Lake County Address Assignment Goes Digital

A Case Study

Highlights

- Spatial data layers are maintained by expert data stewards
- Digital backups preserve data
- Faster queries and research

Return on Investment (ROI)

- Time not spent on maintaining base layers can be spent on new activities and QA/QC
- Single source geodatabase ensures accurate up to date data

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Using the power of a sophisticated Enterprise GIS, Lake County has migrated its manual system of Address Assignment into the digital age by creating an addressing grid layer and a digital mapping application to help increase the efficiency of assigning addresses, provide a clearer understanding of existing address locations, and help standardize address data across the county in an effort to streamline business processes and become more efficient.

Background:

In the mid 1990's Lake County, Florida adopted procedures to initiate E911 throughout the county. In doing that the opportunity presented itself to re-address the unincorporated areas of the county using a standard gridding system and codified business rules for assigning new addresses. This would allow greater efficiency for emergency responders in times of crisis and standardize the way locations are found.

The Issue:

One of the bigger obstacles facing Lake County at the time was the lack of a GIS. That meant there was no single accepted source for streets, properties, or subdivisions. An old paper copy of the Property Appraiser's tax maps was obtained and an address grid was painstakingly drawn on by hand – one half-section at a time, but there was no mechanism for updates to the base features other than the addressing staff themselves. A large portion of their time was spent adding new subdivisions, roads, and city annexations and tracking things like lot splits and combines. The data represented on the addressing maps soon diverged from other copies in the Property Appraiser's office and the Planning & Zoning office as each office maintained them for their own needs and on their own maintenance schedule. In the initial re-addressing project all addresses were newly assigned based on lots and properties visible on these paper maps whether or not the properties actually existed on the ground – vacated subdivisions persisted on the maps so they were addressed; closed roads were still on the maps and were included in the MSAG.

Once the county built their GIS and address points were mapped, it was obvious that there were many more assigned addresses in the database than would match with actual geographic locations. As much clean up of the data as possible was performed to get a 99%+ match rate among nearly 200,000 address points, but the assignment of new addresses was still done using the old paper maps with missing and/or extraneous data. Plus, after nearly 20 years of use the paper maps were beginning to tear and fall apart.

The Solution:

With the growth of Lake County's Enterprise GIS, the option now exits to quickly produce interactive digital maps. This ability to create intuitive, user-friendly maps allows the GIS team to create user-specific maps with specific functionality and local data.

The first step was to recreate the addressing grid on the paper maps as a line feature class attributed with the grid range numbers. This grid consists of parallel lines running north/south and east/west spaced approximately 1/10th of a mile apart (or dividing a section into 10 equal parts if not an actual square mile). Along with the line feature class, a non-linked, static annotation feature class was also created to hold any notes that had been added for reference on the paper maps pertaining to address locations, etc. This would allow the paper maps to be retired and they are now in the process of being scanned and archived.

An ArcMap map document was then created for the Addressing team that consisted of the county base map features – parcels, streets, lakes, city limits, address points, etc. – plus zip code boundaries and the new addressing grid and annotation layer.

Scale limits, symbols, text sizes and fonts were decided on and approved by the Addressing team and the map document was made read only to preserve its integrity. The new map also includes functionality to query data, generate reports, and identify existing addresses.

In parallel to all this work, the address database was also standardized to ensure consistent data input. Street types were constrained to a predetermined list of possible types (ie: AVE, ST, DR, etc); a Street Name table was created of all unique street names in use in the county; and existing addresses were cross matched with existing streets to make sure that the geographic location of the address fell along the proper street.

Benefits:

Because the base map features of this new digital map are reading from the single Enterprise geodatabase (which is maintained by various expert data stewards throughout the county), the map always reflects the most current, best available data and the Addressing team no longer needs to spend time maintaining their base map. They can now concentrate on assigning new addresses and cleaning up the remaining 1% discrepancies.