

FY 2009 RESEARCH PROBLEM STATEMENT

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TITLE

CM-09-08 Changeable Snow Zone Signs

PROBLEM (Description of need)

Changing the condition on snow zone sign from A to B to C and back, poses a safety problem for travelers and maintenance workers. Currently maintenance workers have to climb up a sign post using a variety of different methods from large lag bolts in the sign post to a variety of different ladders during extreme snow, ice, and wind storm conditions. Maintenance workers have to stop their plows to change the signs and many times this is in areas with no or little shoulder. This exposes the plows and maintenance workers to additional hazards as well as travelers on the highway. Currently none of the ladders attached to the signs have been crashed tested (examples of sign and ladders in attached pictures). It is unknown how the sign and ladders would react under crash conditions. This exposes travelers to an unknown risk if they go off the highway and hit the sign and ladder. However removing the ladders expose maintenance workers to a high risk of injuries in turning the signs. Currently we have no standard for snow zone signs other then the sign standard it self.

PROPOSED RESEARCH, DEVELOPMENT OR TECHNOLOGY TRANSFER ACTIVITY

Establish a standard for snow zone signs for parking snow plows ensuring snow plow and driver have a safe location to change the sign. Establish a standard for snow zone sign that conditions can easily be changed by maintenance works for minimum cost and maximum safety. Currently District 11 with Region 4 Traffic is experimenting with two snow zone signs (see attached pictures) that operate by hand crank or a small electrical motor to change condition. The experimental snow zone sign if successful would be inexpensive to manufacture, however a break away post design is still needed on one of the designs. Also testing of the sign is needed given the signs have addition weight, bars and levelers that could be a hazard if the sign was hit by a vehicle. If the experiential signs do not work a standard ladder design that works with snow zone signs would be need or some other safe option. The snow zone sign should be relatively inexpensive so that signs can be standardized across the state in a reasonably time.

The research should also determine if other states have proven snow zone sign technology that is inexpensive and being used that could be adopted by ODOT.

BENEFITS

Having changeable snow zone sign that can be change from the ground would greatly improve safety for maintenance workers in the field. Also providing a standard pull off for plows improves safety for the traveling public as well maintenance workers. Improvements to snow zone signing would also make maintenance workers more efficient during a winter storm when conditions change quickly.

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