

Collin County GPS Analysis

Notes:

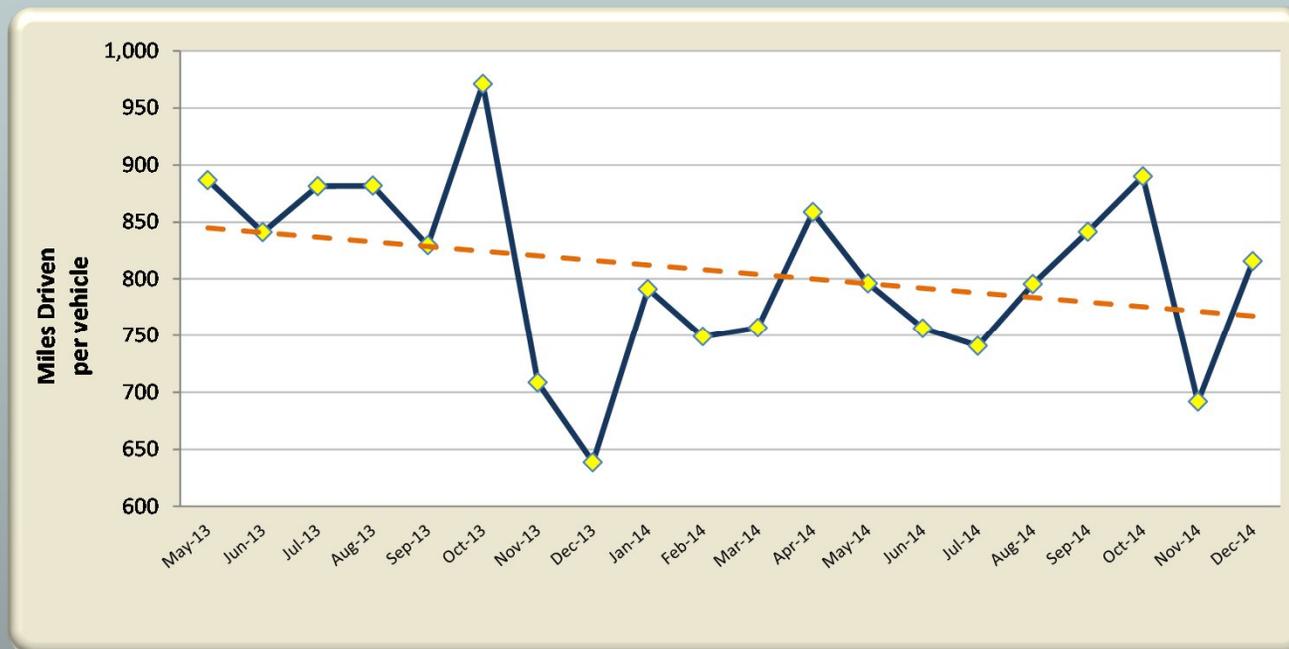
- 181 Network Fleet GPS units were installed in non emergency County vehicles including Motor Pool.
- All units went live the month of April 2013.
- Public Works created an internal GPS policy and notified all Public Works personnel of the changes and expectations. Meetings were also held with the Department Heads whose vehicles now have GPS installed.

Features

- **Geofencing.** Allows users to quickly pinpoint vehicles that venture into/out of unauthorized areas. Users simply enter the address of a location or landmark and radius parameters to create a circular geofence. When a vehicle enters or exits the area, Networkfleet records the date and time it crossed the geofence.
- **Activity Detail.** Shows the historical route of each vehicle, allowing Public Works to compare actual driver activity with driver timecards or logs, as well as various driver behaviors throughout the day.
- **Drive Time Summary.** Provides daily and weekly fleet statistics, such as total mileage, maximum recorded speed, number of stops, and distance traveled, to help reduce costs and improve fleet performance.
- **Fleet Utilization.** Detailed information on each vehicle – including miles traveled, engine hours and number of trips – helps managers analyze individual vehicle utilization and overall fleet efficiencies.
- **Fuel Economy and Usage.** Identifies the approximate amount of fuel used by each vehicle, and provides data to help reduce fuel costs.
- **Hard braking/Acceleration.** Detects abrupt stops and acceleration. (Networkfleet uses GPS technology and algorithms that are designed to detect increases and decreases in speeds)
- **Seatbelt Alert.** Provides an alert when a driver is not wearing a seatbelt while the vehicle is in motion.
- **Idle Time.** Tracks the amount of time a vehicle idles and identifies those that exceed preset thresholds to help reduce fuel costs and greenhouse emissions.
- **Smog Check.** Provides a snapshot of the fleet's emissions status, including which vehicles are in or out of compliance.
- **Speed Violations.** Monitors speeding incidents to help promote driver safety and lower insurance costs.

Labor Efficiency

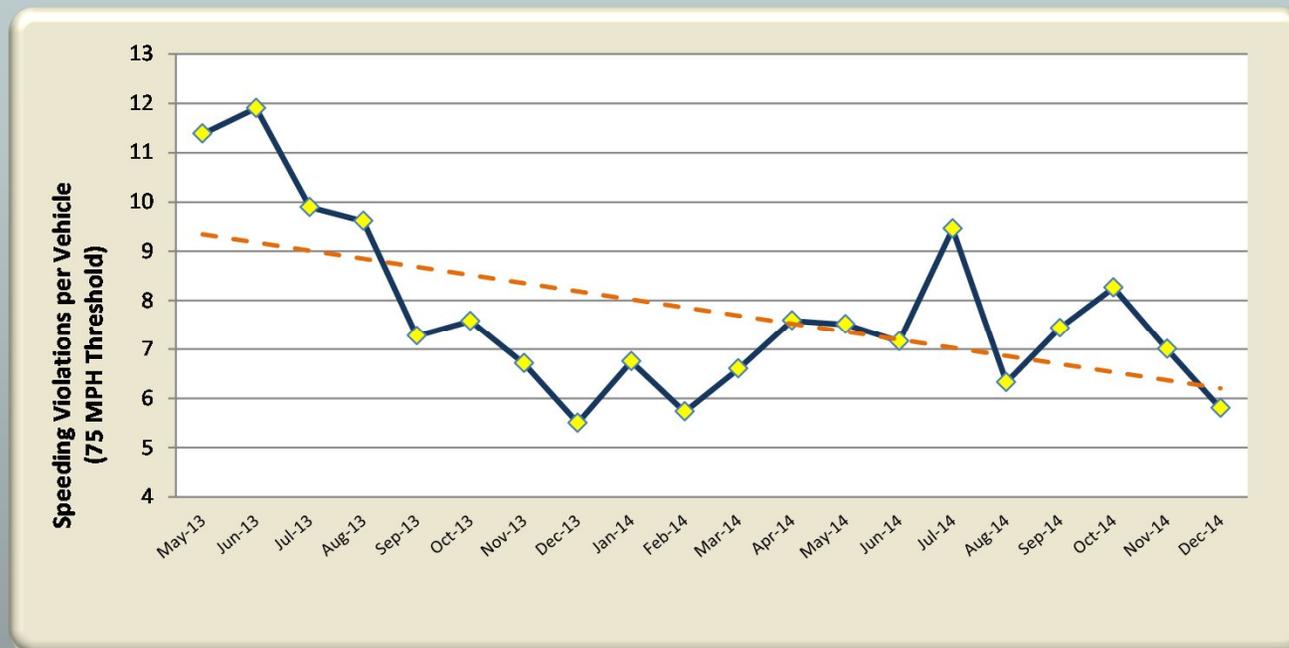
- Miles driven per week per vehicle
 - Average miles driven per vehicle reflects a downward trend
 - Data fluctuations may be caused by seasonal jobs and holiday timing



The data represents a monthly average of 806 miles driven per vehicle.

Driver Behavior – Speeding Violations

- Speeding violations over 75 MPH threshold
 - Violations per vehicle have dropped steadily since implementation with a spike in July and October 2014



The data represents a monthly average of 41 vehicles out of 181 that violate the 75 MPH speed threshold.

Driver Behavior – Speeding Violations

- **Speeding Violations 11 MPH over the Posted Speed**
 - Violations per vehicle have also dropped steadily month by month with a spike in July 2014.

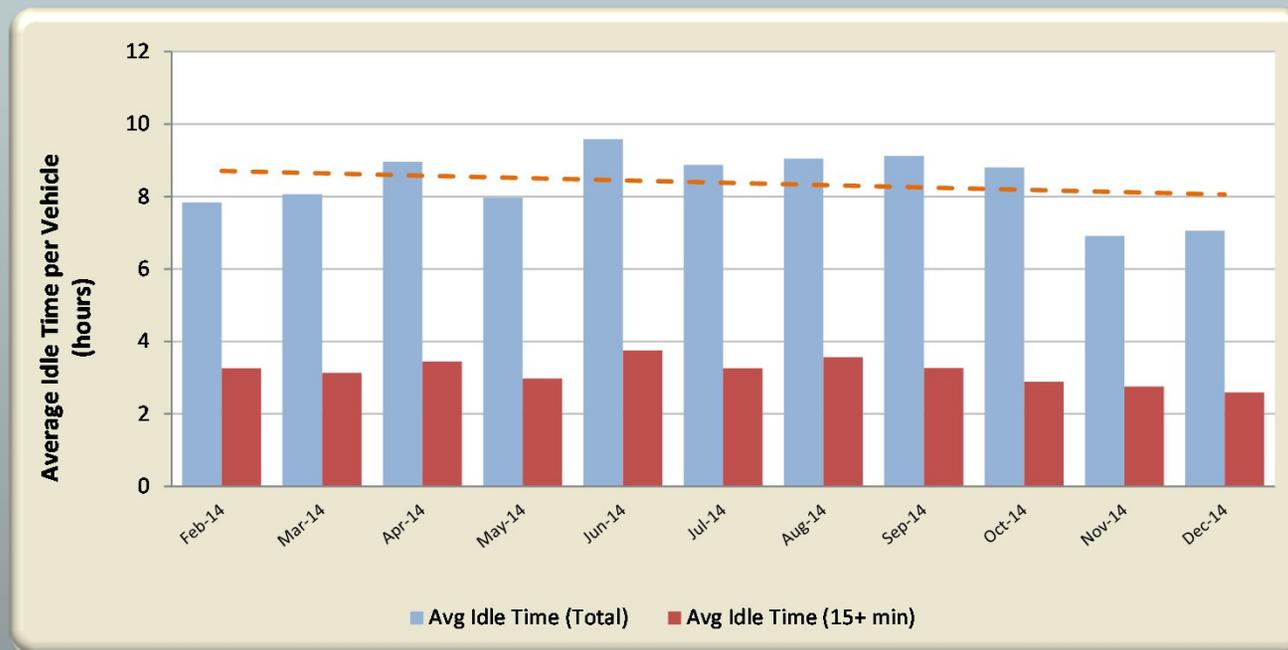


The data represents an average of 68 vehicles out of 181 that violated the 11 mph speed threshold.

Driver Behavior – Idling

- **Total Average Idle Time**

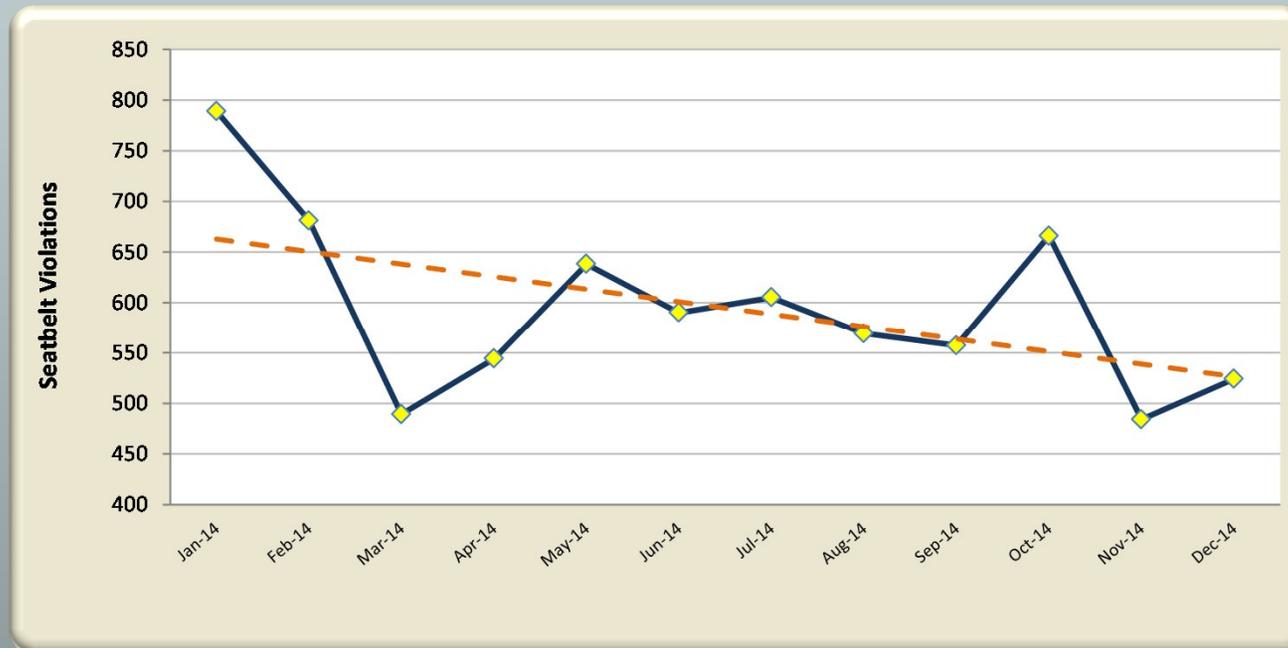
- The average idling time for 2014 was 8.4 hours per vehicle
- 15+ minute average idling was 3.2 hours per vehicle, or 38% of total idling time
- Identifying Productive vs. Non-Productive idling can reduce inefficient idling with proper coaching of drivers



Idling can be caused by extreme weather conditions (heat/cold).

Driver Behavior – Seat Belt Violations

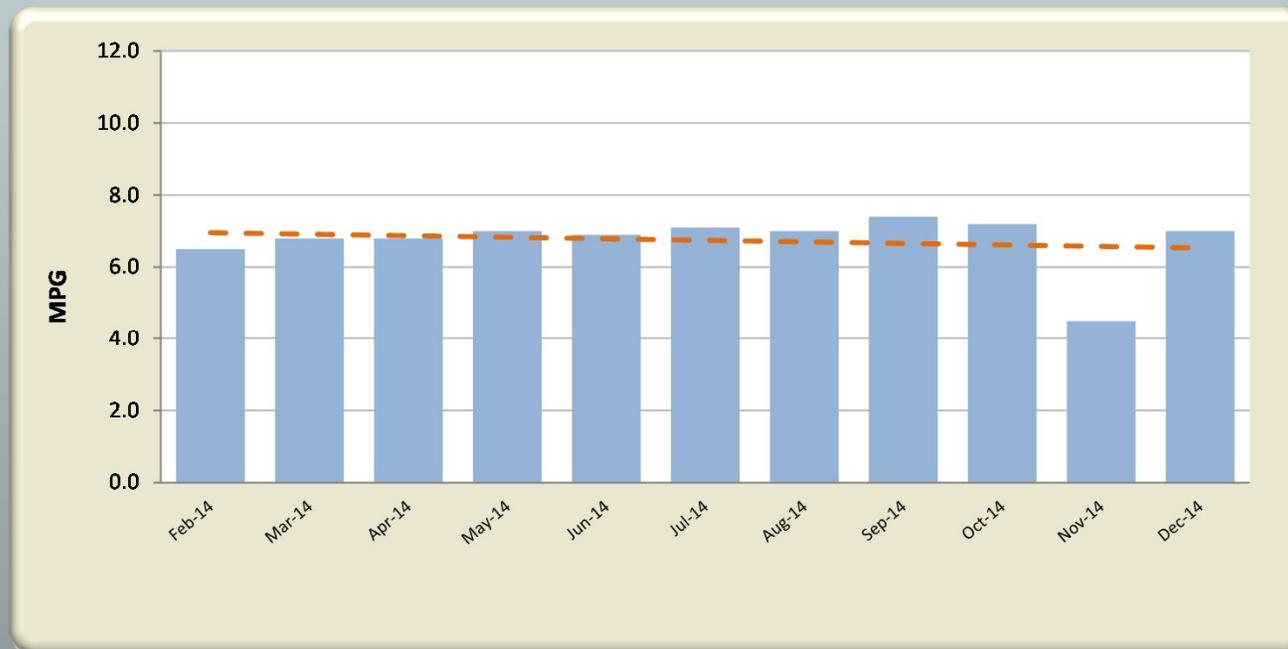
- Seat Belt violations were introduced at the end of 2013
 - Violations per vehicle have shown a steady decrease in 2014 with a spike in May and October.
 - A violation is triggered when a vehicle exceeds 1 MPH and the seat belt is not engaged



There are currently 15 vehicles that have seat belt reporting capabilities. Vehicles are limited to certain models.

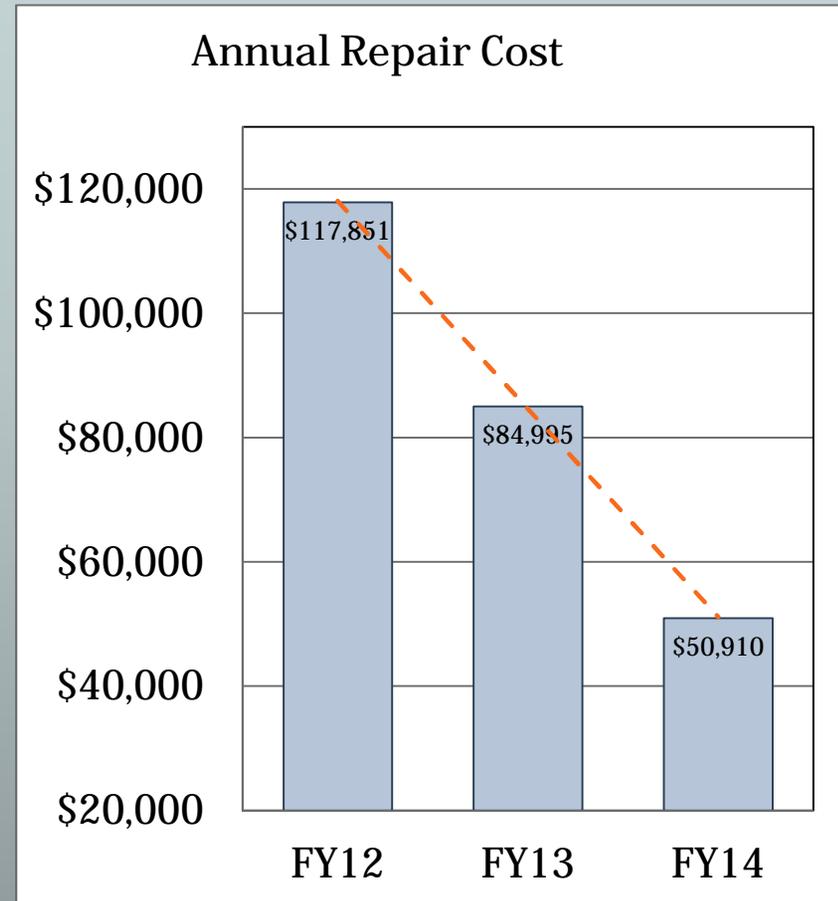
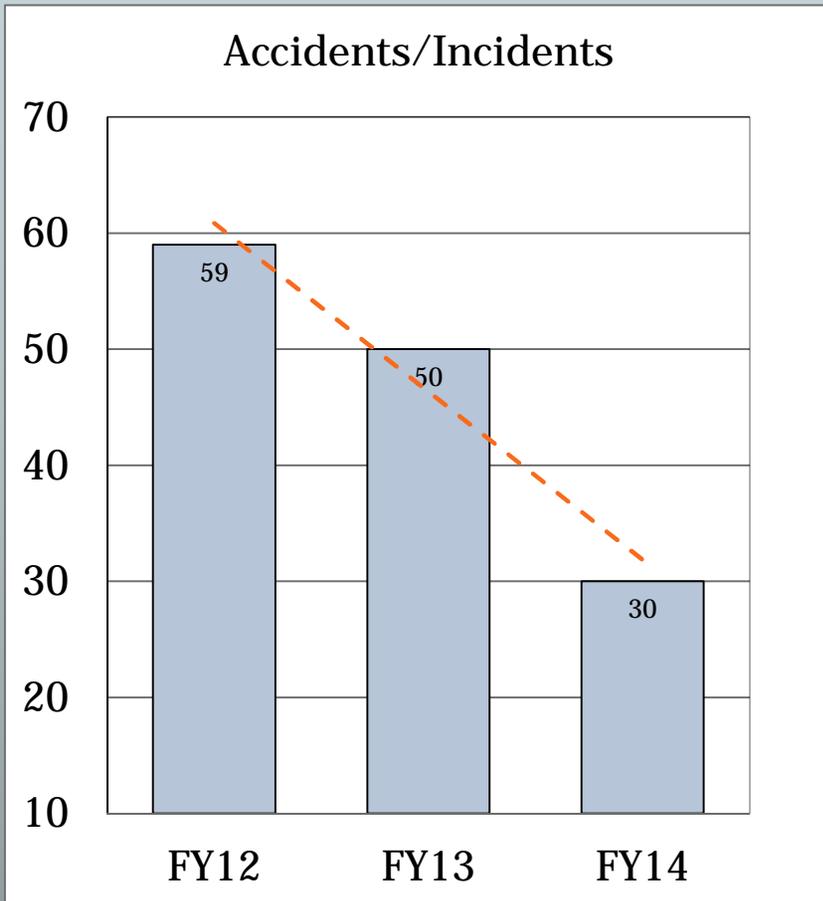
Fuel Efficiency – MPG

- Average MPG per vehicle
 - The average fuel usage has been in the 7 MPG per vehicle range with the exception of a drop in November
 - Average MPG can be increased by minimizing negative driving behaviors such as speeding and idling



Accident Reduction

The amount of accidents/incidents has been reduced by 30% from FY13 to FY14. Repair costs have been reduced by approximately \$34,000.



Assessed solely by Collin County Public Works staff. These findings should not be considered a professional risk assessment. This presentation does not include assessment by the Collin County Risk Department.

Close Calls

- The GPS system's live tracking feature helped recover a stolen Myers Park vehicle within minutes of being reported.
- GPS assisted in the identification of multiple instances of misuse of property and equipment involving county vehicles and material.
- The ability to receive real time speed notifications halted an aggressive driver resulting in immediate action.
- The ability to receive real time diagnostic trouble codes has prevented thousands of dollars of worth of damage by identifying issues before they result in a catastrophic failure.

Results

- The GPS Provider offers free towing for vehicles within 25 miles of the Service Center. This has resulted in a savings of nearly \$5,000 in towing fees over the past two years.
- Reduction in operating expense - GPS monitoring has recorded decreases in idle time, miles driven, and speed violations.
- Efficiency/Productivity - GPS monitoring has made our personnel more efficient. They drive the most direct route which increases time on the job site. We now have the capability of locating the closest vehicle to a designated location, this saves time, reduces fuel use and labor charges.
- Safety - speed and seatbelt violations have gone down dramatically. We believe that this has aided in the reduction of accidents and citizens' complaints of reckless driving. GPS monitoring also helps with the accident review process by providing the review of pre and post accident speeds and location.