



LOSS CONTROL SERVICES

Guidance for small fleets in selecting a telematics system



Vehicle telematics is a general term that involves capturing vehicle, driver and/or cargo information and utilizing that information to manage operations, safety and maintenance.

Telematics systems vary greatly in:

- How they capture data: through a dongle, a smartphone, another device, or a combination of devices.
- What data is captured: Not all systems can collect engine data or detect distracted driving, for example.
- How often vehicle location is updated: every minute, every two minutes, when a trip has ended.
- How the data is portrayed/analyzed/displayed, and how it is made available for use by management and the driver.

When considering a telematics system, an organization should:

- Determine which functions and features are critical to their needs.
- Network with others in their industry to obtain feedback on common vendors used.
- Evaluate several vendors whose product meets those needs.
- Test/trial each system with multiple vehicles before committing to a contract.

The purpose of this guide is to assist you with identifying common telematics systems and functions that are important to your organization. It can also be used to document capabilities of systems you are considering. This guide is geared toward small fleets with light- to medium-duty vehicles. For larger fleets, please refer to our Telematics Selection Guide — Advanced.

Common system configurations

The following is a generalization of the 3 most common systems used for light- and medium-duty vehicles. While these systems may function for larger vehicles, some additional hardware may be required, and some features may not work. The estimated costs are for core features that most organizations would require.

Dongle-based telematics systems

These systems have been around the longest. A dongle is plugged into the engine control module through an OBD-II port for small and medium vehicles or a 6- or 9-pin port for larger vehicles. The dongle collects engine data such as speed, braking and maintenance information.

Dongles have a built-in Global Positioning System (GPS) and often have integrated accelerometers and gyroscopes which help collect location, speed, braking, cornering and acceleration information. They also have a built-in cellular card to transmit data.

Advantages of dongle-based telematics systems

- Because they are installed in the vehicle, they track the vehicle's location at all times, no matter who is driving
- Because they are plugged into the vehicle's engine control module, they can collect maintenance-related information such as diagnostic trouble codes (DTCs).

Disadvantages of dongle-based systems

- You do not know who is driving.
- They are generally more expensive because each dongle has its own cellular data card and data fees.
- They generally do not monitor or track cellphone-related distracted driving.
- They do not provide post-trip driver feedback.

Costs: Service has an annual fee of \$250 to \$350 per vehicle. Dongles are a one-time cost of \$75 to \$125 and may be built into the annual fee. Vehicles without OBD-II ports require a J-bus connector that comes with a one-time cost of \$15 to \$135.

Cellphone/tablet application (app)-based telematics systems

These systems are becoming very popular. They use the GPS and built-in accelerometer/gyroscope from the phone or tablet to collect positional, speed, braking, acceleration and cornering information. They may also have a tag or other device permanently installed in the vehicle which connects to the app via Bluetooth®.

Advantages of app-based systems

- You know who is driving because it is tied to a specific phone or tablet.
- They're generally less expensive because data is transmitted through the driver's phone/tablet, utilizing that device's data plan. Tags used in the system are substantially less expensive than a dongle.
- They often track cellphone use, including talking, texting, swiping and/or cellphone movement. They may also restrict any cellphone use. Keep in mind that if you provide a driver with a locked-down company cellphone, they may still use their personal phone while driving.
- Driver apps typically provide a driver with immediate post-trip feedback regarding their driving habits: speeding, hard braking, acceleration, etc. Many include a driver safety score and gamification features such as safe driving streaks, teammate rankings, etc.

Disadvantages of app-based systems

- Because there is no connection to the Engine Control Module (ECM), engine information such as DTCs is not available.
- If the vehicle is driven by someone without a functioning app, the vehicle location will not be tracked.
- You are relying on a phone. Did the driver remember the phone? Is it on? Is the app on, if required?
- A smartphone is required. The system will not work with basic flip phones. Are drivers provided a cellphone? If not, is the organization comfortable requiring drivers to use their personal cellphone? Will the driver be reimbursed for data used, which is usually very minimal?

Costs: Service has an annual fee of \$80 to \$150 per vehicle. Tags or other required devices are \$30 to \$80 one-time cost that may be built into the annual fee. Cellphone data usage is minimal. On average, data used during 8 hours of driving is similar to the data used when downloading an MP3 song.

Hybrid systems

These systems use both a dongle and a smartphone app, incorporating the advantages of both systems.

Connectivity

Mobile connectivity is a consideration when selecting a telematics system.

- Does the network provider have good coverage in the area where your vehicles operate? Are there any roaming fees, etc.?
- If you operate along the Canadian or Mexican border, you should discuss with providers how the network works when the devices pick up a Canadian or Mexican network. Will you lose tracking during that time?
- 4G and 5G networks are standard now. Before selecting a telematics provider, you should investigate what platform they are using and their plans for upgrades. If they upgrade, will you be required to purchase new equipment, such as dongles?



Providing solutions to help our members manage risk.SM

For your risk management and safety needs, contact Nationwide Loss Control Services at 1-866-808-2101 or LCS@nationwide.com.

The information used to create this brochure was obtained from sources believed to be reliable to help users address their own risk management and insurance needs. It does not and is not intended to provide legal advice. Nationwide, its affiliates and employees do not guarantee improved results based upon the information contained herein and assume no liability in connection with the information or the provided suggestions. The recommendations provided are general in nature; unique circumstances may not warrant or require implementation of some or all of the suggestions. Nationwide, the Nationwide N and Eagle and Nationwide is on your side are service marks of Nationwide Mutual Insurance Company.
© 2023 Nationwide CMO-1125AO.1 (08/23)



Nationwide®

Telematics System Evaluation Guide — Basic

Vendor: _____ Mobile network: _____ 4G 5G

System type (check all that apply): Dongle Tablet app Cellphone app Other: _____

Costs and contract length: _____

Can the unit be self-installed: Yes No Installation cost per unit: _____

Vehicle Applicability

- Y N Will the system work for all vehicles the organization operates?
- Y N Are additional adapters, cords, etc. needed? Cost: _____
- Y N Will the algorithms for determining critical events (accidents, hard braking, accelerating, cornering) work equally well for all vehicle types? Are you able to adjust thresholds for different vehicle types if needed?

Location/Tracking-Related Features

Driver Identification:

- Y N Can the system tell who is driving the vehicle? This is important if vehicles are driven by multiple drivers.

Vehicle Tracking:

- How often is a vehicle's location updated? _____
- Y N Special map views? Check all that apply:
 Satellite Traffic (congestion) Weather
- Y N For smartphone apps, will the location be tracked even if the driver does not have the app or if the app is not turned on?

Trip History:

- Y N Can past trips (history) be viewed? How far back can they be viewed? _____
- Y N Does trip history include start/stop times, mileage, and alerts such as speeding or hard braking?
- Y N Geofencing: Are alerts/reports generated when a vehicle moves into or out of specific geographical areas?
- Y N Unauthorized usage: Are alerts/reports generated when a vehicle moves outside set hours?

Vehicle Maintenance and Accidents

- Y N Does the system alert/report engine Diagnostic Trouble Codes (DTCs)?
- Y N Does the system alert/report excess idle time?
- Y N Does the system have vehicle maintenance scheduling/tracking?
- Y N Does the system have a pre- or post-trip inspection feature?

Driver Behavior

- Y N Does the system identify unsafe driving behavior/critical events? (Check all that apply)
- Speeding: Top-end Speeding: Above PSL Lateral force/cornering
- Hard braking Hard/sudden accelerating Cellphone use Seat belt use
- Y N Does the system develop an overall driver safety score?
- Y N Does the system develop specific scores for each behavior/critical event listed above?
- Y N Driver app: Does the system have a driver app so the driver can review their own scores, past trips, etc.?

Management Portal/Tools

- Y N Can the system group drivers by teams based on location, manager, duties, vehicle type, etc.?
- Y N Is there a management smartphone app or has the portal been optimized for viewing from a phone?
- Y N Can problem drivers be easily identified? Is there easy printing and exporting of reports, data, etc.?
- Y N Can the system generate email or text alerts to supervisors when unsafe driving events are identified?
- Y N Is there any process for rewarding drivers for good scores or improvement?
- Y N Is there any guidance for managers on coaching drivers with problem behaviors?

Are there additional features that would be needed (dash cams, electronic logging devices, timecards, nonvehicle asset tracking, etc.)?

Key advantages of this system:

Key disadvantages of this system:
