Mobile GIS

The Power of the Enterprise in Your Hand

Inspections   Code Enforcement • GASB 34 Compliance • Law Enforcement

Trimble.

ESRI

# Increasing Productivity In the Field
Mobile Government

Field-workers face the challenge daily of keeping our cities and counties moving. They update land records, maintain asset inventories, track projects, protect citizens and the environment, and log code violations. These crucial tasks require powerful yet easy-to-use tools.

Mobile GIS is the integration of geographic information system (GIS) software, global positioning system (GPS) technology, and rugged handheld computers. Mobile GIS-equipped work crews have the ability to make condition assessments and record changes to spatial and attribute information in the field before accurately transferring edits back to a central GIS database. For many agencies, Mobile GIS is proving to be an inexpensive and timely way for field crews to access and update their enterprise database—anytime and anywhere.

Mobile GIS takes the enterprise to the field for

- Street repairs
- Building inspections
- Graffiti abatement
- Tree inventory
- Community policing
- Fire inspections
- Asset management
- Weed control

- Abandoned vehicles
- Bridge inspections
- Animal control
- Parcel updating
- Signage replacement
- Health inspections
- GASB 34 compliance
- Traffic accidents and citations
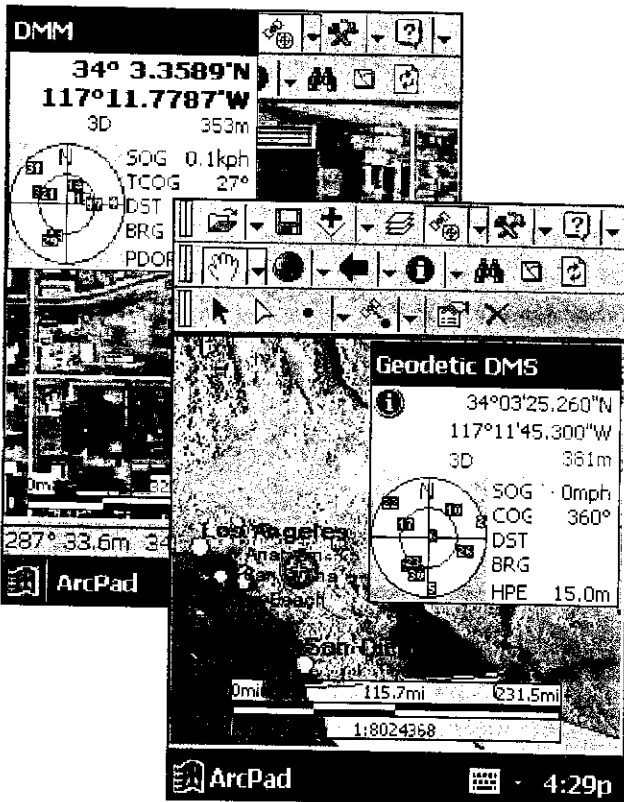
Mobile Solutions for Asset Management
GASB 34 Compliance

The Government Accounting Standards Board Statement 34 (GASB 34) issued in 1999 affects how state and local governments categorize capital fund accounts and capital asset values. Failure to implement reporting required by GASB 34 can have serious consequences for local governments raising money for capital improvements through bonds by either prohibiting their issuance or requiring a higher interest on those bonds.

Implementing GASB 34 has caused some local governments to reexamine infrastructure management as a whole. Greene County, Missouri, was in the midst of building a GIS system when it began determining what was needed for GASB 34 compliance. "After finding out exactly what GASB 34 was and what it would require of our organization, we came to the conclusion that we needed asset management software that would help us meet GASB 34 requirements while integrating the management of our maintenance, planning, and financial operations," said Bill Bohnenkamp, administrative services manager for Greene County Highway Department.

The county chose software from an authorized ESRI business partner that tracks and maintains asset records and links back to the county's GIS. Not only has this strategy led to quick implementation of and compliance with GASB 34, but by using GIS with the asset management software, the county is now developing a work management program.

GASB 34 and GIS will have a dramatic effect on the way government does financial reporting, most notably in the budget process, asset/maintenance management, work orders, customer service, capital improvement, and rehabilitation planning areas. GASB 34 compliance provides the latest example of how GIS aids governments in streamlining business practices while adhering to complex political and regulatory requirements.
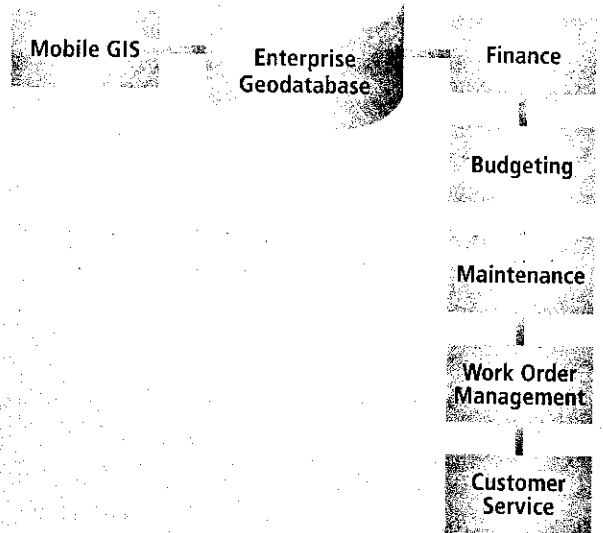
Mobile GIS Software

ESRI® ArcPad® is the mobile GIS software that provides access to geographic data for query, analysis, creation, and update in the field. ArcPad provides database access, mapping, GIS, and GPS integration to users out in the field via handheld and mobile devices. Data collection with ArcPad is fast, easy, and significantly improved with immediate data validation and availability. ArcPad Application Builder allows personalization of the ArcPad interface. Create customized input forms, new tools, and toolbars. Write scripts to automate tasks and build applets to accomplish your organization's unique goals.

Mobile GIS Hardware

The Trimble GeoExplorer® CE series of handheld computers is an exciting new tool for mobile GIS applications. These GPS CE handhelds are a unique combination of GPS and the Windows® CE operating system. Because the GPS receiver and antenna are built into the rugged handheld, it has never been easier to use GPS with ArcPad. The GeoExplorer CE series delivers accurate, reliable GPS data with real-time differential correction in the field for reliable navigation. With a rugged design and an all-day battery, the GeoExplorer CE series goes wherever you go and lets you access your data at any time and in all conditions.

GPScorrect™ is an integrated Trimble GPS solution for ArcPad users, allowing differential correction of shapefiles and seamless control of a Trimble GIS receiver from within ESRI ArcPad software. GPScorrect for ArcPad starts automatically when you use ArcPad, ensuring seamless two-way communication between ArcPad and your Trimble GPS receiver. An icon on the ArcPad toolbar allows quick and easy access to GPS setup and status screens.
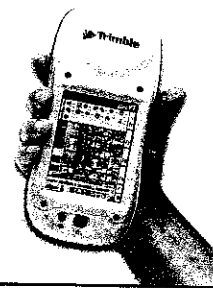
Special Offers From ESRI and Trimble

- ArcPad with the GeoXM CE handheld (2–5 m GPS accuracy) and GPScorrect for ArcPad—Item TXM1, $2,995

  Or GeoXM with ArcPad Application Builder—Item TXM2, $3,850

- ArcPad with the GeoXT CE handheld (submeter GPS accuracy) and GPScorrect for ArcPad—Item TXT1, $4,650

  Or GeoXT with ArcPad Application Builder—Item TXT2, $5,500

- ArcPad with the Recon™ ultra-rugged Windows CE handheld device—Item TR1, $2,200

  Or Recon with ArcPad Application Builder—Item TR2, $2,995

- GPS Pathfinder Pocket Receiver—Item TPR, $515

How To Buy

Learn how ESRI and Trimble products offer complete solutions for mobile GIS. You may view full details of the special promotion offers of ArcPad with GeoExplorer at www.esri.com/trimbleoffers. Offer is valid only for U.S. customers. For further information on any of these offers, call Dean McComber at 928-774-2543.

Special ArcPad Programs

Public Domain ArcPad Templates—Search for ArcPad applications developed by fellow users and made freely available for others to adopt and customize. Download useful applications or add yours to the growing list of solutions posted at www.esri.com/publicarcpad.

Grant Program—ESRI and Trimble are pleased to announce a grant program designed to foster development of applications for mobile government applications. Ten awards consisting of ESRI's ArcPad software for mobile GIS and a Trimble GeoExplorer CE rugged handheld computer will be presented to eligible jurisdictions in the United States. The solutions developed by the selected applicants will become public domain applications, available to other jurisdictions to use and customize. Complete details are available at www.esri.com/grants.

Streamlined Sign Inventory Part of GASB 34 Compliance

With the new, more rigorous capital asset inventory reporting requirements in place, the county of Santa Fe, New Mexico, has adopted an asset tracking system that uses GIS and GPS to log and verify every sign along the county's 586 miles.

In 1999, the Governmental Accounting Standards Board (GASB) made significant changes to *Statement No. 34: Basic Financial Statements—and Management's Discussion and Analysis—for State and Local Governments.* Known as GASB 34, these changes affect how state and local governments categorize capital fund accounts and capital asset values.

GASB is a private, nonprofit organization that monitors the financial reporting methods for state and local governments. GASB is part of the Financial Accounting Foundation, which establishes the Generally Accepted Accounting Principles (GAAP). Adherence to GAAP standards, which is de rigueur in the private sector and often mandated by state constitutions, is also required so that a government can obtain a clean audit. Failure to comply with GASB 34 can result in an "unclean" or qualified audit, which

hinders a government's ability to raise money for capital improvements through bond issuance.

Under GASB 34, capital assets related to infrastructure networks, such as roads, bridges, and lighting systems, must be inventoried and valued. With capital assets inventoried and valued, the next step is tracking and reporting capital values and expense information in financial statements using either the Depreciation or Modified methods. Either reporting method requires a dynamic, up-to-date inventory of all eligible assets.

The Traffic Engineering Division began implementing a sign inventory in 2000 as part of the county's compliance. The Traffic Engineering Division is responsible for all street signs, traffic signs, and traffic control devices. The division's director, Daniel T. Rydberg, researched software products that could help the county inventory signs.

The solution the county adopted was Asset Tracker from Earth Touch Solutions, LLC. The three tools that make up the Asset Tracker suite let city staff enter, verify, and log the location

and condition of public works assets (such as signs, hydrants, water valves, and streetlights) from a vehicle. The Feature Data Collection form incorporates data from a GPS receiver into a database and lets the user input the sign type, direction, condition, and comments. The Vehicle Tracking form lets workers verify the presence of signs or other assets. It supplies a scalable map of the area, notifies the user when the vehicle is entering the buffer zone near an asset, zooms to the relevant portion of the map, and lets the user confirm or deny the presence of the asset. The log file of a verification session, including asset confirmations, can be replayed with the third application. Log files can be exported to ArcGIS. If a sign or other asset is the subject of litigation, log files can be valuable proof that verifications were performed.

Asset Tracker works well with the county's existing GIS implementation, which uses ArcView and ArcGIS. "We use the GIS database to pull up specific signs when a request comes in," says Rydberg. "If a sign blows down on a certain road, we can see which sign it was by pulling up the sign and a photograph of it in the GIS. That, in turn, saves us a trip out to visit the sign. If someone wants to know the speed limit on a certain road, we can pull that up in the GIS, which not only saves time and fuel but also wear and tear on our vehicles. Ultimately, the sign inventory and the GIS have saved money for the county."

For more information on Asset Tracker, contact Tim O'Brien, president of Earth Touch Solutions, at 505-379-9190.
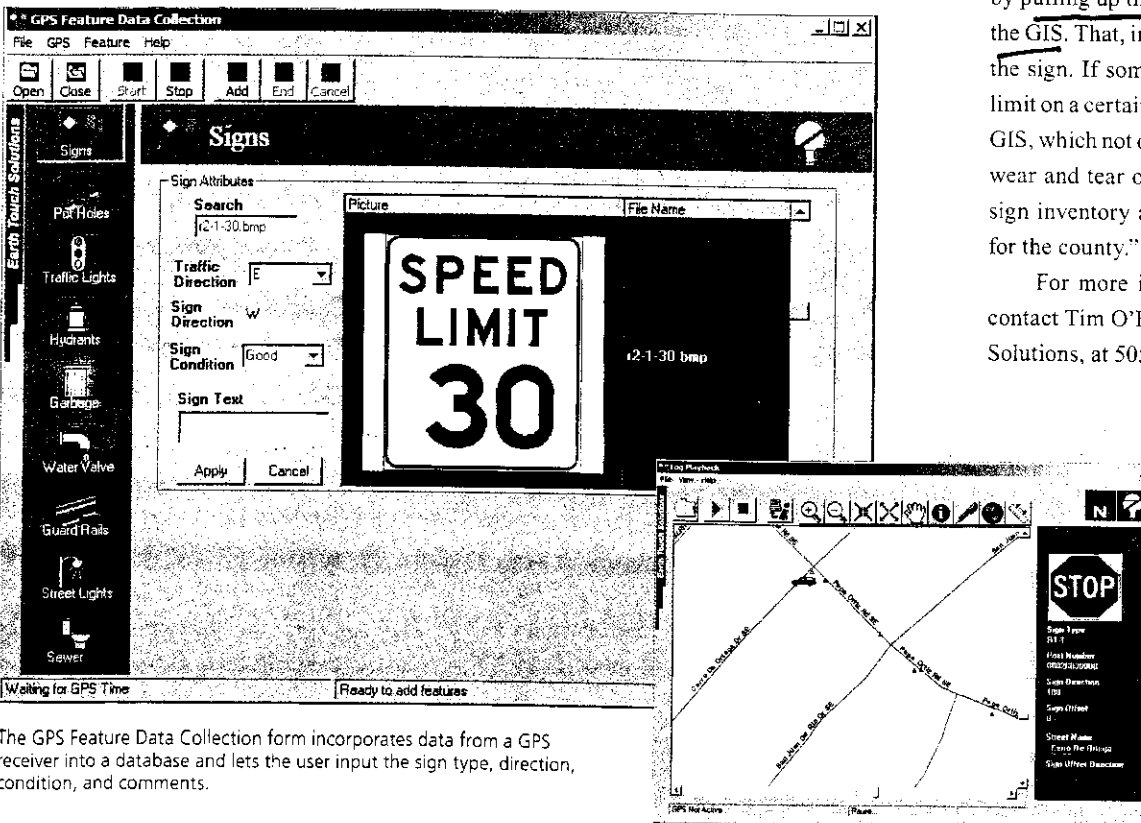
The GPS Feature Data Collection form incorporates data from a GPS receiver into a database and lets the user input the sign type, direction, condition, and comments.

The Log Playback application can replay a verification session, including asset confirmations, and the log files exported to ArcGIS.