

**CITY OF HAMILTON
PERFORMANCE AUDIT REPORT (2013-19)
GPS/AVL SYSTEMS PERFORMANCE REVIEW
FOLLOW UP**

AUDIT SERVICES' RECOMMENDATION	MANAGEMENT ACTION PLAN	FOLLOW UP (AUGUST 2016)
<p>1. That standardized procedures be developed by service areas utilizing the GPS/AVL systems to ensure that all supporting documentation including scheduling and subsequent data entry of work performed be developed and enforced to enable the matching of reported tasks completed to the tracking of the vehicles' travel paths.</p>	<p><u>Planning & Economic Development – Building</u> Difficult/Not Applicable. Inspectors performing inspections usually input the data within 24 hours. Dates/times of inspection notes <u>will not</u> correlate with the location of the vehicle.</p> <p><u>Planning & Economic Development – MLE</u> MLE Officers carry large caseloads and case priorities are adjusted for public safety and investigation purposes. Vehicle travel paths are irregular and based on investigations needs and availability of accused and witnesses.</p> <p><u>Public Works – Roads & Water</u> Agree, where work is assigned. However, for emergency response, it may not be possible to assign tasks due to severity and duration. Event is not readily known so cannot confirm what response will be.</p>	<p><u>Planning & Economic Development – Building & MLE</u> Not Applicable. Management disagreed with the original recommendation so no further follow up work was required.</p> <p><u>Public Works – Roads</u> Not Completed. A technology solution may be available in the future to generate daily task information to compare to GPS travel data. Hansen mobile technology will be piloted which will allow the creation and updating of service requests and work orders in the field without manual documentation. This technology will also allow uploading of daily work assignments for some employee groups. If Hansen mobile technology is not adopted, another technological solution will be sought out by management.</p> <p>Expected Completion: Q4 2017.</p>

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FOLLOW UP – AUGUST 2016**

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		<p><u>Public Works – Water</u> Not Completed. Policies and procedures will be developed after piloting the new GPS system.</p> <p>Expected Completion: Q4 2017.</p>
<p>2. That work/task completion data be entered into the supporting systems on an as completed daily basis to ensure reflection of current status.</p>	<p><u>Planning & Economic Development – Building</u> Workloads prevent same day entry. Information is typically entered the following morning.</p> <p><u>Planning & Economic Development – MLE</u> Workloads priorities and often high volumes prevent same day entry. i.e.: Vital Statistics. In most cases information is entered within 48hrs.</p> <p><u>Public Works – Roads & Water</u> Same day entry is not viable. Ensuring accurate data will be a requirement.</p>	<p><u>Planning & Economic Development – Building & MLE</u> Not Applicable. Management disagreed with the original recommendation so no further follow up work was required.</p> <p><u>Public Works – Roads & Water</u> Not Applicable. Management disagreed with the original recommendation so no further follow up work was required.</p>
<p>3. That data be entered into the appropriate fields of the supporting systems rather than general text fields in a Comments area to enable the extraction of information for improved analysis by management.</p>	<p><u>Planning & Economic Development – MLE</u> Information entered as part of officer notes.</p>	<p><u>Planning & Economic Development – MLE</u> Not Completed. Management will assess which fields will be populated by staff after a new version of AMANDA is released in September 2017.</p> <p>Expected Completion: Q4 2017.</p>

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<p>4. That a process to regularly track the assignment of vehicles to specific individuals be developed. The ability to manage the appropriate movement of staff is predicated on the assurance that the individual that is assumed to be driving a particular vehicle is actually using the identified vehicle.</p>	<p><u>Planning & Economic Development – Building</u> Difficult. We expect and anticipate that inspectors doing joint projects travel together to save fuel – one vehicle will not be moving.</p> <p>Vehicles are scheduled for regular servicing and staff use other vacationing inspector vehicles. This is a regular occurrence.</p> <p><u>Planning & Economic Development – MLE</u> Staff assigned to specific vehicles unless down for maintenance. Also, staff as part of their daily routine, note the vehicle number in the notebook.</p> <p>Exception is the summer student program where students use whatever vehicle is available.</p> <p><u>Public Works – Roads & Water</u> Agree. The assignment of vehicles with personnel will be tracked.</p>	<p><u>Planning & Economic Development – Building</u> Not Applicable. Management disagreed with the original recommendation so no further follow up work was required.</p> <p><u>Planning & Economic Development – MLE</u> Initiated. Individuals will be required to swipe an identification card to start their vehicle as part of the new GPS system. This functionality will be explored during the GPS pilot and a formal process will be developed afterwards.</p> <p>Expected Completion: Q4 2016.</p> <p><u>Public Works – Roads</u> In Progress. The use of vehicles is currently tracked either in a vehicle's Circle Check Book or through work order Daily Activity Timesheets. Roads does not proactively track vehicles permanently assigned to certain employees. The ability to track vehicles by swiping an individual identification card to start the vehicle will be investigated after capital funding is obtained and the new GPS system is launched and operational.</p> <p>Expected Completion: Q4 2017.</p>

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		<p><u>Public Works – Water</u> Not Completed. The assignment of vehicles will be addressed in the policies and procedures to be developed under Recommendation #1.</p> <p>Expected Completion: Q4 2017.</p>
<p>5. That, upon completion of the above recommendations, user training be conducted to ensure that staff are aware of and comply with the new procedures.</p>	<p><u>Planning & Economic Development – Building</u> In house training to be completed following the completion of the procedures.</p> <p><u>Planning & Economic Development – MLE</u> Monthly training and information meeting notes that the above mentioned procedure was explained to staff.</p> <p>This process has already been used successfully in the event of a red-light ticket being issued to an assigned vehicle.</p> <p><u>Public Works – Roads & Water</u> Agreed. Training and evaluation protocols will be developed.</p>	<p><u>Planning & Economic Development – Building</u> Not Applicable. As management disagreed with the above recommendations, user training is no longer required.</p> <p><u>Planning & Economic Development – MLE</u> Not Completed. User training will occur after the new GPS and AMANDA systems are launched.</p> <p>Expected Completion: GPS – Q1 2017. AMANDA – Q4 2017.</p> <p><u>Public Works – Roads</u> Not Completed. User training will occur after the new GPS system and Hansen mobile technology are launched.</p> <p>Expected Completion: Q4 2017.</p>

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		<p><u>Public Works – Water</u> Not Completed. User training will occur after policies and procedures are developed.</p> <p>Expected Completion: Q4 2017.</p>
<p>6. That the Roads Division analyze the idling exception reports provided through Interfleet to identify opportunities to reduce the amount of idling in excess of 5 minutes (especially instances in excess of 30 minutes) to potentially reduce fleet fuel costs and to ensure compliance with the City's Idling Bylaw.</p>	<p><u>Public Works – Roads</u> Upon Completion of the RFP, the process will be reviewed.</p>	<p><u>Public Works – Roads</u> Not Completed. The need and use of idling exception reports will be assessed after capital funding is obtained and the new GPS system is launched and operational for a period of time.</p> <p>Expected Completion: Q4 2018.</p>
<p>7. That the ability to track idling times and locations be incorporated into the new corporate GPS/AVL system. An analysis of results obtained could lead to a decrease in the cost of fuel and enable compliance with the City of Hamilton's Idling By-law.</p>	<p><u>Corporate Services (IT) – AVL Initiation Group</u> Information Technology has included this as a functional requirement in the 2014 Request for Proposal for AVL software. Outlined below are the specific sections of the RFP that include this requirement.</p> <p>RFP Reference: 2.1.1.7 to collect idle time as telematics input 4.1.5.6 idle report generation 4.1.6.1 ability to generate alerts based on idle times</p>	<p><u>Corporate Services (IT) – AVL Initiation Group</u> Completed. The ability to track idling times was captured in the request for proposal. The vendor agreed to this requirement in the signed contract.</p>

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<p>8. That the Geofence capabilities be considered. Such a function would alert a supervisor whenever a vehicle traveled outside its assigned area or the boundaries of the City of Hamilton.</p>	<p><u>Corporate Services (IT) – AVL Initiation Group</u> Information Technology has included this as a functional requirement in the 2014 Request for Proposal for AVL software. Outlined below are the specific sections of the RFP that include this requirement.</p> <p>RFP Reference: 4.1.6.1 system generated alerts from GIS data sets (Geofencing)</p>	<p><u>Corporate Services (IT) – AVL Initiation Group</u> Completed. Geofencing capabilities and alerts were captured in the request for proposal. The vendor agreed to these requirements in the signed contract.</p>
<p>9. That signals be implemented whenever a vehicle has not moved from a location for an extended period of time. This would provide management a tool to assess the appropriateness of the length of stay at a location based on the work that is being assigned or being performed. It may alert a supervisor to a safety issue with the driver that needs to be addressed or may identify situations in which the GPS/AVL unit has ceased to operate and requires repairs.</p>	<p><u>Corporate Services (IT) – AVL Initiation Group</u> Information Technology has included this as a functional requirement in the 2014 Request for Proposal for AVL software. Outlined below are the specific sections of the RFP that include this requirement.</p> <p>RFP Reference: 4.1.5.4 – stop report 4.1.10.1 – define what Work Alone safety security measures/features are incorporated</p>	<p><u>Corporate Services (IT) – AVL Initiation Group</u> Completed. Vehicle stop tracking and alerts were captured in the request for proposal. The vendor agreed to these requirements in the signed contract.</p>

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<p>10. That appropriate telemetric capabilities be implemented in order that data collected be analyzed on a regular basis to improve the management of the operations or reduce costs. Telemetrics involve the electronic determination of status (e.g. plow up or down) or measurement of a quantity (e.g. amount of salt distributed over a particular area).</p>	<p><u>Corporate Services (IT) – AVL Initiation Group</u> Information Technology has included this as a functional requirement in the 2014 Request for Proposal for AVL software. Outlined below are the specific sections of the RFP that include this requirement.</p> <p>RFP Reference: 2.1.1.5 – info on available inputs 2.1.1.6 – basic capture parameters 2.1.1.7 – additional telematics 2.1.1.8 – salt spreader controls</p>	<p><u>Corporate Services (IT) – AVL Initiation Group</u> Completed. Telemetric capabilities were captured in the request for proposal. The vendor agreed to these requirements in the signed contract.</p>
<p>11. That the GPS/AVL data collected related to the locations of vehicles be reported on a streetview map to allow for the visualization of the tracking of a vehicle's travel path. Such data should be readily available for the printing of mappings.</p>	<p><u>Planning & Economic Development – Building</u> We support this recommendation.</p> <p><u>Planning & Economic Development – MLE</u> Agree.</p>	<p><u>Planning & Economic Development – Building</u> Not Completed. The need and use of street view maps will be assessed after the new GPS system is launched.</p> <p>Expected Completion: Q2 2017.</p> <p><u>Planning & Economic Development – MLE</u> Not Completed. The need and use of street view maps will be assessed after the new GPS system is launched.</p> <p>Expected Completion: Q1 2017.</p>

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	<p><u>Public Works – Roads & Water</u> Agreed.</p>	<p><u>Public Works – Roads</u> Not Completed. The need and use of street view maps will be assessed after capital funding is obtained and the new GPS system is launched and operational for a period of time. Expected Completion: Q4 2017.</p> <p><u>Public Works – Water</u> Not Completed. The need and use of street view maps will be assessed after the GPS system pilot is complete. Expected Completion: Q4 2017.</p>
<p>12. That integration between the AMANDA & Hansen systems and the GPS/AVL system be implemented such that the locations where work was reported as having been performed in the AMANDA & Hansen systems appear on the mappings produced.</p>	<p><u>Planning & Economic Development – Building</u> Difficult/Not Applicable. Inspectors performing inspections usually input the data within 24 hours. Dates/times of inspection notes <u>will not</u> correlate with the location of the vehicle.</p> <p><u>Planning & Economic Development – MLE</u> Current technologies do not support one and/or the other. Staff is in the process of evaluating the Amanda system to determine if provides the appropriate level of support.</p> <p>Also, given the nature of the work, officer may be in another area while discussing another location case on the telephone.</p>	<p><u>Planning & Economic Development – Building</u> Not Completed. Management will explore this functionality after the new GPS system is launched. Expected Completion: Q2 2017.</p> <p><u>Planning & Economic Development – MLE</u> Not Completed. Management will investigate whether data from the AMANDA and GPS systems may be superimposed on one street view map after a new version of AMANDA is released in September 2017. Expected Completion: Q4 2017.</p>