



INFORMATION REPORT

TO:	Chair and Members General Issues Committee
COMMITTEE DATE:	February 7, 2018
SUBJECT/REPORT NO:	"Where's My Plow" Tracking Program Update (PW18016) (City Wide)
WARD(S) AFFECTED:	City Wide
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SIGNATURE:	

Council Direction:

To report on the status of a 'plow tracking program' for the City of Hamilton.

Information:

This Information Report provides an overview on the proposed "Where's my Plow" tracking program for winter control operations within the City of Hamilton.

At the March 18, 2013 Public Works Committee staff was requested to provide information on the feasibility of creating a "Where's My Plow" system to allow citizens to monitor the City's public and private snow removal services. In December of 2013, PW13096 recommendations were approved requiring staff continue the monitoring of winter storm activities and develop a business case for a future tracking system.

The following provides an overview of activities to date on the tracking system, a status report as well as an anticipated implementation date for a winter control web tracking system for the City of Hamilton.

At the time of the request for the consideration of a tracking system, the Roads & Maintenance section had a Global Positioning System/Automatic Vehicle Locator (GPS/AVL) on several of their vehicles. System support by the vendor was problematic. As a corporate wide GPS/AVL system was being investigated and the existing Roads & Maintenance system needed upgrading and expansion, staff pursued the new corporate GPS/AVL.

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OUR Culture: Collective Ownership, Steadfast Integrity, Courageous Change, Sensational Service, Engaged Empowered Employees.

In 2015 the request for proposal for a corporate vendor was issued seeking a GPS/AVL solution for the City as a whole. SkyHawk Blue Ocean was not awarded the contract until 2016. Implementation was delayed due to procurement issues. In the interim, two Roads and Maintenance test vehicles were installed August 2016 followed by a larger pilot program in November 2016. This pilot included installation of the new GPS/AVL on twenty-one plows. The pilot and system proved successful and Roads & Maintenance now have the new GPS/AVL in 110 snow plows and 112 vehicles (including crew-cabs, pickups and sweepers).

The Corporate GPS/AVL vendor has the capability of exporting the GPS/AVL data to a web based Winter Control tracking tool for viewing by the general public. This tracking tool will show plow location as well as a history of where that plow has been.

Staff have been pursuing the implementation of this tracking tool and several support groups have been consulted.

In discussion with Corporate Communications, staff were cautioned against releasing a partial web-based tracking system. While the data available would primarily include arterial and collector roads, i.e. those plowed by City in-house crews, it would not yet provide all information on residential roads. Plowing of residential areas is predominately undertaken by contracted standby equipment (132 units). The contracted standby equipment is not equipped with GPS/AVL. Corporate communications advised more fulsome coverage was recommended before ‘going live’. There were concerns that residents would not get a clear understanding of winter control efforts within their residential area. Roads & Maintenance staff did not deploy the partial public facing system, continuing pursuit of a solution for the contracted equipment. It is staffs understanding that this lack of residential data is one of the reasons that the City of Ottawa recently removed their web tracking tool. Other municipalities do have web-based systems which they deploy to all or some of their equipment, all or some of their contracted equipment and all or some of their road network.

In looking at how to deploy this technology on standby equipment, staff have been working with and testing an application (App) under development by the City’s GPS/AVL vendor. This App will allow the use of smart phone technology providing a more cost effective and efficient deployment of tracking systems on contracted equipment. The vendor recently released their App, and staff have been able to download the program. There have been some challenges with log-ins and the vendor is actively working on addressing those concerns. The existing standby contracts do not have language regarding GPS/AVL monitoring and tracking. While staff had considered an amendment to the existing contracts, due to log in problems with the App the tracking requirements will now be included in the new contracts. This will allow time for refinements of the App. The standby winter equipment contract expires this spring.

The new standby winter equipment contract, effective winter 2018/19, will be required to include equipment tracking devices and monitoring. Contractors will be required to deploy the smart phone App or alternately implement the ‘black boxes’ currently installed in City vehicles, a more expensive and time-consuming approach.

The area maintenance contractor, IMOS, who undertakes winter control on the Red Hill Valley Parkway, the Lincoln Alexander Expressway and other arterial/collectors does have a GPS/AVL system as per their contract but it will not be capable of providing data to the web tracking system. Their GPS/AVL is different from the City’s. The new area maintenance contract to be awarded in 2020 will include a requirement to install the City’s system so that data can be uploaded to the “Where’s my Plow” web tracking. The lack of this tracking initially is not considered as problematic as all their routes are high priority roads and cleared first.

Roads and Maintenance Staff are working with the corporate GPS/AVL project team and procurement to obtain the public facing site. Information Technology and Corporate Communications have also been consulted with and have no concerns with the website. Staff will be testing the web site internally this winter season. There have been some problems with the internal ‘face’ of the system causing concerns for the capabilities required for the public facing site. Location data is recorded on average every 5 seconds and increases if units are turning or changing in direction which increases the data size which may cause slow reporting capabilities and in some instances caused the system to crash due to volume of historical data. Staff will be testing two (2), four (4), and twelve (12) hour histories for where the vehicles have been to determine what best supports a web tool. An example of the public facing site can be seen in Appendix “A”, attached to Report PW18016.

In addition to actively pursuing a web tracking solution and appreciating the sensitivity of the delay, staff built and deployed a user-friendly web-based winter road class map for the 2017/18 winter control season. This system went live in early December. The City of Hamilton Winter Control web page allows residents to identify their class of road and the Council approved level of service for that road. Since implementation there have been an average of 46 views per day and a total of 1,206 views.

In summary, staff will continue their efforts to bring this web tracking solution to fruition. To date approximately \$400K has been expended upgrading the AVL/GPS.

Based on this multitude of considerations and required activities identified, the revised implementation date for “Where’s My Plow” is January 2019.

Appendices and Schedules Attached

Appendix “A” to Report PW18016 – Example of Skyhawk Blue Ocean Web Tracking Tool