal before night work (5:00-7:00 pm) Eat light protein foods like chicken, turkey, fish, or cooked beans and peas. Vegetables, fruits, breads, pasta and potatoes are good, as are low-fat milk, cheeses, and yogurt. If you’re planning to sleep before work, make this a lighter and smaller meal.
- Meals during breaks Eat soup and salad, soup and a light sandwich, or light protein foods and vegetables.
- Snacks before and during work Good snacks include low-fat dairy products, fresh and dried fruit, pop corn, cereal, plain cookies, pretzels, and baked crackers.
- Avoid caffeine and nicotine. Coffee and tea contain caffeine; smoking and chewing tobacco contain nicotine. These are stimulants at first but soon become depressants. They make the heart beat slower.

Watch what you eat on snow-plowing nights

Road crews often battle snow and sleet throughout the night, but usually for only a night or two. That means they are also battling sleepiness since their bodies are adjusted to the usual daytime shift. Sleepiness can be dangerous. At least 10,000 accidental deaths a year are sleep-related, and 200,000 traffic accidents annually are due to driver fatigue.

Recent research on sleep deprivation shows that what you eat before and during nighttime work can affect sleepiness. Since the body slows down at night, it does not want to digest a donut, a “Big Mac,” or most other fast foods. Greasy, heavy, protein foods bring on sleep according to information in The Shiftworker’s Handbook.

Drivers can still enjoy eating, though. Take light, well-balanced meals and eat snacks that are compatible with slower, nighttime digestion.

- Main meal before night work (5:00-7:00 pm)
  Eat light protein foods like chicken, turkey, fish, or cooked beans and peas. Vegetables, fruits, breads, pasta and potatoes are good, as are low-fat milk, cheeses, and yogurt. If you’re planning to sleep before work, make this a lighter and smaller meal.
- Meals during breaks
  Eat soup and salad, soup and a light sandwich, or light protein foods and vegetables.
- Snacks before and during work
  Good snacks include low-fat dairy products, fresh and dried fruit, pop corn, cereal, plain cookies, pretzels, and baked crackers.
- Avoid caffeine and nicotine
  Coffee and tea contain caffeine; smoking and chewing tobacco contain nicotine. These are stimulants at first but soon become depressants. They make the heart beat slower.
- Do not consume alcohol before or during snow plowing operations.

Adapted from Road Business, Fall 1994, University of New Hampshire T2 Center. The Shiftworker’s Handbook is by Marty Klein, PhD, SynchroTech, Lincoln, Nebraska.
Getting unsafe mailboxes off highways

Two WIDOT Districts have taken action to reduce the number of unsafe mailboxes along state trunk highways. In District 6, the Wausau District, spent the summer of 1995 surveying unsafe boxes and supports. They found 1,852 of them, none too high, too high, protruding too far into the road, in unsafe bases, etc. On the 65,000 centerline miles of road, that’s about one every 1.3 miles.

We left them a letter and panic button telling them they had a roadside hazard,” says Dan Grasser, Chief Maintenance and Traffic Engineer, District 4, Wiconico Rapids. By Christmas 1995 about 500 of the hazardous boxes had been changed.

The letter advised homeowners to return an enclosed follow-up card as evidence of removing the hazard. Others who had crashed occurred and the box were unchanged, the homeowner might be liable for damages. Several counties in District 4 have begun a similar effort on their county trunk highways.

“I was impressed with how bad the situation was,” says Jim Voborsky, Maintenance Supervisor in District 7, Rhinelander. “We’d been trying to eliminate mailboxes that obviously would kill somebody, but then we decided to bite the bullet and do them all. It was unbelievable! There were a lot more than we had estimated.”

Counties in District 7 assigned the job to a patrol superintendent, a beat patrolman, or another worker. On every hazardous mailbox they hung a plastic bag with a letter and informational brochure. The mailbox was photographed and recorded as well. “We put notices on everything that was bigger than the dimension size lumber. I’d guess there were around 1,500 in the eight counties,” says Voborsky. District 7’s letter also included a return mail form with a deadline for sending it back.

The number of vehicle-mailbox crashes keeps going up across the country. When you start looking systematically at your area’s mailboxes you understand why. Surveying the boxes and notifying the owners seems to be the most effective approach to making roads safer.

Contact the T.I.C. for copies of Voborsky’s letter and the informational brochure. There’s also a CD to Be Different. Mail to the Waukesha Public Works Construction Inspection Skills, Feb 24-26

O ther opportunities

Highway Technician Certification Program Testing assures that contractors and crews have met pavement specs. Thirty training sessions, one to five days long, are available to certify you in asphalt and RCC testing. These outstanding training opportunities are offered by UW-Platteville, December to June, at various locations. Contact the program for details at: phone: 608/342-1545, fax: 608/342-1566.

Pesticide Applicator Training Those who apply pesticides must be certified or supervised by a certified person. Two training/sessions, one to five days long, are available to certify applicators in rights-of-way are offered in late January. Register before the deadline to get your training materials. Get registration cards from your county operations, or e-mail: ranum@engr.wisc.edu.

Writing better bid documents from page 2 sealing phase. Be careful to clearly define the extent of the work and assign specific responsibility. This will help ensure that bids are fair and competitive.

Specifications All bid documents should require that work be done in conformance with the Wisconsin Department of Transportation Standard Specifications for Road and Bridge Construction. Local officials will need to make some additional specification decisions because the standard has many options; some of which are not appropriate for local roads. For example, the specs say asphalt materials may conform to HV, MV, or LV mix specifications. Most local roads would benefit by conforming to LV (low volume) specifications: materials designed for very high volume roads (HV) are generally not appropriate.

Sample specifications and sample bidding documents for small projects are available through the T.I.C. They were discussed in two ETN training sessions. Audio tapes of both sessions are available. See Resources for details.

CDL news

Not required for construction equipment A change to state law late last spring exempted operators of graders and other construction equipment from needing CDLs. However, since CDL training and testing are designed to enhance safety, getting a CDL is still a good idea.

Small community backup driver exemption in effect The exemption from CDL requirements for snow emergency backup snowplow drivers in municipalities of fewer than 3000 residents took effect November 1. The rule, unchanged from those reported in the Fall Crossroads, requires a valid regular driver’s license, operating within community boundaries, and being employed (full or part time) by the community.
Flashing stop/slow paddle gains fans
Patrolmen and flaggers in Chippewa County have taken a real shine to the new stop/slow paddles with flashing lights, according to Highway Commissioner Bruce Stelzer. "They feel that motorists are paying more attention to the signs and that's making the work zone safer for them," Stelzer says. "They're a great tool."

The paddles, which were developed under a FHWA program called SHRP (Strategic Highway Research Program) are still being evaluated according to WisDOT’s Bob Fasick. The four models under consideration range in cost from $125 to $450. They are available commercially from several manufacturers.

For more information on the paddles and their evaluation contact WisDOT Highway Operations Engineer Bob Fasick, P.O. Box 7986, Madison, WI 53707-7986, phone: 608/266-3438, e-mail: fasicr@mail.state.wi.us.

Double the blades and halve the time
Mounting a second blade at the back of a grader has made shouldering operations safer and more efficient, says Walworth County’s Highway Commissioner Ben Coopman. "It’s faster and it’s safer. You don’t have to put a grader on the pavement in live traffic," Coopman says.

The second blade, which is a small moldboard with a standard cutting edge, mounts at the back using the same controls and hydraulic hoses as the benching wing blade. A small "bogey" wheel supports the blade allowing it to be raised or lowered to match the slope of the shoulder.

Writing better bid documents
Ensuring high quality work and reasonable cost for road projects is a challenge. Getting competitive bids, as required on most road projects, can add to the challenge, especially if bidders have different understandings of the project.

The bid documents you prepare are your primary way of communicating with contractors. These written materials describe the nature of the project so that all bidders have the same understanding and can offer fair and competitive prices. To help local officials with preparing these documents, the T.I.C. has developed some guidelines and sample bid documents.

Initial decisions A checklist for highway and street owners in sample documents prepared by the T.I.C. reminds you of the critical decisions you must make. Talking with contractors and other knowledgeable experts can help you make these initial project decisions. You decide on the type and quality of the work. It’s usually a good idea to let the contractor decide how to do the work.

Timing The warm summer months are the best time to complete asphalt paving and sealcoating. The owner needs to ask for bids early enough in the spring or winter to let the contractor finish the project in favorable weather.

Qualification You must assure that the contractor can do quality work on your project. It may be easiest just to require that all bidders be pre-qualified by the Wisconsin Department of Transportation. If this excludes qualified local contractors, however, you must check their qualifications yourself. Check their references, determine that they have the equipment needed for the job, and find out how much experience the work force has.

Preparation work On paving and sealcoat projects there can be confusion over who is responsible for pavement repairs and exactly what will be done before the overlaying or

Resources
Materials listed are available from the Wisconsin T.I.C. unless otherwise noted. To get your copy call 800/442-4615, use the form below, or e-mail: ranumjeng@wisc.edu. Videotapes & CD-I's are loaned free through Wisconsin County Extension Offices.

ROADWARE 6.0 There is a new, more flexible and user friendly release of ROADWARE 6.0. T.I.C.’s payment management software which implements PASER, the pavement rating system. With it, you can track the condition, cost, and maintenance costs of your pavements, shoulders, drainage systems, curbs, and sidewalks. You can project your five years ahead and analyze how alternative maintenance treatment, projects, and budgets will change the overall condition of your street system and whether maintenance is lower. Data in earlier versions is easily transferred to 6.0. If you do not use a pavement management system now, please call the T.I.C. at 800/442-4615.

Jackson County Highway Department 1993 PASER Program Resource kit that includes sample documents from how one county used the PASER method as well as documented reports to develop and present a proposed five-year pavement maintenance and rehabilitation program to the County Board.

Bidding Small Road Improvement Projects, audio tapes of ETN broadcasts 11/5/96 and 2/3/96. Discuss legal background for bidding small projects and how to use sample documents. Copies are $8.00 each. Make check payable to UW-Extension. Request by name from ETN Tape Orders, ICS-UWEX, 975 Observatory Dr., Madison, WI 53706.

Bidding Documents for Small Road Projects Sample documents, prepared by the T.I.C., appropriate for simple paving or sealcoat projects. Also includes owner checklist. Documents were distributed at the 11/86 ETN workshops.

Roadway Delineation Practices Handbook, FHWA-SA-93-001, August 1994, 250 pp. Everything you ever wanted to know about traffic paint, thermoplastic, tapes, pavement markers, and post-mounted delineators. Also discusses retroreflection, quality assurance, driver visibility needs, cost analysis, and management of the system. This handbook will help highway designers and maintenance personnel select the right delineation system.

Video and CD I-library
CD-I: New training tool The CD-I (Compact Disc Interactive) Player (#17782) is an interactive training tool using a television set, a player and a training disc. Borrow a player and one of three discs described below from T.I.C.’s library and organize individual training for your employees. You supply a TV and a quiet place for the training.

Snow and Ice Control (CD-I #17783) Presents the basics of material, equipment, and methods in a question and answer format that allows users to test their knowledge. Designed for the driver, this training takes 30 to 60 minutes depending on the user’s experience and knowledge.

Work Zone Traffic Control (CD-I #17784) Presents basics of a traffic control plan, proper devices, placement, and maintenance in three situations: two lane roadway on a curve, four lane divided, and an expressway ramp closure. Intended for design and maintenance personnel, taking 60 to 90 minutes depending on the user’s experience and knowledge.

Meetings, Bloody Meetings (CD-I #17965) Uses humor to present the five steps necessary in conducting productive meetings. Stars John Cleese of Monty Python’s Flying Circus fame. Designed for supervisors, managers, and project engineers who organize and conduct meetings.

Snow and Ice Control: A Review of Innovative Practices, Vol. I & II. (#17967), Minnesota Center for Transportation Studies, A national satellite workshop broadcast Dec. 6, 1995, highlights a wide variety of snow and ice control practices in Minnesota. Includes: planning, policy, liability, cooperative services, public relations, preventive maintenance, and new equipment. Useful for supervisors and elected officials.

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 or e-mail to:

Crossroads
Wisconsin Transportation Information Center
University of Wisconsin-Madison
Madison, WI 53706

Or call, fax, or e-mail us:
phone 800/442-4615
fax 608/263-3160
e-mail Ranumjeng@wisc.edu

(We'll contact you to get more details or answer your question.)
Choosing salt hardy plants and grasses

Dead grass. Stunted, lopsided trees and shrubs. Browned leaves, and undersized leaves, fruit or flowers. All of these may be symptoms of salt damage in roadside vegetation and the subject of citizen concern. Since road salt is the most effective and economical way to make winter roads passable, it is a good idea to find a compromise between salting and roadside vegetation. Here are some suggestions:

- Be sure you are salting at the minimum effective rates. Calibrate spreaders. Use air and pavement temperatures to time salting operations.
- Reduce or eliminate salt application where possible and substitute abrasives.
- Plant grass, shrubs and trees with high salt tolerance. For example, white ash, honey locust, and Chinese juniper have high salt tolerance. Red and white pine, American and littleleaf lindens, and euonymus bushes have low tolerance. Others are listed in a new UW-Extension publication Salt injury to landscape plants.
- Plant on berms to keep salty runoff water from moving into root zones.
- Put barriers like burlap around plants to cut salt spray exposure.
- Don’t pile salt-laden snow over the root-zones of sensitive plants.
- Redirect drainage away from landscape plants.

Damage to landscape plants and grasses can have other causes than salt, according to UW-Extension Specialist K.A. Delahaut, so if you suspect salt damage, take soil samples early in spring before rain washes salts out of the soil. Delahaut co-authored the new Extension publication:

Many seed companies offer salt tolerant grass mixes, but they have never been tested says UW-Extension Turf Management Specialist Amy Sausen. She planted 18 test plots on the UW Madison campus last fall. She will be evaluating their growth and hardiness, along with measuring temperature changes and other factors, over the next three years.

For a list of salt tolerant grass species, contact the T.I.C. by phone, fax or e-mail.

Salt injury to landscape plants, UW-Extension publication A2970, is available from county Extension offices or Cooperative Extension Publications, Rm. 170, 630 W. Mifflin St., Madison, 53703, 608/262-3346.

Making roadsides safer

Running off the road killed 263 people and injured another 14,545 in 1995 in Wisconsin, according to WisDOT crash data. Trees, embankments, guardrails, bridges, utility poles, and mailboxes were the most frequently cited obstacles struck in these crashes.

It is easy to overlook potentially dangerous obstacles along roads unless you go out hunting for them. Making the hunt easier and more systematic is the goal of a new T.I.C. booklet:

The booklet has more than 100 photographs showing obstacles, unsafe conditions, and good practices. They are grouped into categories including: roadsides, intersections, railroad crossings, geometrics, signing, pavement markings, road maintenance, and special conditions.

“The goal is to help locals systematically review safety conditions on their roads,” says T.I.C. Director Don Walker. “Then they can set priorities and decide which conditions need action right away and which to put into plans for future improvements.”

The T.I.C. is also offering workshops on safety evaluation in January at which the new SAFER booklet will be distributed and discussed. SAFER workshops will be held January 8-10, and 21-24 at seven locations around the state. See Calendar for details.

The slope of a roadway embankment can become a hazard if it is steep. This steep slope at will carry an errant vehicle down to hazardous trees.

Large tree close to the travel lane is a hazard. Tree damage indicates previous vehicle accidents increasing the desirability of removing the tree.

SAFER — Safety Evaluation for Roadsides.