

CITY OF TACOMA PUBLIC WORKS

Bridging the Information Gap

Tacoma, Wash., improved data-sharing and efficiency — and provided more info for the public.

With more than 200,000 residents, Tacoma is the third-largest city in Washington. The city uses technology to improve services it provides to citizens, and Tacoma's Public Works is a great example of that.

The department deployed an integrated geospatial solution that allows the department to share data across its numerous divisions, with other city departments and the public.

Tacoma Public Works uses geospatial data for many tasks, including issuing building permits, managing wastewater and maintaining streetlights. The department has improved its work processes by marrying its engineering and GIS data. A centralized geospatial database stores all geographic information, allowing Tacoma's public works divisions — and other city departments — to access and update geospatial data. Those updates are immediately available to users in other divisions and departments, as well as the public.

Users can go to the maps and find information associated with a particular location, including certificate of occupancy, variance data, or code violation information. City workers access all the data related to a piece of property, all from one map. Drawings, maps, satellite imagery and other sources can all be combined into a comprehensive view using the various Autodesk components.

Another key beneficiary is the public. Tacoma's award-winning Web site, govME, or "government Made Easy," gives citizens access to interactive maps that provide them with more information.

"We're serving citizens online rather than in line," said Cantu. "We're trying to allow the customer the ability to work 24/7 from their environment — their homes and offices — rather than taking time out of their day to come down to the city and stand in line to get information." With Autodesk MapGuide, Public Works easily publishes GIS data to Web-based applications.

On govME, the public can view scanned images, such as sewer drawings, plat drawings, and building plans. "Now those have all been scanned into the system," said Cantu. "They're all readily available online."

Better Information Sharing

Tacoma also has worked to ensure citywide access to geospatial data, regardless of its format. "What we've found is GIS isn't one size fits all" said Gary Cantu, IT Supervisor for Tacoma Public Works. "There are plenty of tools in the tool bag, and we use three different ones in the city of Tacoma."

Although Public Works relies on Autodesk products, the city Police and Fire departments use another GIS vendor, and the Power Department uses another.

In 2003, the city invested in an Oracle database to centrally store spatial data. Now many departments use their own tools to access the same data, modify it when needed, and save it all in the same central location, where it's readily available to users in other departments. Because Public Works has integrated engineering data with GIS, other users can access this data with their own tools.

Prior to that, employees often didn't know where the information resided. So they'd have to go out and look for it, and also request that it be given to them in a specific format. "Now with all the data stored in

one central location, all you need to know is where to go to look for it and your tool automatically reads that information and brings it in and allows you to view or edit it,” Cantu said.

For example, Engineering can pull GIS data, modify it, and save it back to the database. Then Planning can pull that same data, change the zoning or other information, and save that to the database. Then Power can take that data and add power lines and transformers. Several departments can go in and make changes, increasing the amount of information available for all.

Changes are immediately accessible through the web so field crews and the general public will always see real-time information. And it’s all done with a minimum of effort. “Now you have all the departments using the tools that they have invested in, including for licensing and training,” said Cantu, “and they are able to use those same tools to update that data and be able to still cohesively share the information.”

Building Trust

Trust between departments was a big factor in setting all this up. For years, city departments were responsible for gathering and maintaining their own data. At first, they weren’t always eager to share their data with other departments. “There’s a real trust level that needs to be established to share that information and be assured that it’s going to be secured, and only the right people can look at it,” said Cantu.

Tacoma Public Works overcame the challenge by starting small and showing results. Other city departments soon were impressed with how easily their data could be moved into the central database. Then it was a matter of showing them how rapidly their information could be displayed on the Web via MapGuide. The other departments quickly saw the benefits.

Cantu said built-in security allows selective data sharing, which eases concerns about losing control of data.

“At the server level, we were able to build in securities so some information may only be available to certain individuals of certain departments or maybe everybody within the city. Then other information would be available to the public,” Cantu said. “It’s very important to public safety that we don’t share some information.”

Today’s technology helps Tacoma Public Works improve its internal workflows by integrating design and GIS data, and their ability to integrate easily with other tools has paid big benefits to the department, the city and the public. Tacoma’s enlightened approach to managing spatial information eliminates duplicate data entry and provides more comprehensive collection and processing of this vital resource. Web applications can be quickly customized and updated, and both internal and external customers have better access to the data.