Final Audit Follow Up

As of March 31, 2000

CITY OF TALLAHASSEE

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"Audit of the Geographic Information System Development Program"

(Report #9506, Issued November 17,1997)

Report #0011 ***June 22, 2000***

Summary

This is the final follow up on the Audit of the Geographic Information System (GIS) Development Program (#9506) in the City. While almost all of the issues have been addressed, there are two significant outstanding issues remaining:

1) There is no active monitoring of the GIS project by the Information Systems Services (ISS) Steering Committee. The City Manager should consider changing the responsibilities as well as the current composition of the ISS Steering Committee.
2) Electric GIS data has not been successfully migrated over to the City's adopted software standard.

Scope, Objectives, and Methodology

Report #9506

The scope of report #9506 was the development of the City's GIS. Our primary objectives were to determine whether:

- the oversight and coordination in the planning and development of GIS applications were adequate,
- cost benefit analysis was used to evaluate GIS development, and
- GIS-related costs and activities were recorded and reported properly.

In general, the audit identified opportunities for improved oversight and coordination citywide in the areas of planning and development of GIS applications.

Report #0011

This report is the last follow up that will be performed on report #9506 and closes out that project. The purpose of this final follow up is to report on the progress and/or status of efforts to implement recommended action plan steps. In addition, this Final Audit Follow Up report formally transfers certain unresolved issues to the appropriate Appointed Official for follow up, review, and disposition. To verify and validate reported progress, we conducted interviews with key department staff and reviewed and examined supporting documentation.

Background

A GIS is a computer system for capturing, storing, checking, integrating, manipulating, analyzing and displaying data related to positions on the earth's surface. Typically, a GIS is used to create or manipulate maps. These maps may represent several different layers where each layer holds data about a particular feature (such as buildings, roads, or property lines). Each feature is linked to a position on the map. GIS can be used to display patterns of land use, demographic data, and a range of operational information. This type of data can be used for a broad range of purposes including planning, growth management, automated mapping, routing, facilities management and maintenance, and emergency service dispatching.

City departments are implementing systems that interface with the GIS data in order to provide location detail, including but not limited to: police and fire dispatch, electric outage, gas, water, solid waste, growth management, Taltran, and public works.

Previous Conditions and Current Status

In report #9506, we identified four main areas in the development and administration of the City's GIS

program: planning, responsibility and oversight, development and acquisition, and coordination and sharing of resources. The current status of tasks due by department is as follows:

Tasks Due and Completed By Department			
Responsible Department	**Total Tasks**	**Completed**	**Percent Completed**
Management & Administration	4	4	100%
Information Services	27	25	92.6%
City Manager's Office	3	3	100%
Total	**34**	**32**	**94.1%**

Table 1
Conditions Identified in Report #9506 and Current Status

Previous Conditions	Current Status
Planning Issues	
• Ensure that GIS development is congruent with the goals and objectives of the City through the following activities: ⇒ define the City's scope ⇒ develop a citywide strategic plan ⇒ identify all existing systems that are related to GIS ⇒ develop a listing of employees performing GIS development functions ⇒ identify contracts with vendors and consultants working on GIS projects ⇒ identify departmental business needs for GIS applications ⇒ review the City's overall needs/plans for field deployment of GIS and other information systems	✓ A citywide GIS Strategic Plan that included a mission statement, goals, and objectives, was developed by the GIS Strategic Planning Committee and approved in March 1999. ✗ However, the developed strategic plan lacks performance measures. ✓ In June 1998, ISS identified: ⇒ the existing systems related to GIS ⇒ the vendors and consultants contracted to work on GIS projects ⇒ the employees performing GIS development functions ⇒ departmental business needs for GIS applications
Responsibility and Oversight	
• Centralize the responsibility for GIS application development/acquisition, and ensure the integrity and compatibility of collected GIS data.	✓ During 1998, executive management assigned responsibility of the GIS applications to ISS. In ISS, there is a project manager, systems analyst, and four coordinator positions dedicated to GIS. The project manager is responsible for all GIS capital projects. However, data collection responsibilities are assigned to Utility Business Services and Water Administration.
• Establish an oversight body for the GIS program.	✓ In May 1998, the Information Technology Acquisition Policy (APP#801) was adopted. ✗ While the policy has been adopted, oversight has not been adequately provided. *See Significant Outstanding Issue #1 below.*
• Centralize control of GIS development and support funding.	✓ Tallahassee-Leon County GIS Interlocal Program is equally funded by Leon County and the City.
• Improve coordination and sharing of resources with GIS Central.	✓ ISS GIS staff work in conjunction with the Tallahassee-Leon County GIS Interlocal Program in the development of common data, applications, and GIS standards.

Development and Acquisition	
• Standardize the process for developing or acquiring new GIS applications, including: ⇒ hardware and software ⇒ data format ⇒ addressing and validation (should be consistent with the county-wide Master Address List) ⇒ accounting and budget for GIS costs	✓ The ISS Master Plan defines citywide standards for hardware and software. ✓ ISS declared that they shall conform to: ⇒ Tallahassee-Leon County GIS Interlocal Program base map standards ⇒ City surveyor-approved data collection methodologies ⇒ City adopted data models and metadata standards ⇒ accounting and budget standards ✗ Contrarily, the budgeting and accounting methods for costs related to various GIS development and data collection activities have not been standardized. The GIS Development and Implementation project (#95207) is classified as an operating expense, while data collection projects (#98066, 99051) are classified as capital expenses.
• Migrate the existing GIS Electric data to the City's standard format and application.	✗ This has not yet been completed. *See Significant Outstanding Issue #2 below.*
• Identify and plan the acquisition of ARC/INFO applications to fill Electric's future application needs/plans.	✓ Request for Proposal was developed and a contract awarded to fill this need along with the migration of data.
• Develop process to review all major acquisitions of information technology for GIS potential.	✓ In May 1998, ISS incorporated a step into their departmental procedures to consider the potential for GIS during their planning process.
Coordination and Sharing of Resources	
• Improve the coordination and sharing of resources with GIS Central.	✓ In March 1999, the Tallahassee-Leon County GIS Interlocal Program Director presented to the Committee (made up of Interlocal staff and City and County Commissioners) the status of GIS activities and future strategies, coordination of efforts, and hardware, software and data standards.
• Identify elements within existing City systems and determine whether existing data can be utilized for the GIS in a cost-effective manner. The existing systems include: ⇒ Customer Information System ⇒ Customer Inquiry Tracking System ⇒ Human Resources Management System ⇒ Financial Management System	✓ In June 1998, ISS evaluated these systems and determined the business needs for utilizing GIS data.

Table Legend:

- • Issue addressed in the original audit
- ⇒ Issue sub-components
- ✓ Issue addressed and resolved
- ✗ Issue not resolved

Significant Outstanding Issues

As this audit follow-up period closes, two significant issues remain unresolved.

1. There is no active monitoring of the GIS project by the ISS Steering Committee. The ISS Steering Committee has not regularly met to receive progress reports and to actively monitor the GIS Development Program. In addition, no department level steering committee is functioning in place of the ISS Steering Committee to oversee the project's activities.

Recommendations: The City Manager should consider changing the responsibilities and the current composition of the ISS Steering Committee. With the recent appointment of department level steering committees for each major information technology project, the future and more important role for the ISS Steering Committee should be to recommend future policy direction for City information technology.

For example, the current ISS Steering Committee members include the Director of Management and

Administration, the Chief Information Systems Officer, and the City Auditor. Instead, the ISS Steering Committee should have citywide representation. The City Manager should appoint top level representatives from the Office of the Treasurer-Clerk, Assistant City Managers, and Department of Management and Administration. In addition, non-voting members, such as the Chief Information Systems Officer and the City Auditor, should be appointed to provide advice and guidance.

We also recommend that the ISS Steering Committee create a process to evaluate new information technology systems and make recommendations regarding their impact to the City before funding is approved. For example, evaluation teams composed of relevant system owners could be created to review the proposed system considering City policies, standards, and their effect on existing systems, and provide a recommendation. Recommendations from the evaluation team should accompany budget requests.

2. Electric GIS data has not been successfully migrated over to the City's adopted software standard. The City signed a fixed price data migration contract for $945,853 with Convergent Group Corporation (the vendor) in March 1999, with an estimated completion date of October 1999. ISS is responsible for project management and managing the contract with the vendor. In this fixed price contract, payments were due monthly and were not tied to accepted (approved) deliverables. The contract scope of work requires the vendor to not only migrate (convert) the data from the old application to the new application but to enhance the new application so it can perform similarly to the old application.

As of March 31, 2000, the contract remained open, no change of scope agreements had been processed, and $829,822 (87% of the total contract) had been paid. The contract consists of 9 tasks broken into 47 deliverables, and only 23 of the 47 contract deliverables (43%) have been completed but none accepted. Electric Operations, the key user and functional owner of Electric's GIS system, has not received complete converted data in order to perform the required testing.

This project has not progressed as planned by the vendor and ISS staff because:

- timelines for product deliverables were not realistic and delivery schedules were not adjusted accordingly
- products were delivered that were not complete, accurate, or did not meet the users' expectations
- oversight was not performed to identify and address due and past due deliverables

These are indicators of the need to improve project management.

The completion of this project is critical to the success of other information technology projects currently in progress at the City. The GIS data that is to be migrated includes base map Electric-related locations and is vital to all application systems that directly interface with the GIS system.

Currently, project staff estimate that the outstanding deliverables identified in the contract and originally due in October 1999 will not be completed until August 2000.

Recommendation: To increase the probability that the revised completion date will be met, we recommend that ISS, the vendor, and Electric Operations jointly identify tasks that remain to be completed and develop a project plan that addresses resources (time, people, and money) to be allocated to achieve project goals and objectives.

Appointed Official Response

***City Manager Response*:**

I appreciate the cooperation and assistance of Auditing with Electric and ISS in the GIS audit. Electric and ISS have met on the status of migrating Electric GIS data to the new software and developed a revised schedule and task list with a project completion date of September 30, 2000. Regarding Auditing's comments on the ISS steering committee, I will be discussing with staff your recommendations on redefining the membership of the steering committee.

Copies of this Final Audit Follow Up or the original audit report #9506 may be obtained via request by telephone (850 / 891-8397), by FAX (850 / 891-0912), by mail or in person (City Auditor, 300 S. Adams Street, Mail Box A-22, Tallahassee, FL 32301-1731), or by e-mail (dooleym@mail.ci.tlh.fl.us).

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