GIS KML Technology Improves Public Works Traffic Count Map

A Case Study

Highlights

- 286 Traffic Count Stations
- Daily and hourly traffic volumes
- Inter office cooperation to bring data to life

Return on Investment (ROI)

- Saving of county staff time by automating maps
- Better decision making
- Desktop evaluation of Operating Level of Service
- Data made available to everyone at one time for a low total cost of ownership (TCO)

Contact

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By centralizing data and making it available through a web browser, Lake County GIS has been able to provide Traffic Count Data interactively to anyone who needs it with minimal update and maintenance.

Background:
Lake County Florida is located in Central Florida, Northwest of Orlando. It has 1,156 square miles of which 203 are water (17.58%). Historically a rural county, Lake County has experienced a more than 25% population growth from 2000 to 2006 and was ranked as the 23rd fastest growing county in the United States with a population approaching 300,000. As a result, the county has struggled to maintain the expanding infrastructure. Traffic data is one of the many challenges facing Lake County Public Works and Traffic Count Stations provide information about the number of vehicles that travel across roads. This data can be used to determine which roads are used most, and to evaluate them for improvement or help justify new construction.

The Issue:
Once new Traffic Count data was collected , the Transportation Section of the Lake County Public Works Department requested a new method to show all the Traffic Count Stations and their associated data in the county. They wanted an easy way to disseminate that data graphically, not only to their own staff, but to the public at large. And they wanted a single source map that could be easily updated annually as new data was obtained that wouldn't require new maps to be created each time.

The Solution:
Having already worked with KML (Keyhole Markup Language) files in ArcGIS Explorer software, Lake County GIS was familiar with the format and capabilities. It was learned that this format was also the format of choice for Google Maps and other third party GIS viewer software. So working with the county Information Outreach Division, GIS created a KML file of the Traffic Count Stations representing the geographic location of each station plus its associated count data and placed that data in a standard web map right on the Public Works web page.

Figure 1: Original Traffic Count PDF

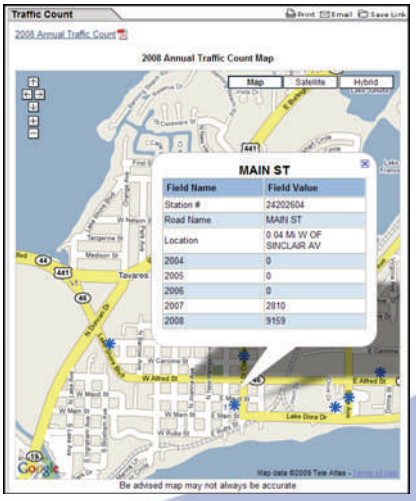

Figure 2: New Traffic Count Map

Benefits:

Several issues are resolved as a result of this methodology. Users do not need to have a third party reader on their computer to view the data, and it is possible to publish this KML file as a service on the ArcGIS Server platform which would be updated automatically whenever the source data is updated in the geodatabase . This becomes a better use of staff time and resources by not having to update a static map and manually export it, then contact the Web Master to update the website with the new file again. This strategy has a solid return on investment, while providing a user friendly and familiar interface. The user only needs to double click on any Traffic Count icon to view the associated data in a pop-up window. The user also has the option of viewing aerial photography of the area if they wish.

Now, county engineers can evaluate the volume of traffic over the roads they maintain and make better decisions about repairs, improvements, and new construction. Private developers can also make better decisions on the impact new development may have on existing roads and plan accordingly.

GIS envisions more county entities utilizing this and other GIS technologies to better leverage the information they have with a more dynamic approach for both internal and external users to view their data near real-time. GIS technology is helping people make better decisions in Lake County.

You can view the Lake County Traffic Count map here:
http://www.lakecountyfl.gov/departments/public_works/engineering/traffic_count.aspx