



Back-up Sensor Technology for Snowplows

Project Number 2013-04

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Problem When Stearns County drivers have to back up large trucks, they are challenged by a large blind spot. It can be difficult for drivers to ensure that the path behind the truck is clear, but it is not practical for them to physically walk around and look behind the truck each time they need to back up.



Solution The county installed Precise View back-up systems on three tandem dump trucks in 2013. Stearns County then tested the systems to determine how effectively they alerted drivers to any obstacles while backing up the trucks in many different weather conditions and scenarios encountered during the year. The system works by alerting the driver with a beeping sound as a truck backs closer to an object. The closer the truck gets to the object, the louder and faster the receiver beeps.

Procedure County staff mounted the units in the center of each truck's tailgate, which included constructing an angled bracket to point the units toward the ground. They then bolted a section of angle iron to the end gate to run the cable between the bracket and side post of the end gate. A hole was drilled in the side post of the end gate and the cable was routed through the side post, emerging through another hole drilled near the hinge. A loop of cable, including a cable splice to facilitate removal of the end gate when necessary, was run over the hinge for the end gate. The cable was then fed back down to a hole in the side post of the box and run to the cab of the truck where the receiver was mounted.

Results Driver comments were mostly positive. While there were some false alarms, mainly when the device had a fine coating of ice on it, the units seemed to work through any amount of snow and even through the film of silt left from melting snow and sand on the end gate.

Approximate Cost \$4,150

OPERA Funding \$3,800

Implementation Stearns County plans to add more units in the future. When it does so, the county plans to check with the unit manufacturer to see if each unit can be purchased with a 35-foot cable, making it possible to have only one splice at the end gate.

Status Complete

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