

## Reducing vehicle-utility pole crashes affordably

INCREASING UTILITY POLES' visibility may help reduce vehicle-utility pole crashes. By placing retroreflective tape around the poles, Iowa DOT engineers are exploring a new, low-cost method to increase highway safety.

Ideally, utility poles should be installed outside a clear zone (in urban areas, at least 10 feet from the edge of the road) to reduce the likelihood they will be struck by errant vehicles. However, moving poles already installed within the clear zone is generally cost-prohibitive. Replacing them with fewer, larger poles can be equally costly.

Tom Welch, Iowa DOT safety engineer, is testing the effectiveness of reducing vehicle-utility pole crashes by making poles more visible. In July 2002, inexpensive retroreflective tape was placed on several poles in Muscatine.

Little research has been done on the effectiveness of this technique, but Welch predicts the tape will improve safety by increasing drivers' awareness of poles just as delineating posts and other markings guide motorists.

Welch suggests nailing or screwing self-adhesive tape to the poles, because tape may not adhere effectively to rough or treated wood. Before nailing or screwing anything to utility poles, get permission from the utility company.

### For more information

Contact Tom Welch, 515-239-1267, [tom.welch@dot.state.ia.us](mailto:tom.welch@dot.state.ia.us). •

## Cutting galvanized surfaces safely

WHEN CUTTING galvanized steel such as posts and bolts, protect yourself from exposure to dangerous fumes that can cause "metal fume fever."

Steel is galvanized by immersion into molten (850 degrees Fahrenheit) zinc. At that temperature, the zinc metallurgically bonds with the steel, forming a coating that slows steel's natural rusting process.

However, when heated, e.g., when cut with a torch, this coating gives off dangerous gases that can make you sick.

Typical symptoms of "metal fume fever" include a metallic taste in the mouth; dry, irritated throat; chills; and fever. Symptoms generally last 12 to 48 hours.

To protect yourself from exposure to sickening fumes,

- use an abrasive saw instead of a torch,
- limit the duration of the work,
- work in a well ventilated area (outside is best, or inside with a fan),
- wear personal protective equipment for your ears, face, eyes, and hands, and
- wear a welder's leather jacket or apron.

If you cut galvanized steel often and/or for long periods of time, use a respirator. To use a respirator in some states, you may be required to take a fitness test, a physical examination, and/or a written program. Check with your supervisor.

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## Iowa DOT receives 2002 Perpetual Pavement Award

EVERY YEAR the Asphalt Pavement Alliance (APA) recognizes heavily traveled flexible pavements whose original hot mix asphalt structure is still going strong after 35 years or more. In 2002, the Iowa DOT received APA's Perpetual Pavement Award for two sections of I-80, one in Cedar County and one in Iowa and Johnson Counties.

The Cedar County section consists of 16 inches of asphalt-treated hot mix base placed directly on a fine-grained subgrade, and four-and-a-half inches of hot mix asphalt surface course. Since its construction in 1962, the pavement has undergone only two surface restoration overlays (in 1976 and 1990).

In the beginning, the prize-winning section in Iowa and Johnson Counties underwent many design changes due to unusually wet soil conditions. In fact, the final two-inch surface course wasn't placed until 1968, two years after initial construction began. Since then, the pavement has been resurfaced only once.

Today, different traffic densities and volumes and different weather conditions require more specialized pavements than the general designs used in the 1960s. The Iowa DOT resurfaces most new asphalt pavements every 10 to 15 years.

### For more information

For more information about Iowa's asphalt pavements recognized by APA, contact Michael Heitzman, Iowa DOT bitumen engineer, 515-239-1003. •