Telematics Data Parameters and Fleet Management Applications

Category	Data Points	Fleet Management Applications
Vehicle Utilization	o Mileage o Engine hours o Fuel consumption	→ Collect required fleet reporting data → Anticipate periodic maintenance alerts → Inform vehicle replacement decisions
Driver Behavior	o Speed driven o Excessive speed count o Excessive speed duration o Harsh acceleration count o Harsh braking count o Idling events o Total idling time o Texting o Talking on cell phone o Smoking	→ Identify unsafe or inefficient driving behavior and review with driver → Combine metrics into a safety or eco-driving score
Collision Tracking	o Seatbelt unfastened o Airbag deployment o Vehicle collision	→ Notify first responders in an emergency → Inform fleet manager of all accidents → Exonerate drivers
Maintenance Tracking	o Diagnostic trouble codes	→ Inform technicians of maintenance requirements
Vehicle Identification	o Vehicle make o Vehicle model o Vehicle ID o Vehicle class ID	→ Track and report vehicle data → Identify vehicles with issues → Standardize fleet where appropriate
Fleet Identification	o Driver ID o Organization ID o Assigned location o Date assigned o Number of vehicles at location o Number of unique drivers o Number of organizations using vehicle	→ Associate vehicle with driver and organization → Compare vehicle location with assignment → Identify pooling opportunities
Trip-Level Data	o Trip start and end times o Trip start and end latitude/longitude o Trip distance o Trip route o Trip mileage o Route/mission type o Trip miles driven o Trip fuel consumed o Geofence alerts (e.g., campus departure, unpaved travel, parking locations, travel near fuel stations) o Number of days with no trips o Average miles per trip o Average miles per day (days with at least one trip) o Mobile workstation dwell time	→ Identify trips → Locate vehicles → Inform vehicle acquisition and retirement decisions (e.g., four-wheel drive necessity, alternative fuel vehicle candidates, underutilized vehicles) → Support vehicle allocation methodology (VAM) decisions → Identify pooling opportunities → Optimize routes

Contact federal.fleets@nrel.gov with questions about implementing telematics for federal fleet management.