

Minimum Requirements

Automatic Vehicle Tracking, Mapping & Reporting System

1. **Basic Principle** – The system shall be based on the Global Position System (GPS), and shall use at least a 12-channel WAAS-enabled receiver capable of 3-meter accuracy.
2. **System Architecture** – The system shall be Internet-based to allow multiple users from the County to simultaneously access all information from any PC and a high-speed Internet connection. A local, enterprise version shall be available as an option, in the event the County determines it to be in its best interest to operate the server at its own facilities.
3. **Mobile Tracking Device** – Each vehicle shall be equipped with a mobile tracking device which operates on 12VDC. The tracking device shall include all components necessary to determine the position, store a minimum of 2,000 positions in the event the device is out of coverage, and transmit the position data in accordance with the County's requirements set forth herein.
4. **Transmission Scheme** – To maximize data granularity and minimize bandwidth consumption, vehicle positions shall be generated based on events such as distance traveled, starts, and stops, all of which shall be configurable without touching the tracking unit in the vehicle. Time based positions may be available as an option but shall not be the primary trigger for generating position data.
5. **Position Data** – Information collected at each position for every vehicle shall include latitude, longitude, speed, direction of travel, and time, as well as which type of event triggered the recoding of that position.
6. **Delivery Confirmation** – Every position sent from a vehicle shall be acknowledged by the central position server so that no position data is lost.
7. **Display Options** – The system shall include a real-time display that enables the user to view a chart of all vehicles being tracked, in either map format or tabular format. The map format shall include position data labels for each vehicle that can be turned on or off by the user. The tabular format shall include, at a minimum, the last reported position of each vehicle, the time since last report, the speed and direction of travel, and a graphical means of determining, at a glance, whether a specific vehicle is moving or stopped.
8. **Map Standard** – Maps for graphical display of current and historical vehicle position data shall be high-quality, server-based maps such as Microsoft MapPoint.NET, which shall be automatically updated on a quarterly basis.
9. **Interoperability** – The vendor shall provide no-charge access to an Application Programming Interface (API) that will permit the County to use vehicle position data in other County computerized information systems as desired.

10. Vehicle Reports – To enable County departments to use and/or further process the position data, all vehicle reports shall be presented in spreadsheet format for viewing and printing, and shall be downloadable to operator's local PC on command as unlocked Microsoft Excel spreadsheets.
11. Wireless Network Provider – To ensure the best possible coverage, the tracking system shall operate over the GSM/GPRS cellular data network.