Geographic Information System Services

Strategic Plan

FY 2010 – 2011

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Adopted: Spring 2010
Revised: November 24, 2010

Major Sections:

- History
- Mission, Vision, Values
- Strategic Issues
- Performance Measurement
- Roadmap to Success
- Sample Maps
- FY 2010-2011 Proposed GIS Services Budget

Municipal GIS
History

For the past 10 years, the Town has annually purchased base-map data from KGIS (Knoxville Geographic Information Systems) through a data license agreement. Until 2008, the Town maintained these county datasets, and the town-specific layers in a standard Geographic Information System (GIS). The GIS was maintained and operated by a GIS Technician. The Town's ability and output was limited, the GIS database maintenance protocols were not followed, inter-agency relationships not cultivated, and the full potential of a municipal GIS was never realized. The result was the improper or non-use of this critical governmental system, resulting in low quality or inaccurate output. Our subsiding involvement with the local GIS community isolated the Town and kept us from implementing innovative GIS best practices which are utilized by all successful municipal organizations.

In 2008, the Town's GIS Technician position was eliminated and all GIS responsibilities were formally outsourced, by contract, to ARCADIS. Upon execution of that contract ARCADIS assigned all TOF GIS responsibilities to Robbi McKinney, Project Scientist and experienced, credentialed, and highly regarded GIS professional. Upon evaluation of our current needs, credibility of the data, and information we had available for use, it became apparent that a large amount of GIS work was required in order to meet our statutory requirements and bring our municipal GIS up to current "best practice" standards. In conclusion, we resolved to put a plan in place to create a full service GIS program for the Town of Farragut.

Since ARCADIS' involvement we have made the following improvements to our system:

Major Program Improvements:

- Initial Evaluation: Basemap data, hardware/software, and KGIS and ESRI (Environmental Systems Research Institute; Premier GIS software provider) maintenance agreement
- Redesigned the ArcReader program for more effective Town use and efficiency in operations
- Re-evaluated the user license agreements with ESRI and eliminated unnecessary annual maintenance fees saving ~$11,000 annually
- Eliminated duplicate data sets to reduce server load
- Established previously non- existent quarterly backup system on external hard drive which allows the Town server to run more efficiently, saves large amounts of data space, saves in overall costs, and safeguards our data
- Provided focused training of the ArcReader program to the Town Staff on a annual basis or as needed
- Re-established productive relations between Knox County, City of Knoxville, Metropolitan Planning Commission, First Utility District (FUD), local GIS consortiums, and provide professional GIS liaison services to Town contracted consulting firms
- Compression and cropping of the aerial photo data which dramatically increased the speed of image upload on Town workstations, and saved at least a terabyte of server space for other Town use

Newly Created/Revised Data Layers:

- New Layers/Maps:
    - Subdivision map
    - Recycling Map/Brochure
    - Existing Land Use Map
    - High School Zones
    - Zip Codes
    - County Commission Redistricting
    - Town Wards
    - Park Facilities Maps
    - FUD Map (water mains, sewer lines, fire hydrants)
    - FEMA floodplain layer
    - Existing building/structure layer
    - Greenways/Sidewalks layer (DPW/PALS)
    - Event Maps
        - Picnic on the Pike
        - Freaky Friday Fright Night
        - Taste of Farragut

- Consolidation and remediation of data from disjointed, outdated formats into state of the art file geodatabases which are now used for advanced analysis and geoprocessing
- Each park now has its own map for internal use and analysis, is currently uploaded on the Town website for public use, and is posted at each park respectively for general use
- Expedient upload of quarterly updated Knox County planimetrics (parcel split/combines, assessor data, addresses, and transportation layers)
- Annual mapping updates and services for all departments (resurfacing, snow removal routes, Annual Report map, etc.)
- Provide emergency/on call support to the Town Staff and Officials
    - Redistricting Mapping and testimony before the County Commission on behalf of the Town Board
    - Public Hearings/BOMA
        - Compilation of statistical banking information
- Grant Application Support

Municipal GIS
Mission, Vision, Values

GIS Services Mission:

- Provide responsive high-quality municipal GIS support and services to all Town Departments, Town Officials, and general public.

GIS Services Vision:

- Plan, train for, and implement the latest technology available in municipal GIS in order to meet the statutory requirements and needs of the Town; keep the Town at the national forefront in municipal GIS services.

GIS Services Values or Guiding Principles:

- **Service Excellence:** Timely, accurate, and professional response to request for GIS services

- **Fiscal Accountability:** Maintain a high level of output while striving to keep the cost associated with services at a minimum in order to safe guard against wasteful public expenditures

- **Innovation:** Assess the changing needs of the organization in order to take advantage of the latest technology in municipal GIS and distribution of GIS output to our customers

- **Continuous Improvement:** Seeking opportunities to update and improve our current operations and GIS network in order to provide high quality service delivery and remain competitive with other communities

- **Teamwork:** Working together with KGIS and internally in a collaborative, high performing manner, with a common vision and purpose

- **Problem solving:** Striving to find practical and effective solutions to achieving desired goals through innovative municipal GIS

- **Continuous Training:** Provide consistent and thorough training to the primary in-house Town users of the municipal GIS

- **Timely Distribution of Information:** Maintain our municipal GIS through continuous collaboration and KGIS data updates in order to distribute all information in an accurate and timely manner for municipal use in-house and public distribution through web-based applications

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Municipal GIS
Issues, Goals, and Objectives

Strategic Issues and Goals

Issue: GIS work is sporadic, random in nature, often "last minute", and lacks a submittal process which causes stress, conflict, poor performance, and misunderstanding of GIS.
Goal: Create a mechanism for consistency in work requests. Keep the Town departments fully informed at all times regarding GIS input/output, abilities, innovation, collaboration, and expectations.

Issue: There is still a lingering "elitist" attitude of the Town by other governmental agencies.
Goal: The Town needs to change this perception, cultivate relationships, share all information, and become a key collaborative member of the GIS community.

Issue: We have an outdated GIS workstation which is causing hardware vs. software conflicts and problems in analysis and output.
Goal: Create a workstation capable of handling all of the capabilities of a full GIS program.

Issue: GIS use is increasing internally, requests are compounding, which means contract cost for outsourcing GIS management will increase contemporaneously.
Goal: Bring GIS management "in-house".

Issue: Efficient digital distribution of information to the public is limited.
Goal: Implement a mechanism for efficient distribution of GIS to the public

Issue: GIS use is not thought of as a primary source of information which causes end users to rely on older methods of research; thus, decreasing efficiency while increasing costs.
Goal: Change the perception of municipal GIS and educate our internal and external partners in GIS applications.

Strategic Objectives (FY 2010-2011)

Objective: Develop a Standard Operating Procedure (SOP) for each major updating activity. The Town needs to chart and adopt a "process flow" procedure which governs what occurs between the policy and actual implementation (i.e. amendments to the Zoning Map that documents how zoning amendments are imported into the GIS). Draft and distribute a consistent (quarterly) internal newsletter to departments keeping them up to speed on the latest advances in GIS, our internal capabilities, and any related issues.

Objective: Strengthen an already firm relationship with KGIS by participating in more open data sharing. Improve relationships with Knox County and the City of Knoxville. Participate in inter-agency "user groups" and similar local government consortiums.

Objective: Upgrade workstation and peripherals to current GIS standards which will be capable of handling any GIS program/extension. (COMPLETED FALL 2010)

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Objective: Designate and train two employees in the latest ArcGIS applications and begin transitioning work from outside to inside.

- Upgrade our licensing: ArcGIS Enterprise is needed in order to take the Town to the next level. This would include Arcserver and unlimited licenses to ArcView/Info and all available extensions
- Cross-train and improve GIS technical abilities within (high use) departments in order to increase efficiency, provide redundancy in operations, and save on cost
- Bring GIS management in-house: The Town will need to recruit a full time GIS Analyst capable of geodatabase management, intergovernmental collaboration, and innovation in GIS (long term objective)

Objective: Create a public portal through our website for efficient distribution of all of our GIS layers in accordance with the best practices in municipal e-government and GIS.

Objective: Share knowledge and experiences with other GIS users through professional networks. Keep our business partners informed of innovation in GIS technology. Promote the public portal as a primary source of information. Create an in house *GIS Innovation Team,* utilizing the High Performing Organization (HPO) model of teamwork, consisting of select Town employees tasked with the implementation/modification of this plan.

Municipal GIS
Performance Measures & Desired Outcome

Performance measures used to evaluate the achievement of Goals and Objectives of our Municipal GIS:

1. Quarterly evaluation of the municipal GIS Goals and Objectives by the GIS Innovation Team.
    a. Desired Outcome: track progress and make modifications where appropriate.
2. Evaluation of the progress with regard to the implementation of the web based applications.
    a. Desired Outcome: public portal launched through our website within 2011.
3. Customer / End User Evaluation: data collection through in house questionnaires and online surveys.
    a. Desired Outcome: positive feedback to our evolution in municipal GIS and/or quick response to complaints and/or requested changes in the distribution of our municipal GIS.
4. Expedient certification of not less than two Town employees in the use of ArcGIS applications.
    a. Desired Outcome: realization of work transitioning from outside to inside.
5. Overall decrease in current costs or future year projected decrease in future costs associated with the municipal GIS implementation through in house training and geodatabase management.
    a. Desired Outcome: A realized decrease in costs while increasing in house performance.
6. Obtain the esteem of our colleagues through collaboration and shared innovation. Gain regional or national recognition for excellence in municipal GIS.

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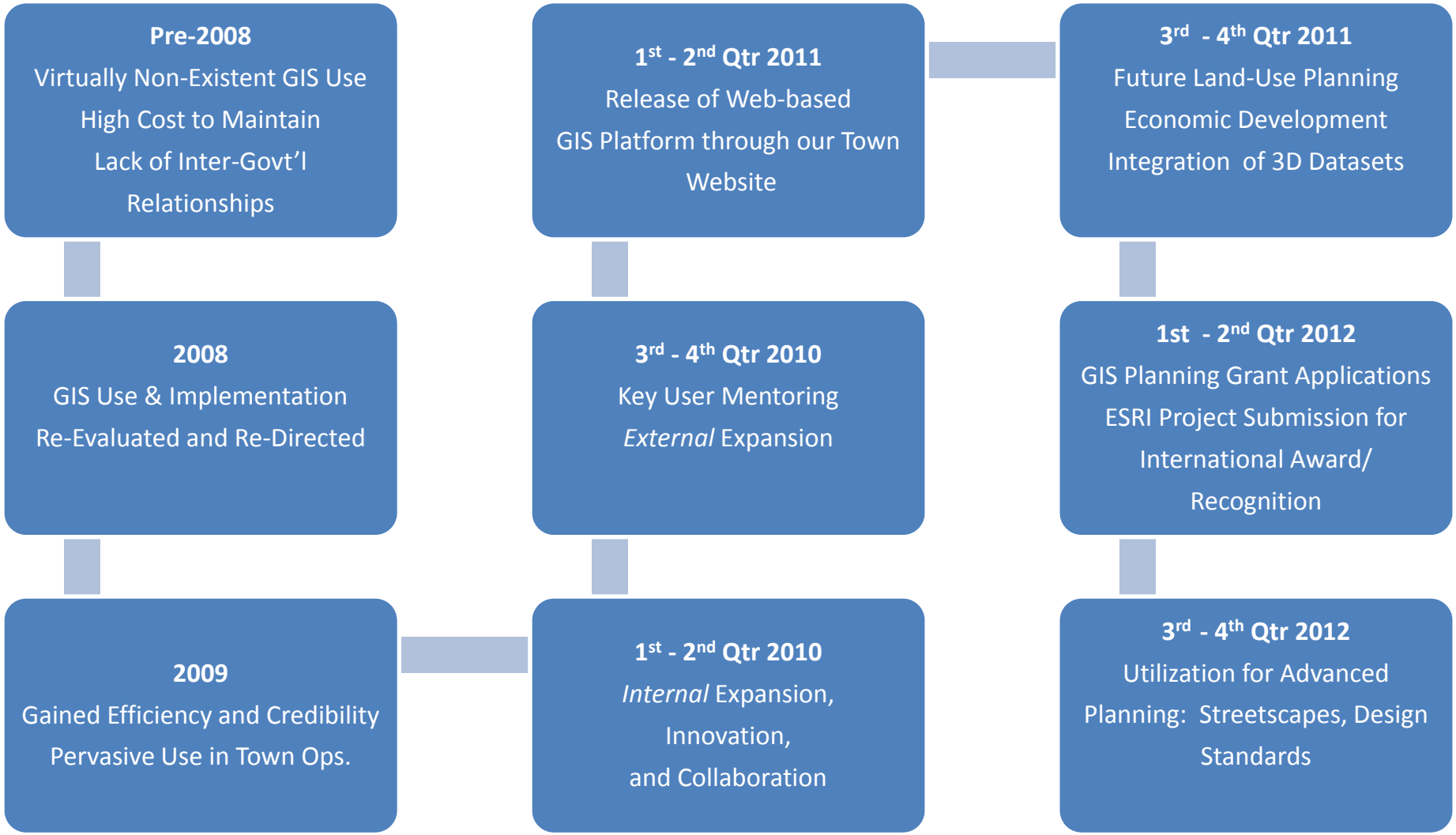

Examples of what we could do! Click here -------- > Ottawa County

FY 2010-2011 Proposed
GIS Budget

Cost Breakdown	
ANNUAL MAP UPDATES AND OUTPUT	
Greenways Maps	$8,000
Development Maps (Zoning, Existing Land Use, Major Road Plan, Development Updates)	$2,000
Snow Removal Maps	$2,000
PALS (Grants, Parks, Event Maps)	$5,000
Parcel Base Map Maintenance, Road Maps, Board support, unanticipated mapping	$10,000
GIS Innovation in Laserfiche, Incode, 3D Analyst, and GIS Web Based Applications	$2,000
GIS HARDWARE UPDATE (REQUIRED)	
New GIS Desktop Workstation: Dell's Alienware Aurora with 3GB Tripple Channel 1067Mkz DDR3, 500GB-SATA-II, 3GB 7,200RPM, 16MB Cache HDD, Single 1GB NVIDIA GeForce GTS 240, 40" LCDHD Monitor	$3,500
ANNUAL SOFTWARE/ LICENSE AGREEMENTS	
KGIS User / Maintenance Agreement (Knoxville GIS Provides Planemetrics: parcel dimensions, assessor data, location information, xy coordinate data)	$3,000
ESRI (Environmental Systems Research Institute) License Agreement This cost includes the past two years' license use fees which were not paid due to an accounting error	$9,000
TRAINING	
Annual ArcReader Updates and Training x 3 days	$2,600
Total GIS Services Cost	**$ 47,100**