



**AUGUST 29 - SEPTEMBER 1, 2016**  
**2016 National Education Seminar (NES)**  
Gaylord Opryland Resort, Nashville, TN  
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# Evaluating Telematics for Effective Fleet Management

Evaluating the Costs and Benefits of  
Different Telematics Solutions



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# A Recap of Yesterday's Sessions

## **Telematics: Requirements and Benefits**

- Fleet management objectives and activities
- Requirements and guidance for telematics in the Federal fleet
- Benefits of telematics

## **Fleet Information Mgmt.: Asset Level Data Reporting**

- FAST Requirements
- Data elements and rules
- Methods of validating fleet data

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# What This Session Covers

- Telematics overview
- Definition of requirements
- Review of features
- Life-cycle cost effectiveness
  - Telematics cost drivers
  - Fleet characteristics that influence cost-saving potential

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# Telematics Overview

## GAO 14-443\* Definition

“Telematics’ refers to technologies that combine telecommunications and information processing to send, receive, and store information related to remote objects, such as vehicles.”

– (GAO 14-443, 2)

## GAO 14-443 Findings

“The use of telematics can facilitate cost savings for some fleets by providing fleet managers with information . . . that they can use to reduce fleet size, fuel use, misuse of vehicles, and unnecessary maintenance.”

– (GAO 14-443, Highlights)

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\*GSA Has Opportunities to Further Encourage Cost Savings for Leased Vehicles

# E.O. 13693 on Telematics

- “...the head of each agency shall, where life-cycle cost-effective . . . improve agency fleet and vehicle efficiency and management by:
- (iii) collecting and utilizing as a fleet efficiency management tool, as soon as practicable but not later than 2 years after the date of this order, agency fleet operational data through deployment of vehicle telematics at a vehicle asset level for all new passenger and light duty vehicle acquisitions and for medium duty vehicles where appropriate;

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# Key Features

- Alerts – email and text when events occur
- Geo-fences – boundaries with rules
- After-hours – unauthorized use
- Breadcrumb trails – asset history
- Landmarks – customized views
- Custom mapping – utilize various layers
- Dispatch messaging – text your drivers
- Virtual speedometer / odometer – VLD

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# Life-Cycle Cost Effectiveness

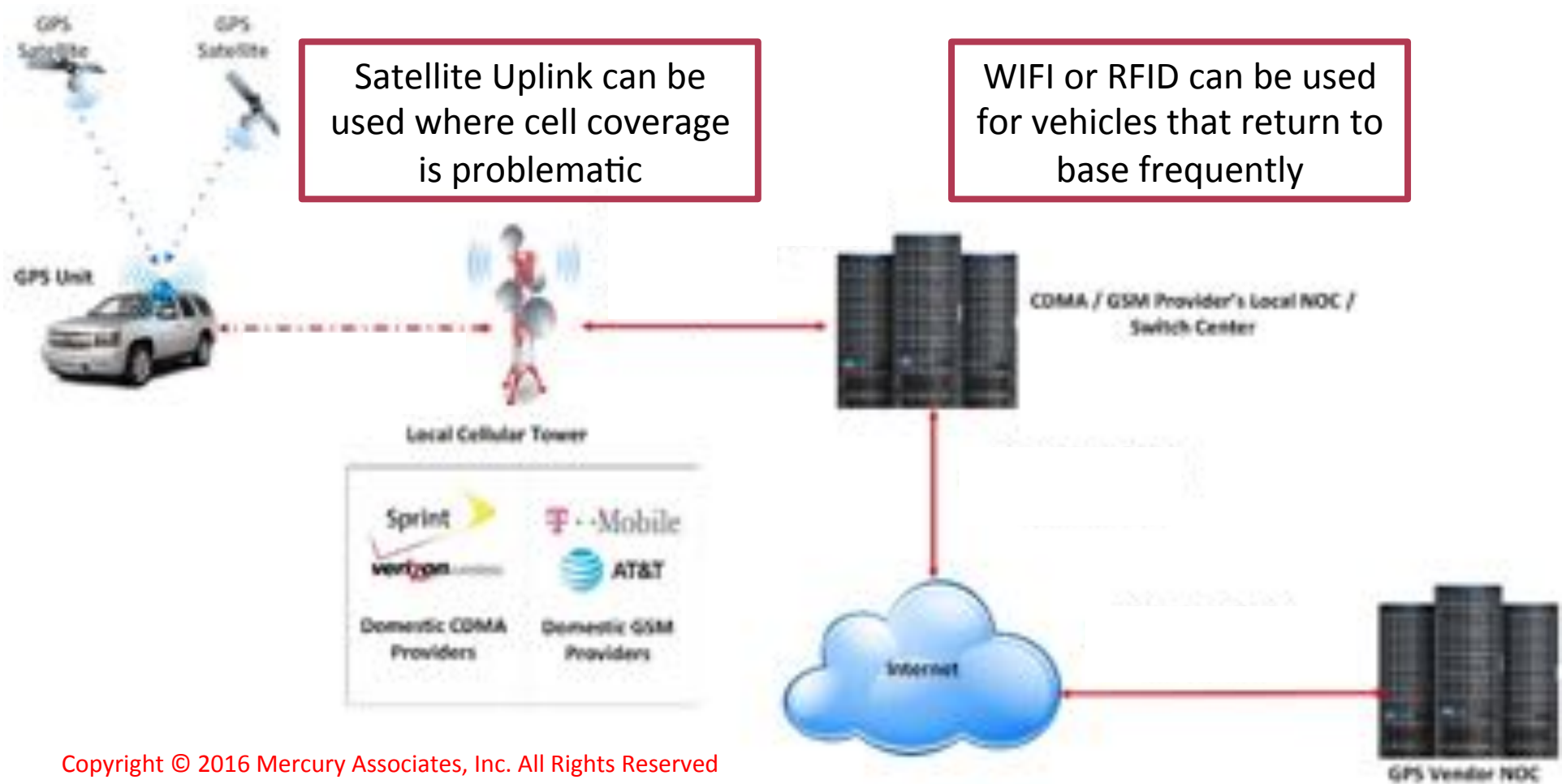
- Telematics cost
  - Up-front costs
  - Sustainment costs
- Fleet characteristics
  - Current driver and asset performance
  - Size of the fleet
  - Number of miles driven
  - Type of vehicles
  - Length of time vehicles are in service
  - Location of the vehicles (e.g., urban, rural, etc.)
  - Physical dispersion of the fleet (i.e., fleet density)
- Level of management support

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Adapted from Appendix IV of GAO 14-443



# Technologies



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# Up-Front Costs

- Administrative costs
  - Functional requirements gathering – what should it do?
  - Non-functional requirements gathering – how should it do it?
    - Includes security requirements
- Procurement costs
  - Vehicle and other networking hardware
- Installation costs – vehicle
- Installation costs – IT infrastructure
- FMIS integration
- Policy development and approval
  - Your biggest hurdles will usually be organizational, not technical!

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# Sustainment Costs

- Cellular plans
  - Can be affected by the refresh rate – or how frequently the vehicle is sending data
  - Can be affected by the types of data being transmitted
- Satellite uplink plans
- Hosting and support
  - Vendor-provided web-based platform
- Other administrative costs
  - Tracking installs and removals, monitoring reports, spare hardware inventory

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# Fleet Characteristics That Influence Cost-Saving Potential\*

- Current driver and asset performance
- Size of the fleet
- Number of miles driven
- Type of vehicle
- Length of time vehicles are in service
- Location of the vehicles (e.g., urban, rural, etc.)
- Physical dispersion of the fleet (i.e., fleet density)

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\* From Appendix IV of GAO 14-443

# Driver Performance

- Fuel economy – look for extremes in existing fleet data
  - Poor fuel economy is an indicator for idling, speeding, and theft
  - Above average fuel economy can indicate that vehicle is being used for home to work
- Accidents – look for repeat offenders
  - *Respondent superior* and negligent entrustment
- Red-light and speed camera infractions
  - Both are signs of inattention to rules of the road

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# Asset Performance

Cost per mile – look for vehicles with high maintenance and repair costs

- Older vehicles and spare vehicles tend to have lower utilization and higher costs – telematics can help validate the need for the vehicle in the fleet

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# Number of Miles Driven

- Look for extremes in existing mileage data
  - Aides in determining whether low-mileage vehicles can be eliminated
  - Aides in identifying inefficient routing for high mileage vehicles
  - Can help identify home to work vehicles
  - Vehicles travelling long distances are often out-of-sight, out-of-mind, and they may be driven as such

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# Types of Vehicles

Look for high cost-vehicle types in your fleet

- Dump and vocational trucks may idle excessively at a job site
- Law enforcement
- Off-road and construction equipment – aides with identifying intermittent demand

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# Length of Time In Service

- Avoid installing in vehicles that are near replacement, assuming that you have the ability to reassign the new vehicle if it is underutilized
- If it is a specialized, expensive vehicle or piece of equipment, it may be wise to validate the need with telematics before spending the money on a new one

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# Vehicle Location

- Geography can dictate WIFI, RFID, cellular, or satellite uplink, which ties directly to cost
- The cost of the device is usually surpassed by cellular plan costs after the first year
- WIFI and RFID require more investment up front, but don't have the cellular component of the on-going costs
- Satellite uplink is always most likely to be your most expensive route, so it should only be selected when absolutely necessary

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# Physical Dispersion

Data download equipment – look for large numbers of collocated vehicles

- If real-time data is not needed, it may be less expensive to transmit and gather data through WIFI or RFID
- If there are few vehicles, it may be less expensive to transmit data on cellular networks

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# Other Factors

- Has your fleet conducted a Vehicle Allocation Methodology Study recently?
- How robust are your fleet data analysis capabilities?
- Are your vehicles replaced under a working capital fund or current year funds?
- Does your office have authority over fleet replacement spending?
- What is your level of management support for right-sizing?

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# Pitfalls to Avoid

- Failing to identify how telematics will contribute to fleet or vehicle management and efficiency
- Procuring a “gold-plated” solution where a basic solution would have worked
- Failing to include the appropriate stakeholders in the planning process
- Assuming that one solution will meet the needs of your entire organization
  - Some vendors offer multiple hardware solutions that integrate with the same software interface
  - This can help contain costs while offering flexibility

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# Discussion:

## From Data to Action

- What are the biggest barriers to the efficiency of your fleet that you could answer with telematics data that you can't answer now?
- Once you have that data, what challenges would you face in turning it into action?

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# Questions?

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