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Title GPS Maintenance Tracking Pilot Project			Type of Report Final
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Supplementary Notes			
Abstract A GPS vehicle tracking system was installed in ten department winter maintenance vehicles (nine snowplows and one pickup) and tested in the latter half of the 1995/96 winter. The underlying goal was to determine if such a system can be used to track winter maintenance efforts by monitoring the trucks' location and the recorded work activities – plowing and/or spreading. Potential benefits include increasing work productivity through efficient resource allocation, and the creation of an automated billing system. In the short two months of testing the ten units were subjected to, the system successfully demonstrated its accuracy in tracking the vehicles. The minor detractions were that the spreader and plow sensors would need further refinements and that certain snowplows with older hydraulic equipment could not be outfitted. Easy-to-use software for processing and map-matching GPS data will be required for field personnel. An analysis of the projected costs and potential benefits revealed a substantial return to the department such that the initial set-up cost could be recovered in just over two years of operation. Subsequent to the first test, a small demonstration with another vendor's unit linked to the spreader control unit was performed successfully. It is recommended to co-ordinate a more substantial pilot using the new hardware and in partnership with interested maintenance contractors.			
Key Words Global Positioning System (GPS); vehicle tracking; snowplow; winter maintenance		Distribution Unlimited	Project Co-ordinator Allan Lo., P. Eng., M. Eng.

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