

**Town of Riverview**  
**COUNCIL REPORT FORM**

Presented to: Mayor & Council

Department: Town Management

Date: July 9, 2018

Subject: Automated Vehicle Location (AVL)

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**BACKGROUND**

As the Town continues to look at ways to continue meet all the current and growing service delivery expectation from its residents while controlling expenses, technology can play a role in helping demonstrate accountability and service delivery performance of the work performed. Those challenges exists in all our operational departments including Public Works, Parks & Recreation, and the Fire Department.

Think of Automated Vehicle Location (AVL) as a virtual ride-along supervisor. AVLs allow the Town's management to monitor vehicles and drivers on the road. Using AVL, municipalities can make sure vehicles are operating optimally and that vehicles are operated safely. AVL Software works in tandem with a piece of GPS hardware installed in the vehicle to track vehicles in real time. It gives users access to real-time updates and alerts using data that is sent directly from the vehicle to the software operator.

Like regular GPS systems, AVL software can locate vehicles, set up routes and give directions to assigned destinations. This includes things like tracking fuel consumption and mileage and identifying maintenance and equipment issues, which ultimately helps you lower operating costs.

In addition to tracking vehicles, AVL software also tracks driver behavior to help ensure safety and accountability. It logs everything from speed to driving patterns and aggressive manoeuvres (such as fast turns and hard braking). It can also record idle times and alert you for specific events, like when a driver has gone off-route or driving outside the speed limits.

Most software also comes with dispatching tools and scheduling capabilities to help improve workflow. These features can also boost customer satisfaction, for instance, by providing more accurate ETAs and making sure drivers arrive on time.

## **BENEFITS:**

### ***A. Level of Service***

- Knowing the location of our fleet improves response times to residents; examples are sewer back-ups and broken water line. Supervisors can respond to residents during plowing operations when the plow, sidewalk cleaner, or trail clearing was last in their area or expected to be in their area.
- During EMO crisis; the coordination of public works crews will be essential to the safety of residents during stressful situations it will provide supervisors with the location of resources.
- Critical information such as location data, vehicle status, idling, and driver behavior can be accessed easily with the help of a GPS fleet management software. Your fleet managers will be able to access the data from anywhere on mobiles, tablets and laptops.
- With the help of GPS tracking data, you can identify routes that save both time and money. Smart route planning will reduce unproductive work and eliminate unnecessary fuel expenses. This also will help the Town achieve its sustainability goals, including reducing emissions levels.
- GPS tracking systems can send a message or email alerts when your vehicle goes out of your business zone. Also, some software can detect an accident and other mishaps to the equipment and send notifications so that you can take the necessary steps.
- With GPS fleet management systems, you can locate your lost and stolen vehicles quickly.
- The AVL system also assists with insurance or litigation claims against the Town of Riverview.

### ***B. Safety***

- Operators will be more conscientious of their driving habits. The system will promote safety behaviours as it will be able to monitor safety compliance matters such as using a seat belt, speeding, etc.
- During plowing operations, our operators are working alone. By monitoring the screen we can verify that the operator has not run off the road and if he has we can respond to the operator that could be in need of help.
- Improve the safety of your field personnel by monitoring your fleet in real-time. In case of incidents, you can provide direct assistance and support to your drivers. GPS fleet management systems can also help you implement two-way communication between drivers and fleet managers.

### ***C. Efficiency/Sustainability***

- Efficiency with this tool, supervisors can make better decisions: Salt application rates, plow route analysis, record keeping, aid in insurance investigations to name but a few.
- Investing in a GPS tracking system or a good fleet management system will allow the Town to choose the best and shortest routes for vehicles thus reducing fuel consumption and unnecessary overtime costs.

- GPS Fleet tracking solutions allow you to monitor vehicles and get detailed insights on fuel usage, driver behavior, engine idling, etc. in real time. With the data obtained from a fleet management system, you can utilize your resources effectively and identify key money-saving areas.
- Insurance companies may provide special discounts on vehicles that are equipped with GPS tracking systems. Some companies have reduced premium amounts by as much as 35%.
- GPS systems will help drivers, dispatchers and managers do away with all the paperwork as the system can automatically track and store the minute details and present it in a user-friendly form when needed.
- It has been used successfully to gain understanding of the fleet operation and to allow for “right-sizing” of the fleet.
- Implementing a GPS system and the appropriate practices, will help the Town of Riverview towards achieving its greenhouse gas emissions objectives.

#### ***D. Risks***

- It can be difficult to quantify the savings on fuel and operating costs related to the fleet as there are a number of factors that impact operational expenses. For example, the price of gas; amount of KMs used; age of fleet; etc.
- Operators may have some resistance to the technology as they may not see the administrative benefits of the system and see it as too much oversight on day-to-day activities.
- Systems like this proceed data, and the Town will need to assess its staffing and resource options to ensure the data is properly collected and analyzed to ensure appropriate decisions can be made.

### **CASE STUDIES:**

Many municipalities are using this technology. Local municipalities known to have adopted this technology within their fleet include: Moncton, Dieppe, Saint John, Fredericton, Charlottetown, and Halifax. Larger cities such as Toronto and Calgary have found significant savings by right-sizing their fleet after implementing this solution.

In 2018, the American Public Works Association voted GPS/AVL/Telematics as the fifth most important technology advancement for public works.

#### ***A. City of Charlottetown***

The City of Charlottetown has installed AVL/GPS units in most of its vehicles at a cost of \$140,000 and they have been quoted in an article saying it will result in a savings of more than \$100,000 per year.

Read the full article here:

<http://www.theguardian.pe.ca/news/local/2017/10/10/charlottetown-is-ringing-up-savings-by-using-gps.html>

**B. *City of Dieppe***

The City of Dieppe installed AVL/GPS units in all of their snow removal equipment. They have found it very useful in training employees and in evaluating salt saving opportunities. Employees are incorporating the new technology as a tool to help them be more efficient when plowing and to better understand where salt is required and when not to salt. They continue to fine tune their salt usage and continue to find savings even after 8 years of decline usage. They attribute a lot of their success to anti-icing with brine.

They recommended to order all the modules we would intend on using now instead of add ons later to reduce the overall cost and to ensure success due to the ever changing technology.

**C. *City of Moncton***

The City of Moncton installed AVL/GPS units in all of their close to 200 fleet vehicles & equipment, including all contracted equipment. This tool works alongside an existing no idle policy as well as a future full vehicle use behavior policy. The objective is to create transparency within the organization on vehicle usage, lower fuel consumption, and improve driver behavior. They have set an objective of 11% fuel reduction over 4 years and they have already recognized a 12% reduction in 2017 from 2016. However, many factors may have influenced this outside of the AVL such as a less severe winter condition.

This tool provides many operational benefits. Simply knowing where your equipment is at all times helps decision makers respond quicker to any requests.

Some recommendations coming forward were to keep the system simple, to avoid purchasing more extra features than you actually need, purchase a Canadian based company to avoid the GPS mapping issues with the American based companies, keep the report simple and manage alerts so supervisors can respond to the ones that really need addressing.

**CONSIDERATIONS**

Legal:

N/A

Financial:

Information from vendors are quoting that most clients switching to AVL's have observed a 15-20% reduction in fuel consumption. Based on a fuel budget in public works of \$195,000, the potential yearly savings in fuel for that department alone is \$30,000 to \$40,000.

The 2018 Capital Budget includes \$100,000 in funds for Technology investments designed to improve operational efficiency. During the budget process, staff informed Council that we would evaluate technology proposals and determine which of those process improvements should be explored further and those funds could be used for those initiatives. AVL is a positive initiative to explore.

While we have not gone to market, the estimated range in costs for a system is \$50,000 to \$100,000 and the potential ongoing operating costs would be \$2,000/yr.

Policy:

Helps achieve our Sustainability goals & policy.

Strategic Plan:

***Planning for the Future*** - Increase investment in technology for future infrastructure projects.

***Fiscal Responsibility and Service Excellence*** - Provide high-quality customer service to residents and businesses.

Interdepartmental Consultation:

All of the Departments have been consulted and the technology will be implemented in Fire, Parks, and Public Works Departments.

Communication Plan:

N/A

**OPTIONS**

OPTION A – To keep status quo and rely on managers to monitor all vehicle usage.

OPTION B – Proceed with the next step of a procurement selection and testing process of implementation of AVL's for all town owned vehicles and equipment.

**RECOMMENDATION FROM STAFF**

Town Council recommend that Town Staff proceed with the Town's procurement process to evaluate and test options for implement AVL's with the Town's fleet of vehicles.