

## **Five Year Plan For Geographical Information System (GIS)**

### **Mission:**

The mission of the GIS Team is to provide accurate and current spatial data for each department in the City of Lebanon, to offer support in the use and analysis of information, and to make data available to the Citizens of Lebanon.

### **Services:**

GIS services are relatively new to Lebanon, but with continuous growth taking place within the City, this service is of great value to every department in the City. The base mapping data received in 2001 and the digital parcel data supplied by the County are currently being used by several departments:

- Planning department in analysis of land use and zoning data
- Engineering department in road service and right-of-way information
- Codes Enforcement department in identifying parcel ownership and addressing
- Gas utility department in location of gas valves

In an effort to provide complete service to all city departments, there is still much data to collect and many map layers to create. Collection and maintenance of existing spatial data (infrastructure, land use, roads, and etc.) will provide all utility and fire departments with additional information that will aid in the efficiency of daily work flow (eliminating redundancy and reducing errors). With the creation of certain maps and data entry of special information, GIS can be a valuable service to emergency responders.

### **2007**

#### **Street and Address Layer**

The street layer is currently being developed. This layer will have correct street names, as well as proposed streets with the street name indicated. Once this feature is finished, addressing information will be added, which will identify address ranges for each street section.

In 2007 the GPS Trimble Recon Unit will be upgraded to a sub-foot accuracy unit.

#### **Change in Job Descriptions**

As GIS services grow for the city, it will become important to protect this investment in training of personnel. At the present, the city does not have positions or job descriptions for the technically trained staff. In FY07-08 appropriate titles, descriptions and salaries for GIS staff will be under development, using state and surrounding local governments GIS Departments as guides.

### **2007-2008**

#### **Mapping of Infrastructure**

Plans are underway to begin the GPS collection of water valves, sanitary sewer manholes, fire hydrants and major storm water features in the spring of 2007. Due to the complexity and size of this task, completion of the city's infrastructure mapping will run over into the year 2008. Even though the point GPS data will be collected by a consultant, each utility department will supply the GIS Team with the accurate and necessary information to create the corresponding line data for each utility (water, gas, and sanitary sewer). As the GPS collection of existing features is beginning, there will be a need to develop a procedure, provide and update GPS equipment, and

assign a staff person for collecting all new features, which will maintain the accuracy of the city's infrastructure mapping.

As data becomes available for each department and the number of users increase, customizing of the software, and creating special tools pertinent to a specific situation will require the knowledge and expertise of a programmer (GIS Analyst). Customizing the software to accommodate special tasks will take the services of GIS to a higher level. Also, as city growth takes place and more users take advantages of GIS services through out city departments, the addition of a technician (GIS Specialist) may be necessary by FY 08-09.

## **2008-2009**

### **Interactive Web Mapping**

Provide Web services to the public for spatial information. This has become a service the public expects of state and local governments. Interactive Web Mapping requires hardware (Server), software (ArcIMS) and staff to administrate (GIS Administrator) and create specific programming (GIS Analyst) for this service.

## **2009-2010**

### **Extended Services**

Implementation of a GIS server to house all city data, and a more robust database system that will allow multiple users to access and edit data would be an asset to every department. Field workers could have the ability to access and edit data. Emergency crews could have the ability to view information for correct addresses, place of hazardous chemical storage, street routing, etc. The implementation of this service requires highly trained technical staff, GIS Administrator and GIS Analyst, as well as laptops for field crews, wireless internet connection, robust server and Oracle database.

### **Hardware:**

#### Current hardware

- Large document color plotter, 36 inch and 11 x 17,
- Large document black and white plotter, 36 inch,
- Large document black and white scanner, 36 inch,
- Large document color scanner, 11 x 17,
- Document feed color scanner,
- Two GPS Units Lieca GS-20 and Trimble Recon.

#### Future hardware

- GIS server – One central repository to house city data
- Workstation Updates – As data increase, size of files increase, demands on workstations increase
- GPS Units – Collection and maintenance of data will require additional units and upgrades

## **Software:**

### Current software

- One seat ArcInfo
- Two seats ArcView
- Two seats MicroStation

### Future software

- As GIS staff increase, Arc View seats will increase (\$1500 each)
- Maintenance – Yearly maintenance on all software and extensions is required (\$300 to \$600 each)
- ArcIMS – Software for web services which makes interactive mapping available to the public (\$8000)
- Extensions to Software – Spatial Analysis, and 3-D Analysis, allows manipulation of 3 – dimensional data (\$2000 each)
- Oracle – powerful database, which will allow multiple users at a time and will house all GIS data for the city.

## **Personnel:**

### Current Staff

- 2006 budget year, an Engineering/GIS Tech. position was filled making a total of 3 positions for the GIS Team

### Future Staff

- GIS Specialist – Aids in daily functions of GIS services, GPS collection of data and creating map layers (FY 08-09)
- Analysis – To customize GIS software and program special features for city users (FY 08-09)
- Administrator – To oversee city database and website services (FY 09-10)

## **Professional Growth:**

Because of the technical nature of this field, it is important to keep up with the changes taking place. Attending conferences and interacting with other professionals in the field becomes an important training arena.

- MTGIC – Middle Tn Geographical Council, two days, held in Nashville at no cost to attendees,
- TNGIC – Tn Geographical Council, four days, held in different cities throughout the state, \$150 conference fee, plus expenses
- SERUG – South East Region Users Group, 5 days, held in cities in the SE
- National Conference – 5 days, held in San Diego, CA, conference fee \$1200 (city has an unused one time free attendance with the purchase of ArcInfo).
- Training – ESRI and State authorized training, and college courses to be provided in the budget