Sign Maintenance A Major Problem In U.S.

Traffic signs are the major form of informing and regulating the motoring public

United States motorists spend an average of two years of their lives driving on public roads. That amounts to over 17,500 hours in the car, covering approximately 800,000 miles of road. When you multiply this by the 157 million motorists in the U.S., a truly significant number of man hours are spent on public land. Land that you are responsible to maintain and keep safe.

Understandably, many hours of work are spent each year by road and street agencies repairing the road system. But what about the road signs. Traffic signs are the major form of informing and regulating the motoring public. FHWA estimates that there are over 58 million traffic signs, worth $6 billion, on the nation's roads.

With this many traffic signs, the periodic review and maintenance of these safety devices is a monumental task. Unfortunately, it is often a task that gets put on the "back burner" due to budget constraints and public pressure to fix the streets. In 1988, the Pennsylvania DOT inventoried over 37,000 signs on 1,600 miles of road, and found that 60% had problems and needed some type of maintenance.

The problem of managing the maintenance of signs was studied in a recent report by the National Cooperative Highway Research Program (NCHRP). This synthesis study is an excellent tutorial in sign inventory, maintenance and management. The report covers principles of retroreflectivity, organization of a sign maintenance program, field inventory procedures, maintenance personnel activities, facilities, materials, costs, and funding.

Copies of NCHRP report 157 "Maintenance Management of Street and Highway Signs" can be obtained at a cost of $12 from the Transportation Research Board, 2101 Constitution Avenue, NW, Washington, DC 20418.

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Sign Maintenance Report Conclusions

The conclusions of the NCHRP report discussed in the accompanying article are significant for all agencies responsible for signing roads.

- Improvements in traffic signing have the highest benefit/cost ration of any highway safety improvement.
- A large portion of agencies' signing systems are in need of some form of maintenance.
- 29% of tort liability lawsuits against highway departments are related to traffic signing.
- The implementation of a risk management program is recommended by transportation and law experts to minimize tort liability losses
- Starting a sign inventory is one of the most beneficial actions an agency can take to reduce liability exposure.
- Timely detection of maintenance needs requires the reporting of such needs from a number of different sources, both from within and outside the agency.
- Systematic nighttime inspection is an important part of a maintenance management program.
- Sign substrate reclamation results in significant savings in material costs.
- By projecting materials needs so that the purchase of signs and materials can be made on a yearly basis or by combining purchases with other agencies, significant cost savings can be obtained.
- Additional cost-saving strategies include sign vandalism programs, better scheduling of field workers, better control of overtime and better selection of sign materials.

If your agency doesn't have a sign maintenance management program, you could be endangering the motoring public and your ability to protect the agency from liability suits.

For more information please call the New Hampshire Technology Transfer center at 800-423-0060. ■

General Principles for Pavement Markings

By Tom Mulinazzi, Professor of Civil Engineering, University of Kansas

I firmly believe that most motorists in the United States do not know what the yellow and white lines mean on the pavements they drive on. Only about 30 percent of my students over the past 17 years have known the differences in meaning between solid lines, broken lines, white lines and yellow lines.

All pavement markings should conform to the following general principles:

- Yellow lines separate traffic flowing in opposite directions or mark the left edge of the pavement on one-way roadways.
- White lines separate traffic flowing in the same direction or mark the right edge of the pavement.
- Broken lines may be crossed; solid lines should not be crossed.
- Line width indicates the degree of emphasis. Normal center lines and edge lines are four inches wide. a wide line is at least twice the width of a normal line.
- Double lines, two normal-width lines separated by a discernible space, indicate maximum restrictions.
- A broken line is formed by segments and gaps, usually in the ration of one to three. A recommended standard on rural roads is ten-foot segments followed by 30-foot gaps.

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