## Telematics Software for Municipal Vehicles



This is one of a series of fact sheets designed to help rural municipalities reduce fuel usage in their town fleets.  For more information, please visit the UMass Clean Energy Extension (CEE) website, https://ag.umass.edu/clean-energy.

## What is Vehicle Telematics?

Vehicular telematics systems utilize a combination of GPS technology and on-board diagnostics to monitor the location and performance of an individual vehicle or a municipal fleet. This process of sending, receiving, and analyzing vehicular data can highlight potential areas of improvement within a fleet, as well as further ensure the secure use and safe operation of municipal vehicles.

## What Information Can a Telematics System Record?

Vehicular telematics systems can measure a number of vehicle characteristics in real-time, including:

- Location (longitude/latitude and street address)
- Speed (via the speedometer)
- Distance travelled (via the odometer)
- Rates of acceleration and deceleration (via the accelerometer)
- Periods of operation, including when the engine is on, and when the engine is idling
- On-board diagnostic codes

This data is recorded by the telematics system and uploaded to an online database.  The data can then be accessed and analyzed by fleet managers and authorized municipal personnel.  These systems can also provide real-time alerts regarding vehicle operation, maintenance, and location to a mobile device or computer.

## How Can Telematics Help a Fleet?

The benefits provided by telematics systems fall into three general categories:

**Cost Savings**

- By highlighting and avoiding wasteful driving habits such as excessive idling, hard braking, and quick acceleration, fuel usage can be reduced by up to 33%
- Many telematics systems provide maintenance reminders which can ensure that each vehicle is performing optimally, increasing fuel efficiency by up to 9% and avoiding costly repairs later on
- Utilizing the GPS capabilities of a telematics system, route optimization can be used to identify the quickest route between various locations, saving drivers valuable time
- Many insurance companies offer premium discounts to organizations utilizing telematics in their fleet, viewing it as a serious commitment to reducing risk

**Convenience**

- Automated record keeping eliminates the need for time-consuming paperwork, such as Driver-Vehicle Inspection Reports (DVIRs) and trip histories
- For larger fleets, real-time GPS monitoring can allow fleet dispatchers to identify which vehicle is closest to a given destination, potentially reducing response time, especially in the case of an emergency
- More accurate estimated time of arrival is another benefit of real-time GPS tracking, allowing for better time budgeting and increased customer satisfaction

**Safety**

- Some telematics systems reduce the risk of theft or unauthorized use by notifying a fleet manager if a vehicle is used outside a designated area or pre-approved timeframe
- Lawful driving is encouraged by most telematics systems, by either notifying the driver or fleet manager when a vehicle exceeds a marked speed limit by a given amount

## Purchasing Telematics Software

Telematics systems vary in which operational characteristics they measure, and how these metrics are analyzed and reported.   As a first step in the purchasing process, identify which data you need your system to collect.  Also consider what other features may be important for your municipality, including whether you require integration with fuel cards, mobile device integration, real-time alerts, individual driver safety tracking, dashboard displays, or communication or navigation options.  Consider whether you will need on-going customer support for analysis, or can interpret data in-house.

When contacting telematics system vendors, be ready with a list of these requirements, as well as the number and types of vehicles in your fleet.  Ask about upfront and monthly costs.  Most vendors will be able to provide an in-person or virtual demonstration of the software.  Be sure the user interface is easy to use and interpret.

**Resources**

- Telematics systems are often eligible for funding through the MA Department of Energy Green Communities program:  www.mass.gov/green-communities-designation-grant-program.
- Massachusetts has negotiated a statewide contract for purchase of telematics equipment: www.mass.gov/files/documents/2018/03/19/VEH106.pdf
- Telematics software can also be purchased directly from a variety of private vendors.  A list of over 50 vehicle telematics software companies is available from Business News Daily, at the bottom of their reviews page:  www.businessnewsdaily.com/8291-best-gps-fleet-tracking-systems.html

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