Check Roadway Safety When Vehicles have accidents

Vehicle accidents on roads indicate a need to review your roadway safety. While bad accidents might cause citizen pressure for immediate action, it's important to take the time to do a careful accident analysis. It's also a good idea to keep records on all accidents.

Where the accident is controversial it's important to have a formal accident study. For simple accidents, it's a good idea to draw a diagram, make notes and mark the

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--- ALSO IN THIS ISSUE ---

- Taking The Mess Out of Snow Chains
- To See or Not to See (correcting sight problems at an intersection)
- Tips to Prevent Hard Disk Problems
- Road Agent Association Photo Easy
- Chutes Save Salt, Control Spreading
- A Serious Problem: Mailbox Supports
- Did You Know?
“To See or Not to See” Should Not Be the Question

There are situations where sight distances from one street to an intersecting street are poor because the street is depressed and the adjacent corner has retaining walls, buildings close to the property line, or heavy vegetation and such obstructions are either impossible or very costly to remove. A solution to this condition by using mirrors has been tested at two intersections in Commerce City, Colorado. One of these is shown in the sketch. The location is a residential area. The intersection is a four-way stop, but south-bound traffic (upward on the sketch) had poor visibility to traffic coming from the right on 61st Avenue because of a raised front yard and a 4-foot retaining wall. The remedy was placing a convex mirror on the far right corner which gives a more complete view of 61st Avenue to the right and thus permits a more cautious entry into the intersection. The metal mirrors cost only about $150. The mirrors have been in place at two intersections for 15 months and no accidents have occurred during that period.

Taking the Mess Out of Snow Chains

An ingenious, compressed-air system for tire chains is now used in West Germany. The system consists of a cylinder attached to a movable arm that throws six rubber-coated chain lengths under truck tires on snowy or slushy roads. Originally invented in Sweden, the device is triggered from the driver’s cab by activating a dashboard lever or button. It avoids the troublesome, time-consuming and sometimes dangerous practice of mounting and removing snow chains manually.

When the new system is activated, two lengths of chain are thrown under each tire at a uniform speed, depending on the movement of the tire. The system optimizes vehicle performance under the most trying of driving conditions. The principle advantage of the “winter truck system,” which dispenses with snow chains altogether, is that it can be engaged and disengaged from the driver’s cab, as needed, by the touch of a button. The drawing shows how the system operates.


Roadside Safety

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date of the accident. It is also recommended a pin map is kept showing accident locations. Notes and diagrams can even be kept on the map with the pins. When accidents begin occur at the same location the map lets you know something is wrong.

Local officials should review the accident pin map as they are planning budgets. The map will suggest locations which need to be evaluated for possible safety improvements.

In general local officials should review the safety of their roadways by checking for the following:

• Roadside obstacles Are mailboxes and sign supports on breakaway posts? Are box culverts, bridge abutments, utility poles and other hazards properly protected by guardrail?
• Right of way clear zones Can obstacles like trees, equipment, driveway decorations and other items be removed from the right of way?
• Vision corners Can the driver approaching an intersection see far enough in all directions?
• Foliage Are stop signs, advance warning signs and other signs obscured by tree branches, shrubs or grasses?
• Proper signs Are traffic control, advisory and advance warning signs properly placed, visible, and reflective at night?

For more information on local highway safety programs the following books are available:

• Local Highway Safety Improvement Program
• Local Highway Safety Studies

To place your order, please send in the mailer attached to this newsletter or call 1-800-423-0060.
Tips to Prevent Hard Disk Problems

Recently, I ran across an article from the University of Kansas Transportation Center, KUTC newsletter Vol. 10, No. 3, about hard disks in microcomputers. Essentially, there are two type of disks: floppy disks and hard disks. The main advantage of the hard disk is that it can hold a tremendous amount of information. Where a common floppy can hold thousands of bytes of information (one letter character on this page can be thought of as using up one byte of memory), a common hard disk can hold millions of bytes. The problem comes when something goes wrong with your hard disk -- you can loose millions of bytes of information in fleeting second.

Having personally experienced that sickening feeling which enters into your stomach after a major hard disk failure I found the article below to be worthwhile sharing. In particular, I would like to emphasize the section about parking the disk head before power-off. Now that I’m $300.00 smarter, I will always take the time to park my disk. All I want is a reliable computer, not an atom smasher. When the head and disk collide its a terrible lonely mess.

Do as I say... Not as I do!

Installing a 10- or 20-megabyte, or even larger, fixed disk in your microcomputer system means a number of things, especially in comparison to a diskette-based system. The visible advantages are obvious: a variety of software can be installed once and then be available at any time without the use of diskettes; storage space is dramatically increased; diskette handling can be reduced to a minimum; disk access is much faster than with diskettes; and all data and software on the disk are only a few keystrokes away. These benefits tend to create a “set it and forget it” attitude that can be troublesome.

Along with the hard disk's visible advantages come some unseen characteristics that have the potential to wreak havoc with your disk, files, and patience. Some of these characteristics are: “next available space” writing of data; likelihood of duplicate file names in different subdirectories; possibility of the read/write head crashing under certain circumstances; and vast space available for old files and lost data to accumulate. Careful attention to management and maintenance of the hard disk can help prevent problems from occurring and keep the system's performance from dragging. Let's look at some specific techniques.

Keep the information on the disk organized.

Periodically go through the entire directory and delete out-of-date and unnecessary files and subdirectories. Old data that you want to retain should be copied to diskettes if quick access to it is not essential. If there is any uncertainty as to the contents of a file, determine its contents before deleting it. A variety of utility programs are available to help speed up the process of examining, deleting or copying large numbers of files by selecting files from a list instead of typing each filename.

It’s a good idea to run the DOS check-disk utility, CHKDSK, every so often to verify the integrity of data stored on the disk and to retrieve any lost data that may exist. Lost data clusters can appear for various reasons and will tie disk space until removed. CHKDSK reports space allocation, memory size and whether allocation errors are found. It only corrects errors when the fix switch is specified in the command line, CHKDSK/F. Lost clusters can then be written to files, which can be examined and recovered or erased.

Periodically reorganize the disk.

Because data is written to the disk in the first available location, a file's contents tend to get scattered in different locations as the file is repeatedly edited. This isn't a problem except that as the read/write head has to move around the disk more to access the file, disk access is slowed. To maintain the best performance, files should be rewritten to contiguous locations every so often. The DOS command CHKDSK path*. will reveal which files have become fragmented and into how many locations. A disk-optimization utility program will reorganize the files on hard disk, rewriting all files into contiguous blocks.

Park disk head before power-off.

The read/write heads on a hard disk in effect “fly” at high speed a minute distance above the surface of the disk platters. When power is shut off, the heads touch down on the surface of the disk, each time wearing away the surface of the disk a tiny bit. Eventually, accumulated wear could cause data loss. More importantly, if the machine, with heads resting on the data area of the disk, is moved, bumped, or jostled, the surface of the disk may become pitted or damaged. Later, with the disk spinning, the turbulence created above the damaged spot may cause the head and disk to collide, destroying both.

The solution to both problems is to ensure that the heads are parked in a safe zone before power is shut off. This is recommended for every time the computer is turned off, but it is imperative, if the computer is going to be moved. Some disks, using voice-coil technology to position the heads, automatically perform this function. All others, including the less expensive stepper-motor types, require a program that sends the heads to the parking zone. Many computer manufacturers include such a program with their operating system or diagnostic software. Although other parking programs are available, using the one written for your particular machine is recommended since disk-control technology may vary. If your hard disk-equipped computer didn’t come with a disk parking utility, ask the dealer or manufacturer why not.
Arriving At The Road Agent Association's 2nd Annual Meeting: A Mountain of Demonstrations

RIGHT: After following the road agent signs pointing to Waterville Estates, the meeting participants had an opportunity to look over numerous equipment and informational displays.

BELOW LEFT: Soon after their arrival, road agents boarded a shuttle bus that carried them around to all of the different demonstrations held on the small mountain. The bus continued throughout the day to move from sight to sight picking up and dropping off the participants.

BELOW RIGHT: Anne Petroski demonstrates the proper way to set up a cutting torch. Road agents had the opportunity to learn some tricks of the trade and even try out their own skills in cutting and welding. A vast array of welding equipment and supplies were demonstrated.
The Meeting Agenda Included A Complete Demonstration On Grading Gravel Roads

One of the more popular demonstrations at the Road Agent Association annual meeting was run by Walter Somero, road agent for the town of Sharon, New Hampshire. Walter seems to be happiest in the seat of a motor grader working on a gravel road. I don't think I would recognize him again without one. It was obvious by his operating skills that any grader beneath Walter was only an extension of himself.

Not only did Walter take the time to discuss what he was doing with the meeting participants he ran his grader back and forth between the gravel roads and asphalt recycling demonstrations. Walter Somero is living proof that a good grader operator is vital to any town highway operation.

It was nothing but a pleasureable experience to meet Walter and I hope the Road Agent Association can talk him into doing more of these types of things. He has an excellent sense of humor and an uncanny ability to share his knowledge of motor graders with those who are interested.
Crack Sealing, Pothole Patching, Asphalt Recycling, and Soil Stabilization With Calcium Chloride Were All Demonstrated

Garth Witty, road agent for Mont Vernon, participated in the demonstrations by sharing with the other towns how to effectively and economically seal cracks in the road prior to using a thin sealcoat such as a sand seal or chip seal.

Road agents also had a good look at some new cold patching material just recently being marketed in the North East. One of the largest attractions, however, was the recycling and later the application of liquid Calcium Chloride to be used as a base stabilizer.

The Road Agent Association’s second annual meeting would never have been possible without the cooperation and donation of time, equipment, and materials from the private construction industries in our area. The meeting was so successful that I look forward to the 3rd annual meeting when, again, private and public concerns meet for the benefit of our New Hampshire road agents.
A Serious Problem: Mailbox Supports

Each year, 70 to 100 people are killed in accidents involving rural mailboxes. Many accident victims who are not killed are often blinded and disfigured for life because mailboxes and their supports penetrate the windshield and hit the victim in the face.

Mailbox owners are limited only by their imagination. Steel tractor wheels, water pumps, milk cans filled with concrete, chains and massive I-beams are just a few devices used to support mailboxes. Although such supports may be artistic, most are serious roadside hazards to motorists.

In a publication entitled The Law and Roadside Hazards sponsored by the Insurance Institute for Highway Safety, it is stated that “Private individuals and corporations, as well as governmental entities, may be liable for their roles in creating or maintaining highway hazards.”

The use of massive rigid mailbox supports such as bricks around the mailbox, heavy metal posts, concrete posts, and items of farm equipment, such as milk cans filled with concrete, must not be used.

The following support and location standards for mailboxes and newspaper delivery boxes are from the AASHTO publication entitled A Guide for Erecting Mailboxes on Highways (5-24-84):

Types of Supports
- WOOD POSTS: 42" diameter (maximum) if round; 4 x 4 (maximum) if rectangular.
- METAL PIPES: 2" inside diameter (maximum) standard steel, or aluminum.

Use 1 support for 1 box or 2 supports for group of boxes.

Supports should:
1. Yield or collapse if struck.
2. Bend or fall away from vehicle.
3. Not create severe deceleration.
4. Not be fitted with an anchor plate (metal post).
5. Not be embedded over 24" into the ground.

Location of Mailboxes or Newspaper Delivery Boxes
1. Should be on right side of road in direction of delivery travel.
2. Servicing vehicle should be removed from roadway.
3. Mailbox face should be no closer than edge of shoulder (8' from roadway).
4. Mailbox should not block sight distance.
5. Mailbox should be behind existing guardrail if possible.
6. Mailbox should be mounted 3 1/2 to 4' above mail stop surface.

For more information on erecting mailboxes a single copy of the AASHTO publication, A Guide for Erecting Mailboxes, may be purchased (prepaid) for $4.00 plus $1.25 for postage and handling by writing to:

AASHTO Publications
Suite 225
444 N. Capital Street N.W.
Washington, DC 20001

The above article was taken from the Nebraska T^2 Vol. 2 No. 4.

Chutes Save Salt, Control Spreading

The Outagamie County highway shop in Wisconsin has replaced salt spinners with plastic chutes on all their trucks. The chutes, made of 8" PVC pipe, direct the salt to within six inches of the road, according to Shop Superintendent Bill Fischer. “We hardly use the spinners any more,” says Fischer, “except where there are curbs and gutters. On most roads, salt from spinners bounces off and ends up in the ditch.” The chute connects at the outer hole of the spreader and directs salt in a windrow along the center line of the road. Once the salt starts thawing there, the road slope and traffic action spread the salt across the traffic lanes. “It seems to work real well,” says Fischer.

The county garage fabricates the salt chutes, connecting the PVC pipe to the spreader with a hinge-like quick coupler. The spreading end is supported by a chain on a hook welded to the spreader. When the box is raised the driver can shorten the chain to raise the chute’s end. The chute can be pivoted to the center of the truck box by removing the pin and reversing the coupler.

The preceding article was reprinted from Crossroads, University of Wisconsin-Madison, Fall 1988.
Did You Know?

Two good ideas from New Hampshire road agents

At the New Hampshire Road Agent Association, given for an idea and some ideas worth sharing were collected. The lucky winner was Tony Bergeron, road agent from Sunapee, with his idea for treating asphalt sealed roads during the winter with SUPER SAND.

"For towns that can't afford, or do not like road salt, mix 20% to 25% by volume of salt to sand. This mixture overcomes excessive distribution rate of non-variable controlled hoppers and opens road surfaces like pure salt treatment without the cost or public outcry. In addition, super sand provides the needed sand treatment to control for slipperiness and has the added feature of reducing spring clean up problems later on."

Road Business is a local roads Technical Newsletter. It is written for New Hampshire's town and city employees who are responsible for planning and managing our low volume roads.

**Easy and Convenient Asphalt Tonnage Estimate**

Dave Wadleigh, road agent for Tilton, gave us the following estimates for different thicknesses of asphalt overlays:

<table>
<thead>
<tr>
<th>Overlay Thickness</th>
<th>Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2&quot;</td>
<td>L x W x .003</td>
</tr>
<tr>
<td>1&quot;</td>
<td>L x W x .006</td>
</tr>
<tr>
<td>1 1/2&quot;</td>
<td>L x W x .009</td>
</tr>
<tr>
<td>2&quot;</td>
<td>L x W x .013</td>
</tr>
<tr>
<td>2 1/2&quot;</td>
<td>L x W x .016</td>
</tr>
<tr>
<td>3&quot;</td>
<td>L x W x .019</td>
</tr>
</tbody>
</table>

These numbers were derived by using the standard formula:

\[
\frac{L x W x 150}{2,000} = L x W x 0.075
\]

Where: \(T\) = thickness in 100ths/ft

**Thank you Tony and Dave for your good suggestions. If others of you have some ideas to share with road agents, please use the attached mailer to send them in.**

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