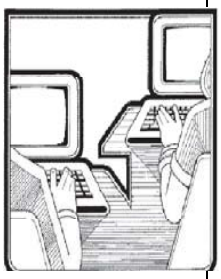
CPPC
City-Parish
Planning Commission
Baton Rouge, Louisiana

INFORMATION BULLETIN Number 36

Data...the Foundation of a Geographic Information System



A Geographical Information System (GIS) is a computerized mapping system linked to a large "database" of various kinds of land and property information (see Information Bulletin 8, "City-Parish advances with geographic information system"). A GIS can graphically display requested information (on maps), and it can also sort and tabulate large quantities of data in number or text form.

Maintaining a comprehensive, user-friendly GIS is one of the many important and exciting projects taking place at the Planning Commission. The system stores and displays useful information in a digital map format for every parcel of land in the City-Parish.

The development of the GIS was part of several "Action Items" in the Horizon Plan (the City-Parish's 20-year comprehensive land use and development plan). GIS is addressed in the Land Use, Housing and Public Service elements of the plan. These Action Items called for the establishment of a GIS that includes information on all property including: parcel ownership; zoning; subdivisions; flood zones; rights-of-way; servitudes; utilities; infrastructure; permits; census data; housing data; assessments; and health and human services.

The Database

To coin a phrase "garbage in, garbage out" means simply if the data is inaccurate, the results will be inaccurate. In order for a GIS to be useful it must have an accurate and meaningful database as the foundation. A database must also have complete data in order to make any analysis worthwhile. This requires several steps to ensure that the data which is collected is checked, reviewed and rechecked.

The Planning Commission staff has developed a process to ensure that complete and accurate data is assembled for the system. Although at times this process may be tedious, each step is no less important than any of the others. The steps include: Data Collection; Data Recording; Data Accuracy Check; Data Entry; Parcel "Tagging"; the digital map; and Updates.

Data Collection

There are approximately 180,000 parcels of land within East Baton Rouge Parish. The data collection process for the GIS was initiated in the Planning Commission office. The data collected for each parcel was assembled from several different sources within the Planning Commission office, Department of Public Works Inspections and Drainage Sections, Capital Region Planning Commission and field (windshield) surveys. Below is a listing of each agency's responsibility for maintaining the GIS:

- **Planning Commission** Planning District and Subarea, Subdivision, Filing, Block Number, Lot Number, Address, Flood Zone, Census Tract and Block Group , Geographic location of Address, Business Names, Existing Land Use, North American Industry Classification System (NAICS) Code, Future Land Use, Zoning, City Limits, and Metropolitan Council District
- **Department of Public Works** Address assignment, Permit information; Buildings, and Infrastructure
- **Capital Region Planning Commission** Louisiana Department of Transportation and Development Traffic Zones

Field Map Field Survey

Data Recording

Field survey data is combined with other sources of information to develop a record of each parcel. Each series of information is the basis for the database. Below is a simplified version of the data worksheet illustrating this process:

Worksheet

Subdivision	Lot	Address	Street	Zoning	Flood Zone
Daisy River	10	411	Petal	A1	A
Daisy River	11	409	Petal	A1	A
Daisy River	12	407	Petal	A1	A
Daisy River	13	405	Petal	A1	AE
Daisy River	14	403	Petal	A1	AE
Daisy River	15	402	Petal	A1	X
Daisy River	16	404	Petal	A1	X
Daisy River	17	406	Petal	A1	AE

This step in the process represents the first opportunity to check for inconsistencies with the data or maps. If there are errors in the parcels or addresses, the surveyor researches the Planning Commission subdivision files or looks up the legal description at the Clerk of Court office.

Data Accuracy

The data is used not only to build a database but also the GIS base map for the GIS. A base map is a digital graphic representation of several features such as parcel boundaries, rights-of-way, and hydrography. Therefore, the need for accurate data cannot be overly stressed.

The accuracy check involves a review of the recorded data thus obtained. This requires cross-checking much of the information obtained from various sources. These sources include, but are not limited to, field surveys, the Polk City Directory (similar to a telephone directory but listed by address), the telephone directory and if necessary, a telephone call to the business or resident on the property. If warranted, the survey crews will return to the field to make sure the addresses and the parcels match.

Data Entry

Once the data accuracy and quality are established, the data entry process begins. Again, the data undergoes further scrutiny as it is entered record by record into the database.

A record consists of over thirty (30) pieces of data for each parcel. Highlighted below is a portion of a record in the GIS database. The areas in bold are the records which were gathered in the field survey. Note that the addresses in the figure on the right coincide with the addresses in the database (407 and 405 Petal Street in bold).

Lot ID	Subdivision	Lot	Address	Street	Zoning	Flood Zone
1650330001	Daisy River	10	411	Petal	A1	A
1650330002	Daisy River	11	409	Petal	A1	A
1650330003	**Daisy River**	**12**	**407**	**Petal**	**A1**	**A**
1650330004	**Daisy River**	**13**	**405**	**Petal**	**A1**	**AE**
1650330005	Daisy River	14	403	Petal	A1	AE
1650330006	Daisy River	15	402	Petal	A1	X
1650330007	Daisy River	16	404	Petal	A1	X
1650330008	Daisy River	17	406	Petal	A1	AE

The left column contains the lot identification numbers. When a record is created these numbers are automatically assigned based on the Planning District, Subarea, Lot and Block Map Number, and a unique four digit number. For example:

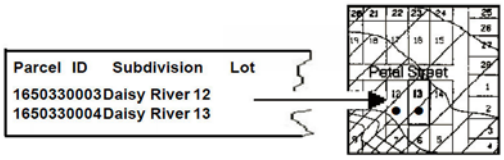
16	5	033	0001
Planning District	Subarea	Lot and Block Map Number	Unique ID

These numbers are central to the GIS. Not only are they based on existing features in the database but also serve as unique identifiers for each piece of property. No other lot has the same number and the number does not change over time. All the information regarding the lot is linked to this number.

Parcel "Tagging"

Recall during the data entry process, the lot identification number is assigned to an individual record in the database. This number permanently links the digital map and the database to form the GIS. Each lot is identified with the Lot ID number, then attached or "tagged" in the digital base map by entering the number as an attribute of the lot graphic.

This process is illustrated below: 1) the Lot ID is assigned in the database; 2) the lot is identified on the map by lot numbers 12 and 13 and; 3) the Lot ID is entered into the lot graphic attributes .



Updates

Keeping track of property information is a dynamic process, it is important to maintain a current database and map. The Planning Commission staff works with the Department of Information Services and Department of Public Works Permits and Inspections Division to ensure that the information is up to date. Planning Commission GIS staff and interns also provide updates through field surveys, new development, or changes to the Comprehensive Plan.

Conclusion

These computerized maps may be drawn to respond to a specific question about an area such as: "Where are all the schools or hospitals located on Bluebonnet Boulevard between Interstate 10 and Perkins Road?" The ability to have this information available at the click of a mouse is a powerful planning tool. The importance of accurate data is reflected in our ability to use the system in a productive manner.

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