City Fusion ©

A Geographic Information System-Based Infrastructure Management System

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Goals:

1. Establish and maintain an inventory of existing municipal infrastructure.

2. A Geographic Information System (GIS) must be a component of the overall system to provide integrated analysis and maintenance planning on a citywide basis.

3. Capture information on the condition, utilization and functionality of the infrastructure in a standardized format.

4. Facilitate priority setting for infrastructure upgrading and/or replacement on a needs-driven basis.

5. Facilitate sharing of information related to the various types of infrastructure.

6. Integrate existing and new core applications used by all departments.

7. Integrate financial information needed to comply with GASB-34 and facilitate decision-making.

8. Providing internal and public access to information thru the web.

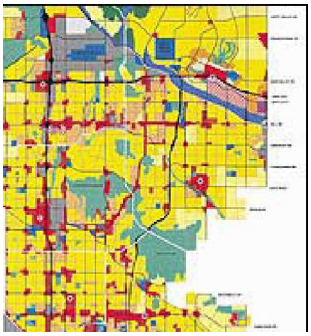
Asset Management at the City of Taylor

The City of Taylor, Texas is a community that has experienced a steady growth pattern over the last few years.

To better serve the public and private sectors, and meet increasing demands on its resources, the City's staff decided to leverage GIS technology to better track and maintain assets, and to give other departments access to information used to check the status of their requests using interactive mapping.

Data from service requests and Work management, to permitting, code enforcement and financial systems needed to be integrated, queried and reported on.

The GIS allows city workers to view, understand, question, interpret, and visualize data in ways simply not possible in the rows and columns of a spreadsheet. Maps make patterns easy to see and provide better decision-making tools and analysis.



The Challenge

The City of Taylor needed to address several basic needs:

1. Build a GIS baseline map of the city;
2. Manage and service municipal assets;
3. Establish an integrated service request and work management system;
4. Manage the growth of the city with an integrated permitting and code enforcement system;
5. Utilize mobile technology to capture and transfer data collected from field based work activities; and
6. Use the Web to make these applications available on the city Intranet and Internet.
7. Facilitate decision making by using the intuitive power of maps to reveal trends, patterns, and answers that are not as easily detected in other data presentation formats.
8. Facilitate GASB-34 compliance by enhancing financial data collection.

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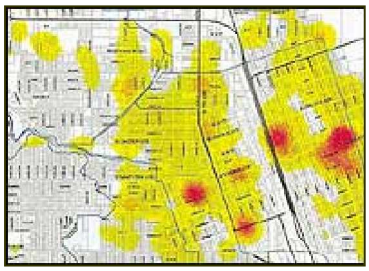

The Solution

The City professional staff working with the Data Fusion's GIS and software development team decided to use a phased approach that would provide value at each phase.

The first phase was to develop a base map for the city. The base map would include aerial photos, planimetrics, parcels, zoning, and land use.

The Public Works department added requirements to include the water and waste water system.

Much of the data collected were in spreadsheets, databases, CAD drawings and hard copy documents.

The second phase consists of the design and development of a database that would act as a "data warehouse" for the city. The database would be linked to existing applications currently in use by the city and to future applications to be acquired by the city.

The third phase is to deploy a web-based interface to allow Intranet and Internet access to selected part of the database for inter-departmental use and public access.

"Integration of the financial data is key to managing the city assets and services."

The Process and the System

After a period of user requirements definition, the project team completed a full data inventory. The data was classified according to priority and quality levels.

A database was designed to store the geographical and the process data.

The base map was constructed using ESRI's ArcGIS ©.

Phase II includes the construction of a database integrated with the base map. It allows import of data from existing applications into a single repository that can be mapped.

Phase III will allow the non-essential city users to access data over the Intranet

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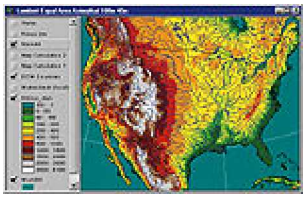

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