



# Making roads safer in Colorado

In May 2000, the Boulder County Road Maintenance Department in Colorado began implementing a new method of sign inventory maintenance using ArcPad, ESRI's mobile GIS technology. Previously, keeping the sign database current and accurate was a problem because of a time delay in acquiring

**SECTOR** *Public Works*  
**INDUSTRY** *Government*

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the daily employee time sheet data and then entering that information into the sign database.

*Total savings are more than \$20,000 per year.*

The time sheets log the Boulder County Sign Shop employees' daily activities and contain information such as a sign bar code number and what work was performed. A unique bar code number is assigned to each sign, and if an employee entered the wrong bar code number, the data would be associated with the wrong sign in the database. These types of errors in the updating process required periodic, expensive, and time-consuming GPS sign resurveys to keep the database accurate and current.

With the new method, Sign Shop personnel carry a pocket PC containing an accurate and current digital map of more than 7,000 road signs with all the necessary information about each sign including type and location. Employees update information about an existing sign in the database while looking at the sign, and missing or incorrect signs have become much easier to locate and replace. Roadside sign inspections are more complete and accurate, and mistakes that an employee notes in either the inspection procedure or the information in the existing database are corrected.

The method significantly reduced employee mileage for sign replacement and inspection, as well as paperwork and data entry errors. The Road Maintenance Sign Shop has three sign technicians using this system, resulting in a savings of one to two hours a day per employee. Employees can spend this time performing more field maintenance, increasing overall productivity. Time savings for GIS personnel due to the elimination of data entry from paperwork are approximately two hours per week. Total savings are more than \$20,000 per year, and one of the unexpected benefits is that county road signs are now extremely accurate, providing the public with the safety level that was originally engineered into the roads.

Using ArcPad with a pocket PC supplies inexpensive, accurate, timely, and reliable information updates while supplying users with the necessary information in the field to perform their tasks at the highest level of accuracy and efficiency. ○



In Boulder County, the road maintenance department uses ArcPad to maintain its sign inventory, which has reduced employee mileage, paperwork, and data entry errors.

## ADDITIONAL BENEFITS

