San Bernardino County Fleet Management and MSRC Use GPS to Reduce Emissions
by Ron Lindsey, Fleet Services Manager, San Bernardino County Fleet Management Department

Improving the quality of life for its residents is one of the many goals of the Board of Supervisors for San Bernardino County. The use of Global Positioning System (GPS) units in County fleet vehicles has resulted in a reduction in greenhouse gas and tailpipe emissions, improved conservation of natural resources, and reduced vehicle maintenance and repair costs - all of which supports the Board's goals.
GPS units were installed in approximately 1,500 of the County's light and medium-duty fleet vehicles to help achieve these reductions and improve operating efficiencies. In addition, most new light duty vehicles will have the units installed before they are placed in service.

Among other things, modern GPS systems have the capability to monitor engine idle time, vehicle speed, fuel consumption, as well as capture and report data on the overall operating efficiency of vehicles. The Mobile Source Air Pollution Reduction Review Committee (MSRC), through the Local Government Match Program, recently collaborated with the County for the purchase of 252 additional GPS units for County vehicles.

The GPS system chosen by the County participates in the State of California Continuous Testing Program (CTP) and provides remote diagnostic testing of emissions through the vehicle's onboard diagnostic connector. This allows every vehicle equipped with a unit to by-pass the normal bi-annual California state emissions inspection, saving the County the cost of each inspection.
Other benefits of having the GPS units installed in County vehicles include:

- Near "real time" monitoring of each vehicle's performance: Alerts are sent to County staff notifying them when a vehicle's "Service Soon" light is illuminated, along with information (trouble codes) regarding why the light came on. This allows the County to repair the vehicle quicker, minimizing any increased pollution and/or greenhouse gas emissions that may have resulted from the vehicle's malfunction.

- More effective trip routing and dispatch: County departments can use the web-based interface to determine locations of their vehicles and more efficiently route each trip. They can also use the system to dispatch vehicles to a call (citizen/customer request for service; i.e. Animal Control Officer, Code Enforcement inspector, etc.) in a timely and efficient manner, thereby reducing response time while reducing unnecessary trips and the resulting emissions.

- Utilization monitoring: Combined with the County's vehicle information system, utilization is monitored for excessively or under-utilized vehicles. The GPS system allows the County to measure utilization in days, miles, and/or trips, and take corrective action where needed.

- Idle Time Monitoring: extended engine idling causes higher fuel consumption (cost), increased greenhouse gas and air pollution emissions, and unnecessary wear on the vehicle's engine. GPS units allow the County to monitor idle times and address idling issues as they occur.

By utilizing the information GPS units provide about things like idle time, emissions status, vehicle performance, and trip routing/dispatch, the County is able to make intelligent, data-driven decisions that not only result in more efficient, cost-effective operations, as well as improved quality of life for the residents of San Bernardino County through a reduction in air pollution and greenhouse gases.