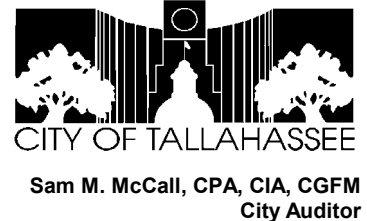


Project Progress Report

as of August 31, 2000



“CAD/RMS Acquisition and Integration Project Planning Phase”

Report #0103

November 14, 2000

Summary

The police and fire departments are in the process of replacing their main information technology system, the computer aided dispatch/records management system (CAD/RMS).

This report is the first in a series on the CAD/RMS acquisition and integration project and focuses on the planning phase of the project. The purposes of our review are to provide assurance as to the CAD/RMS project's compliance with City policies and procedures and with contract requirements.

As to our planning phase review, we can provide assurances that the CAD/RMS project has substantially complied with City policies and procedures and contract requirements. In Table 1 of this report we have summarized planning phase components that have been completed satisfactorily, are still in progress, or are still outstanding and have not yet been completed. Table 1 identifies areas where improvements can be made including overall project plan documentation, preparation of a cost benefit analysis, and the utilization of the Information Systems Services (ISS) Steering Committee.

In addition to assurances provided above, Table 2 includes a listing that summarizes the significant issues identified by the project team as of August 31, 2000, that need to be resolved as the CAD/RMS project moves forward into the acquisition phase. We have included management's planned actions to resolve each identified issue. The extent to which management acts on these issues and their approaches to resolve them will be addressed in our next report on the CAD/RMS project. These issues are listed at this time for information and for management's further analysis and resolution. The issues include: the revision of the project scope, integration of previously implemented systems, data conversion, the 800 MHz radio data network, GIS dependency, network communications, network security, and staffing.

Scope, Objectives, and Methodology

The Office of the City Auditor is providing assurance and consulting services to assist management throughout the CAD/RMS acquisition and integration project. As part of these services, we will be issuing a series of reports.

Our objectives are to:

- determine compliance with City policies, procedures, and contract requirements;
- provide an independent assessment of risk management and project controls;
- report on the project status and accomplishments as of August 31, 2000; and
- communicate the significant issues identified as of August 31, 2000.

This report focuses on the planning phase of the project. Providing a progress report prior to the completion of the planning phase allows management the opportunity to ensure the identified issues are addressed in a timely and less costly manner.

To achieve our objectives, we participated in an advisory capacity on the project team and executive steering committee, reviewed relevant documentation, and participated in the consultant's interviews of key City staff. These audit procedures were conducted in accordance with generally accepted government auditing standards.

Background

Project Life Cycle

Every information technology (IT) project follows similar life cycle phases, such as:

Planning Phase – defining business problems, potential solutions, project scope, system interfaces, system and software requirements, and resource needs. Other activities include identifying risks, costs and benefits associated with each solution, developing a project plan, and obtaining funding.

Acquisition Phase – developing a request for proposal (RFP) and related evaluation criteria, evaluating proposals, selecting a vendor, and negotiating the contract.

Implementation Phase – managing the vendor contract and project staff, installing software and hardware, defining business rules and processes, converting data, planning and performing testing, preparing technical and user documentation, and placing the system into production.

Post-Implementation Evaluation Phase – evaluating to determine if the system meets the users’ needs and requirements.

Project Description

Project Management

The CAD/RMS project was initiated on September 1, 1998. Funding for the project, \$2.8 million, was fully provided for in the first year. Soon after being initiated, it was placed on hold until Y2K issues throughout the City could be resolved. In November 1999 the project resumed. The project’s goal is to improve the business processes relating to dispatching and records management of both the police and fire departments. These improvements will be achieved through the replacement of existing software and hardware and the integration of key systems.

A project team and an executive steering committee were established to manage the project. The project team is comprised of members from the Tallahassee Police Department (TPD), Tallahassee Fire Department (TFD), Information Systems Services (ISS), and the Office of the City Auditor (non-voting member). The executive steering committee is comprised of the fire and police chiefs, the Chief Information Systems Officer, the director of Management & Administration, and the Assistant City Manager for Safety & Neighborhood Services.

In February 2000 the Gartner Group was selected as the consultant to assist in the planning of the CAD/RMS acquisition and integration project. The consultant’s role is to assist in: determining the City’s readiness for the CAD/RMS project; assessing the needs of TPD and TFD; developing an RFP; and selecting a vendor for the project. The Gartner Group segmented the CAD/RMS project into five phases (their work plan). As of August 31, 2000, the City has contracted with the Gartner Group for only the first three segments of their work plan (which are illustrated in Chart 1), at a cost of \$185,745. Chart 1 compares the segments of the Gartner Group’s work plan to the project life cycle phases previously described.

Chart 1

Gartner Group Phases	Project Lifecycle Phases
1. Readiness Assessment	1. Planning
2. Needs Assessment and RFP Preparation	

3. Vendor Selection	2. Acquisition
4. Contract Negotiations	
5. Implementation	3. Implementation
6. Not Addressed	4. Post-Implementation Evaluation

The Gartner Group has completed the first segment, readiness assessment, of their work plan and has delivered a draft copy of the RFP to the project team (related to their second segment).

During the planning process, the project scope was redefined by the project team. The executive steering committee authorized the project team to proceed with the revised scope (until enough information is gathered to formally present to the City Commission) and further investigate the impacts of those changes. The proposed changes to the scope include:

- upgrades to the 800 MHz data infrastructure
- expansion of electronic reporting
- acquisition of mobile data computers (MDCs) for TFD
- acquisition of hardware and software for bar-coding inventory
- acquisition of an imaging system

The project is scheduled for completion in the fall of 2002.

System Description

A CAD/RMS is comprised of two parts that are so closely integrated that they are considered to be one. All public safety activities are initiated or monitored through the CAD; the results of these activities are recorded in the RMS.

A CAD system enables the dispatchers to monitor the activities of all public safety units. With that information, the dispatchers are able to dispatch resources as needed and communicate relevant information to the unit being dispatched.

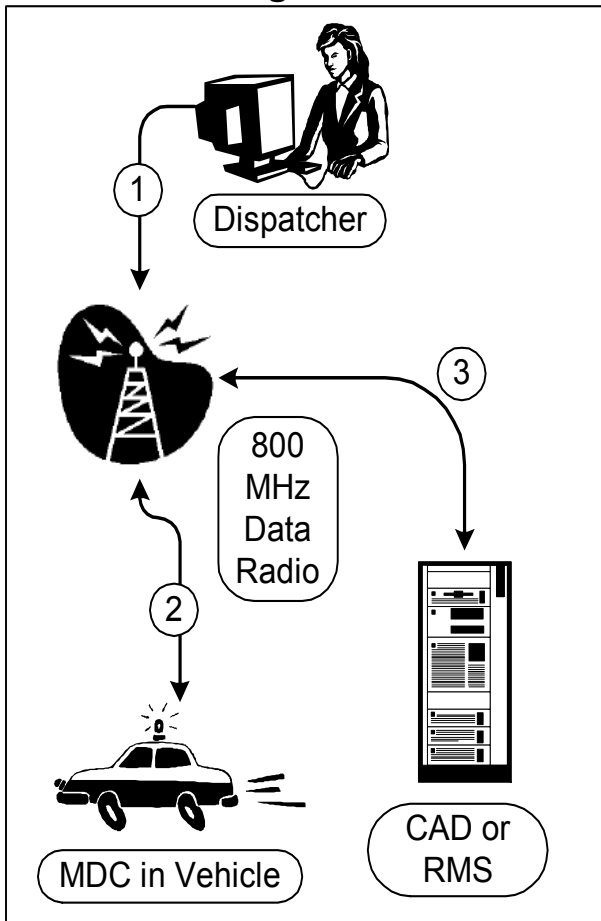
The planned CAD system will have several components that enable the specific functionality to meet the users’ needs. Those components include:

- MDCs – Mobile Data Computers are computers installed in the public safety vehicles. The MDCs are the data communication link from the officers in the field to the CAD/RMS located at the police and fire stations. The MDCs will enable the officers to receive, transmit, and enter information into the CAD/RMS.
- 800 MHz Data Radio System – the transmission method for information by the MDCs. All data is transmitted to and from the vehicles via MDCs and the 800 MHz data radio system. The 800 MHz system is divided into two different parts, the data and the voice portions.

- AVL - Auto Vehicle Location is a global positioning system that is attached to each vehicle and connected to the 800 MHz radio system via the MDCs. It continuously reports information to the CAD such as vehicle location, speed, if stationary how long, etc.
- GIS – Geographical Information System is the mapping system used by the City and Leon County. The CAD will use the GIS maps to graphically show the dispatchers vehicle location information and assist the dispatchers in assigning the most appropriate units to calls for service.
- Integration with RMS – With the CAD tightly integrated with the RMS, the dispatcher will have access to information about persons or locations that can assist officers during their activities.

Figure 1 illustrates a basic call for service, and how electronic data will flow. In this example, a dispatcher acquires and relays electronic data to a unit in the field.

Figure 1



1. Call for service information is relayed from the CAD to the 800 MHz data radio system. The system is able to route the call to the proper vehicle.
2. The call information is transmitted to the MDC mounted in the public safety vehicle.
3. The officer is able to query either the CAD or RMS for information relevant to the call for service. The results of the query are then relayed to the MDC.

An RMS serves as the repository for information relating to the operations of public safety including specific information about individuals, locations, and vehicles. The information is maintained in a manner that allows it to be used for a wide variety of purposes. Examples include:

- relaying prior offense information of individuals with whom officers come in contact; and
- generation of standard and custom reports.

The planned RMS will have numerous components (modules) that utilize the same core information. Utilizing the core information will eliminate redundant data entry into each module separately. The system will also utilize electronic reporting.

Electronic reporting will allow the officers to create their reports in an electronic format, thereby saving time. The timesavings will be achieved through reduced rewriting prior to approval of reports, and, since the report is already in electronic format, separate data entry will not be required.

In addition to the information contained within the RMS, there will be interfaces to several systems that are both internal and external to the City. Those systems include:

CIS – Customer Information System. This database of utility customer information may assist the police in locating people.

CJIS – Criminal Justice Information System. This computer system is maintained by the County. It is useful for tracking/monitoring criminals and cases throughout the court system.

FCIC – Florida Criminal Information Center. This computer system maintains statewide information on criminals, including their criminal history and personal data such as height, weight, etc.

NCIC – National Criminal Information Center. This computer system maintains national information on criminals, including their criminal history and personal data such as height, weight, etc.

Figure 2

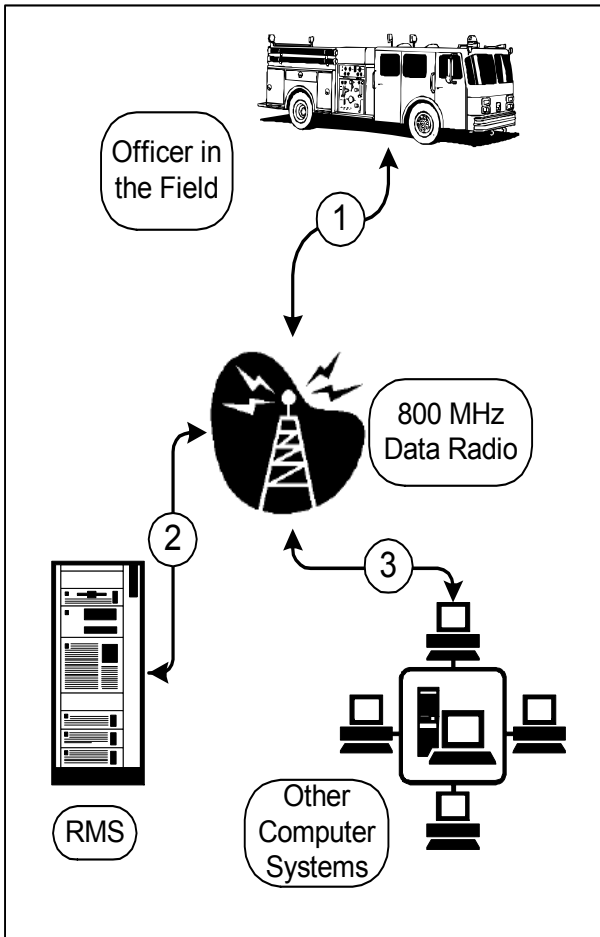


Figure 2 illustrates how the inquiries for information will flow. In this example, there is an inquiry from a vehicle that could go to either the RMS or another external system.

1. The officer in a vehicle is able to query the various systems that have been integrated; however, that query must first be transmitted through the 800 MHz data radio system.
2. When the information that the officer is requesting is located within the RMS, the radio system routes the query to the RMS and then returns the results to the officer.
3. Queries to other systems (previously described) are routed directly from the radio system to that other computer system, and the results of that query are returned to the officer.

Project Progress and Accomplishments to Date

Significant progress has been made on the CAD/RMS project during the planning phase. As described in the project life cycle, there are common activities conducted during the planning phase of an IT project. Some of these are considered "good business practices" while others are required by City administrative policies and procedures, or by the consultant's contract. Table 1 (below) provides a listing of components for the planning phase of the project, the status, and auditor comments (if applicable). The components are separated as to the source of the requirement.

Table 1

Planning Phase Components	Status/Comments
City Administrative Policies and Procedures (APP) #801 "IT Acquisition Policy"	
Define business problem and project scope	<ul style="list-style-type: none"> ◆ The scope was documented and approved as part of the project charter at the beginning of the project. The charter has subsequently been revised due to changes in the project scope. The executive steering committee is waiting for additional information from the project team before proceeding with approval of the revised project scope and charter.
Create a cost benefit analysis	<ul style="list-style-type: none"> ○ To date, a cost benefit analysis (APP #801.7) has not been prepared. Such an analysis will provide management with information for use in making decisions relating to project issues. <p><u>Comment:</u> We recommend that a comprehensive cost benefit analysis be prepared with the information that is currently available and be revised as additional information becomes available.</p>

Determine how project is to be funded	<ul style="list-style-type: none"> ◆ Capital Project #98030, fully funded in 1999 based on the original project scope. <p><u>Comment:</u> The funding that has been provided to date will likely be inadequate to fund the project scope changes being considered. Based on the proposed changes there is not currently an estimate of the cost of the project.</p>
Form an executive steering committee	<ul style="list-style-type: none"> ✓ Established September 1998.
Establish a project team	<ul style="list-style-type: none"> ✓ Established September 1998. The project team's composition has changed since it was established.
Form a business relationship between ISS and the executive owner via a signed project charter	<ul style="list-style-type: none"> ✓ Signed by all executive steering committee members in September 1998.
Develop a draft Project Management Plan (PMP)	<ul style="list-style-type: none"> ○ To date, a PMP has not been prepared. <p><u>Comment:</u> A PMP is required by policy (APP #801.7). "The Executive Owner(s), in partnership with the ISS Project Manager, are responsible for taking the lead on the preparation of the Project Management Plan." The PMP should be prepared.</p>
Present PMP to ISS Steering Committee for approval	<ul style="list-style-type: none"> ○ ISS Steering Committee has not reviewed nor approved the CAD/RMS project. <p><u>Comment:</u> Since projects are able to progress without the required approval (APP #801.07), the purpose of this committee and related policy (APP #402) should be reevaluated as to how it can be effective.</p>
City Administrative Policies and Procedures #630 "Internal Control Guidelines"	
Execution of Transactions and Events – processing deliverables and contract payments	<ul style="list-style-type: none"> ✓ Project manager reviews deliverables with the project team prior to acceptance and processing of payments.
Contract with Gartner Group	
<p>City Responsibilities – The contract with the Gartner Group outlines specific responsibilities of the City for assisting the Gartner Group.</p> <ul style="list-style-type: none"> ⇒ Assignment of a project manager to act as liaison and have project responsibility for the City. ⇒ Provide facilities and equipment as needed to perform the services under this agreement. ⇒ Provide access to City personnel in departments as needed. ⇒ Provide prompt notice whenever the City becomes aware of defects in the services or deliverables. 	<ul style="list-style-type: none"> ✓ Done. ◆ Proceeding as planned. ◆ Proceeding as planned. ◆ Proceeding as planned.

Gartner Group Responsibilities	
Develop a Readiness Assessment Report	
⇒ Conduct a planning meeting	✓ Done.
⇒ Assess TPD and TFD internal environment	✓ Done.
⇒ Assess current systems and technical infrastructure	✓ Done.
⇒ Prepare a readiness assessment report	✓ Done.
Conduct a Needs Assessment	
⇒ Conduct a public safety technology seminar	✓ Done.
⇒ Conduct interviews of key personnel to identify the needs and requirements of TPD and TFD	✓ Done.
⇒ Conduct focus group sessions to further identify the needs and requirements of TPD and TFD	✓ Done.
⇒ Prepare technical specifications for public safety systems	◆ The Gartner Group is in the process of preparing the specifications based on interviews and focus group sessions.

Table Legend

⇒ Sub-Component
 ✓ Completed Satisfactorily

◆ In Progress
 ○ Outstanding, Not Completed

In summary, we can provide assurances that the CAD/RMS project has complied with City policies and procedures and contract requirements, except as stated above in Table 1, and the contract deliverables have been received and accepted before payment to Gartner Group is processed. We have made recommendations for improvements relating to a PMP, a cost benefit analysis, and the ISS Steering Committee. We have also noted that current funding may not be adequate.

Significant Issues Identified, Management Actions, and Auditor Comments

It is important to note that identifying and resolving significant issues are normal activities for every project team. If the team is unable to resolve an issue, then they

are to educate the executive steering committee regarding the issue, recommend alternatives and solutions, and seek their guidance. There have been many significant issues identified by the consultant, project team, and auditor that will impact the success of the project. The project team has been able to resolve many of these issues, but there are some that still need to be resolved to ensure the success of the project. To communicate the significant identified issues, we are providing the information in Table 2 below. Each significant issue identified to date during the planning phase is listed in the left column. The right column provides management's actions, the current status, and auditor comments (if applicable).

The extent to which management acts on these issues and their approaches to resolve them will be addressed in our next report on the CAD/RMS project. These issues are listed at this time for information and for management's further analysis and resolution.

Table 2

Significant Issues Identified (During the Planning Phase)	Status, Management Actions, and Auditor Comments
Planning	
User departments have needs and expectations that exceed the original scope of the project. During the planning phase a needs assessment was conducted, and the user departments identified additional required functionality that was not part of the original scope. To provide a fully functional CAD/RMS as redefined will require additional purchase, replacement, or upgrade of equipment.	<p>◆ The project team is revising the project charter and scope for presentation to the executive steering committee.</p> <p>Auditor Comments: Prior to seeking final approval of the revised project charter and scope, a PMP and cost benefit analysis should be delivered to the executive steering committee.</p>

<p>The integration of previously implemented systems with the new CAD/RMS needs further analysis. Several systems (AVL, Crime Analysis, InfoCop, EDMS, UCS Electronic Reporting, etc.) have been acquired and put into operation as “stand alone” systems. Many of these systems are commonly included as modules of an RMS. These systems can either be integrated into or replaced by a new CAD/RMS.</p>	<ul style="list-style-type: none"> ○ Each system is to be evaluated by the project team so that a decision regarding replacement or integration can be made by the executive steering committee. The cost benefit analysis, when prepared, should assist in the evaluation of each system for integration or replacement.
<p>Data</p>	
<p>The conversion of data from the current system into a new system needs to be evaluated. There is a large amount of data in the current system that will need to be accessible for many years. In general, when upgrading computer systems, data conversion is problematic and expensive. The consultant has recommended that the current system be maintained and operated until the existing data is outdated.</p>	<ul style="list-style-type: none"> ○ The decision regarding whether to convert data, to run parallel systems, or another solution will be based on the results of the cost benefit analysis when prepared.
<p>A new CAD/RMS will be dependent on mapping updates that originate with the Tallahassee-Leon County GIS. For planning as well as tactical decisions both the TPD and TFD will be using maps and mapping capabilities of a new CAD/RMS and its related modules. For this to be effective, there must be timely updates to the maps from the Tallahassee-Leon County GIS.</p>	<ul style="list-style-type: none"> ◆ The project team understands the criticality of this issue and has communicated with ISS on this matter. ISS is working on an agreement that would outline the frequency of updates.
<p>Infrastructure</p>	
<p>Computer network communications with the fire stations are not adequate nor reliable for the needs of a new CAD/RMS.</p>	<ul style="list-style-type: none"> ◆ ISS is planning to use a combination of existing fiber optic cables and T1 connections leased from the local telephone provider to improve communications with the fire stations.
<p>The data portion of the 800 MHz radio system is not adequate to meet the needs of the planned CAD/RMS. Other departments (internal and external to the City) and projects are also planning to utilize the 800 MHz data system. Components of the 800 MHz data infrastructure may not be adequate to accommodate the increased usage generated by the planned CAD/RMS.</p>	<ul style="list-style-type: none"> ◆ The project team has presented several options to the executive steering committee for consideration. The project team was instructed to request a proposal from the Gartner Group for an analysis of the 800 MHz data system as it relates to the requirements of public safety. Additionally the City has begun the process of obtaining additional radio channels for the planned increases in usage.
<p>There is no overall plan for the management of future usage and maintenance of the 800 MHz data system. There are plans for increased City usage of the 800 MHz data system, and there is no management oversight committee (MOC) to manage this growth. The current 800 MHz MOC, which includes the Leon County Sheriff, oversees only the voice portion of the 800 MHz system. Also, inquiries have been made from agencies external to the City to utilize the system. These other agencies would generate additional demands on the 800 MHz data system.</p>	<ul style="list-style-type: none"> ◆ There is a plan to develop a new MOC for the 800 MHz data system that will include the fire and police chiefs, the ISS Chief Information Officer, the Assistant City Manager for Safety and Neighborhood Services, and the Assistant City Manager for Utility Services. The current plans do not include representation from Development and Transportation Services. The data MOC will be responsible for the management of the system and planning for the anticipated growth. <p>Auditor Comments: The needs of the entire City as well as non-City users should be considered when an analysis of the system is made. Any plans for an upgrade of the 800 MHz data system should consider the future needs of all users to reduce the possibility of redundant and costly upgrades to the system.</p>

<p>Network security is generally lax. The City is also in the planning process for the Technology Integration Project (TIP). This project involves employing new technologies to manage utility operations more efficiently and effectively. During the assessment of the system architecture, the TIP project management consultant conducted a general assessment of the City's information systems security. Results from that assessment included: the City has not developed nor implemented sound security policies and procedures; the network is not actively monitored for unauthorized usage, and the consultant was able to penetrate the network through a supposedly inactive port; no one person is clearly responsible for security; and there is a separation of duties violation regarding responsibility for information security.</p>	<ul style="list-style-type: none"> ◆ The project team is aware of and sensitive to network security issues. At this time the project team, in conjunction with ISS, is researching options to address this issue.
<p>Staffing and Training</p>	
<p>The new CAD/RMS and peripheral systems may require additional support staff. Current CAD/RMS and MDC support staff average 15 hours of overtime per month. The workload will increase with implementation of the new CAD/RMS, additional MDCs, and any additional, replaced, or integrated modules.</p>	<ul style="list-style-type: none"> ◆ The project team is requesting guidance from the executive steering committee.

Table Legend

◆ Issue Being Addressed

○ Not Currently Being Addressed - Outstanding

In summary, the project team has been challenged to identify and resolve significant issues during the planning phase. The significant issues stated above are those that, as of August 31, 2000, have been identified but not yet resolved, and that will have an impact on the success of the CAD/RMS acquisition and integration project as it moves forward. These issues are listed at this time for information and for management's further analysis and resolution.

Appointed Official Response

City Manager:

We appreciate the City Auditor's review of the CAD/RMS project for compliance with City policies, procedures and contract requirements. We believe the overall project will be more effective with their early input as we move from the planning phase to the acquisition phase. The Steering Committee and the Project Manager are making every effort to address the identified issues/concerns as we move forward. The finalized scope of the project, identifying additional funding, and completing a Project Management Plan will be part of the next phase of the project and will insure success.

Conclusion

This report identifies CAD/RMS project progress and accomplishments, as well as the significant issues identified to date. Our office will continue to provide assurance and consulting services throughout the life of this project. In addition to addressing the resolution of significant issues identified in this report, our future reports will focus on the project's acquisition and implementation activities.

We would like to thank the CAD/RMS executive steering committee, project manager, and project team for their cooperation and assistance during this engagement.

Copies of this Progress Report 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).

CAD/RMD Audit is being conducted by:
 Dennis R. Sutton, CPA, Senior Auditor
 Sam M. McCall, CPA, CIA, CGFM, City Auditor