



## Making Public Works Departments More Efficient

### LOCATION

Golden, Colorado

### TYPE OF SOLUTION

Enterprise

### POPULATION

17,129

### WEBSITE

<http://ci.golden.co.us>

The City of Golden, Colo., located at the base of the foothills of the Rocky Mountains, is a small community of nearly 18,000 people. The Public Works Department's mission statement is to continue to be an innovator in providing proactive service to enhance Golden's current and future quality of life. In recent years, the city has been recognized with a variety of awards and accolades for its successes in public works.

Prior to implementing CartêGraph software in 1999, Golden had an asset management system, but with no assigned "champion" on staff. The information in the system was outdated and not useful. Public Works Director Dan Hartman knew there needed to be a better way to track the information and he turned to his staff to find a new approach. His staff researched different options and recommended CartêGraph software because of its integrated suite and user-friendly interface.

Golden started by focusing on one division: the Water Distribution department. The staff was excited about the results and could see the long-range potential. As the process began, GIS coordinator Quint Pertzsch found that the city didn't have an accurate map of its assets because much of the information was only documented in people's heads. One of the first things Pertzsch did was to figure out the number of fire hydrants for which the city was responsible and where they all were located.

CartêGraph

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# CartêGraph

## Greeley Uses Mobile GIS Program

For the past year, the City of Greeley, Colorado, has been using a mobile GIS program and importing the data into CartêGraph's software. Mike Margenau, Greeley's Traffic GIS Technician, helped develop this method, because they needed a way to perform inspections and edit their asset information in the field quickly and easily.

"We did not have access to a wireless network and database replication had some reliability issues," said Margenau. "It was also important to put it on a small and durable device as it would be carried around in the field for hours at a time."

The CartêGraph database has a sister geodatabase, which contains the same feature and information. Margenau takes apart the geodatabase and loads it onto a Trimble GeoXT running ArcPad. After the field data collection is complete, he can pull information from the field data files and import it back into CartêGraph. He then rebuilds the geodatabase and is ready to begin the process again.

The City of Greeley has also customized its ArcPad interface to make data collection quicker and more accurate. It customized the tool bar so buttons were easier to find and activate. It also has VBScript written into the data collection forms so default values can be set based on previous selections and values can be validated to ensure accuracy.

Margenau has made several revisions over the year, and is currently redesigning it to make it more efficient for their division.

"As I walked around the city recording each hydrant, I found that there were approximately 100 hydrants that had not been accounted for," Pertzsch said. "Besides not knowing where they were, the hydrants had not been inspected in years. When looking back, this probably has been the most beneficial piece of information the city has documented to date."

With the new system underway, the staff was energized to see the results that could be achieved. They also recognized how vital it was to get accurate data recorded in the software, and that doing so would not be an overnight task.

Although it took months for Golden to collect and enter the water network data they immediately saw the benefits in the ability to project the information into their ESRI ArcGIS environment. Other vital information was also discovered in this process. For example, when the hydrant information was identified, the city was able to identify which hydrants had low pressure — less than 500 gallons of water per minute — and determine if it was because it was a small line, the valve was closed, or if there was a break in the line. With minimal research, the city found that it had two-inch lines feeding the problem hydrants. The city was able to remedy the problem, saving time, money and future headaches. The city has provided the Golden Fire Department this information through a read-only version of CartêGraph's WATERview.

In addition to using WATERview to maintain its water system, Golden implemented SEWERview to maintain its sanitary sewer components. The city uses video to view the status of its sewer lines and attaches the video to the SEWERview record. With this technology, the staff is able to see if any pipes are broken or if there is simply a small spot repair needed. This saves both the taxpayer and the city money. Previously, a project that may have taken a week and included torn up streets, now could take only a day with little effect on citizens.

Another great example is that in 1989, 10 years prior to implementing CartêGraph, Golden averaged 18 sewer backups each month. Now, due to the aggressive maintenance schedule and recorded data, it has only a handful of backups a year.

Before tracking data with CartêGraph, administrators thought they had just two miles of storm sewer lines. After the data collection, Golden found it had 22 miles of storm sewer lines. Because of the storm sewer data collection and the maintenance schedule, Golden has a fully developed and implemented Phase II Storm Water Program in the state of Colorado, more than five years before required implementation.

With all of its successes in the implementation process, Pertzsch believes that Golden would not be where it is today if not for the support that the Public Works, GIS and IT personnel provide for one another. It is just as important for the field personnel to know how they fit into the big picture as it is for the Public Works director. Having everyone see the benefits allows everyone to triumph in the success.

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