

City of Austin



**A Report to the
Austin City Council**

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Kathie Tovo
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**Office of the
City Auditor**

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AUDIT REPORT

Information Technology Governance and Planning Audit

October 2013



REPORT SUMMARY

The City has implemented an IT Governance structure to oversee IT decision-making and communication processes. However, it does not have an effective communication process in place for its strategic initiatives to ensure that departments have enough information for them to understand their roles and responsibilities, and it is not clear who has operational responsibility for implementing the IT governance initiatives. In addition, the City has only partially implemented IT strategic planning and service delivery initiatives, and it has not put into action a sufficiently detailed tactical operating plan. Without full implementation, the City cannot ensure successful implementation of IT governance and planning.

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GOVERNMENT AUDITING STANDARDS COMPLIANCE

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

AUDIT TEAM

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October 2013



Audit Report Highlights

Why We Did This Audit

This audit was conducted as part of the Office of City Auditor's FY 2013 Strategic Audit Plan.

What We Recommend

The CIO should develop, implement, and monitor a citywide IT Strategic Plan, and ensure that it presents specific goals with detailed strategies, initiatives, and measures for ensuring that the City achieves the goals. The CIO should also develop a citywide risk management plan that includes detailed steps to mitigate IT risks on an ongoing basis. Finally, the CIO should develop and implement a citywide communications plan for its IT strategic initiatives.



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INFORMATION TECHNOLOGY: GOVERNANCE AND PLANNING AUDIT

Mayor and Council,

I am pleased to present this audit on Information Technology Governance and Planning within the City of Austin.

BACKGROUND

Information Technology (IT) is pervasive throughout City of Austin operations and increasingly so. The City's Chief Information Officer (CIO) has been working since FY 2010 to implement an IT governance model for the City of Austin as part of IT Governance and Planning Initiative. To date, a steering committee and two advisory councils were created.

OBJECTIVE AND SCOPE

The objective of this audit was to determine if the Communications and Technology Management (CTM) department's planning and governance practices comply with IT best practices and standards. The scope was the governance and planning activities of CTM during the period October 2012 to July 2013.

WHAT WE FOUND

The City has implemented an IT governance structure to oversee IT decision-making and communication processes. The City's CIO heads the IT governance initiative and three governance groups are in place and operating.

However, the City can improve the communication process in place to ensure departments have enough information to understand their roles and responsibilities under these initiatives.

In addition, the City has only partially implemented IT strategic planning and service delivery initiatives. Without full implementation, the City cannot ensure successful implementation of IT governance and planning, which would increase the City's ability to achieve its overall goals and objectives by properly aligning IT objectives with those of the rest of the City.

We appreciate the cooperation and assistance we received from the CIO and CTM staff during this audit.


Kenneth J. Mory, City Auditor

BACKGROUND

Information Technology (IT) is pervasive throughout City of Austin operations and increasingly so. The Communications and Technology Management department (CTM) provides technology services to City departments as well as external agencies in the Central Texas region. CTM's budget for fiscal year (FY) 2013 is \$65.2 million, including \$40.3 million to provide services to City departments and \$24.9 million for wireless communications and the Combined Transportation, Emergency, and Communications Center (CTECC).

The City's Chief Information Officer (CIO) also serves CTM's department director, and most enterprise departments have their own CIOs¹. In 2009, the City's CIO set out to establish IT Governance for the City of Austin. IT Governance, as defined by Gartner, Inc., the IT research and advisory company, is the processes that ensure the effective and efficient use of IT in enabling an organization to achieve its goals."

OBJECTIVE, SCOPE, AND METHODOLOGY

The IT Governance and Planning Audit was conducted as part of the Office of City Auditor's FY 2013 Strategic Audit Plan, as accepted by the City Council Audit and Finance Committee.

Objective

The objective of this audit was to determine if CTM's planning and governance practices comply with IT best practices and standards.

Scope

Our scope included the governance and planning activities of CTM during the period of October 2012 to July 2013.

Methodology

To accomplish our audit objectives, we performed the following steps:

- surveyed department directors, departmental IT Single Point of Contacts (SPOCs), IT governance groups, CTM Assistant Directors, and CTM managers regarding CTM's communications, their familiarity with CTM's *IT Strategy 2012-2017* document, and their knowledge of the new IT Planning Process;
- interviewed the CIO and CTM staff regarding their parts in the initiative;
- analyzed information provided by CTM regarding the process used to plan and implement their initiative;
- reviewed IT governance group meeting minutes; and
- evaluated risks of fraud, waste, and abuse, as well as risks related to information technology relevant to the audit objective.

¹ Departments with CIOs are: Austin Energy, Austin Water Utility, Aviation Department, Communications and Technology Management, Austin Convention Center, Health & Human Services, Library, Municipal Court, and Financial Services Department.

AUDIT RESULTS

As shown in Exhibit 1, the City has implemented two of the five components of IT governance, partially implemented two others, and has not implemented one component. Specifically, the City has implemented an IT governance structure to oversee IT decision-making and communication processes. However, the City does not have an effective communication process in place for its IT strategic initiatives to ensure departments have enough information for them to understand their roles and responsibilities. In addition, the City has only partially implemented IT strategic planning and service delivery initiatives. Without full implementation, the City cannot ensure successful implementation of IT governance and planning, which would increase the City's ability to achieve its overall goals and objectives by properly aligning IT objectives with those of the rest of the City.

EXHIBIT 1

Comparison of the City's Process to Components of IT Governance

Components of IT Governance	Status	OCA Observations
Organization and Governance Structures <i>Clear organization structures, the operational nature of their components, how they communicate with each other, and accountability are important for the IT function to provide the required service for the enterprise to achieve its objectives. The governance structure should align with the organizational structure.</i>	Implemented	An IT governance structure is in place and operating. Although not specifically aligned with the City's organizational structure, department directors serve on the Department Directors' Advisory Council (DDAC) on a rotating basis, which increases the communication of business needs between the City's departments and its IT leadership. However, even though the structure is in place, responses to our survey indicate that there may not be enough detailed information communicated to the department IT professionals about the goals and objectives of IT governance as well as their roles and responsibilities.
Executive Leadership and Support <i>An important requirement to enable and sustain alignment between IT and organization objectives is the tone at the top and executive leadership.</i>	Implemented	The City's senior management participates in the governance structure and set the IT vision for the City.
Strategic and Operational Planning <i>A strategic plan is an important component of effective IT governance. In addition, a tactical operating plan that aligns with the strategic plan of the organization provides the mechanism for measuring the IT function's achievement of goals defined within the strategic plan.</i>	Partially Implemented	A working group on IT governance, led by the CIO, developed a document titled, <i>IT Strategy 2012-2017</i> , using a template provided by an outside consultant. Some elements of an IT strategic plan have been addressed. However, no tactical operating plans or milestones have been established.

Components of IT Governance	Status	OCA Observations
Service Delivery and Measurement <i>Proactively managing IT spending and measuring the resulting value increases the likelihood of greater return on investment from IT. A financial model should be part of performance management used by the organization, which should include IT metrics.</i>	Partially Implemented	The City proactively manages IT investments through the budgeting process. In addition, essential capabilities related to IT resources have been defined and identified. However, performance measures for analyzing the IT investments process are not in place.
IT Organization and Risk Management <i>IT risks and resources (both human and technical) are managed to help ensure the success of IT.</i>	Not Implemented	The CIO is preparing to engage a consultant to prepare an IT assessment and CTM Organization review. Additionally, although risks have been identified, and risk management duties have been assigned, a risk management plan has not yet been produced.

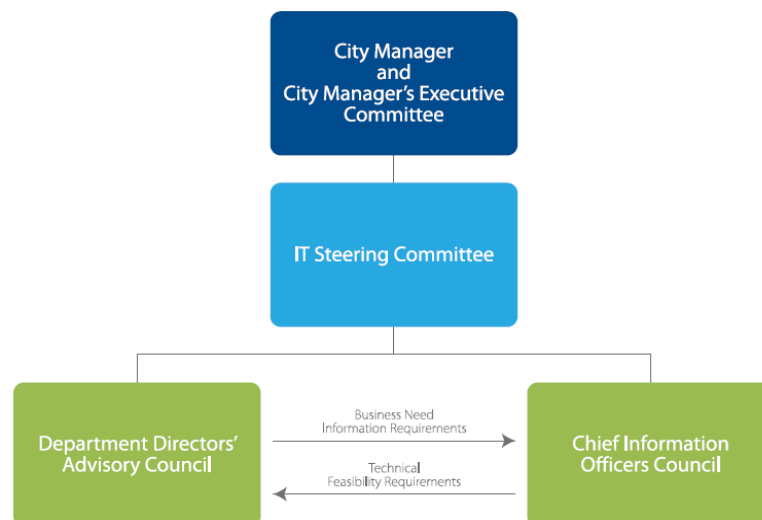
SOURCE: OCA analysis using the Institute of Internal Auditors' *Global Technology Audit Guide 17, Auditing IT Governance*, July 2012

Finding 1: The City has implemented an IT governance structure to oversee IT decision-making and communication processes.

The City has established an organizational structure to help ensure investments in IT support the organization's strategies and objectives. As shown in Exhibit 2, the structure consists of three IT governance groups with representation from the City Manager's Office (CMO), Financial Services, department directors and IT executives, and the CIO.

Components of IT Governance	Implemented
Organization and Governance Structures	Yes
Executive Leadership and Support	Yes

EXHIBIT 2
IT Governance Groups Established for the City of Austin



SOURCE: City of Austin Information Technology Strategy 2012-2017, Version 1.0

The CIO heads the City's IT governance initiative and three governance groups are in place and operating. Exhibit 3 details the roles and membership of each of the governance groups and shows that there are clearly defined responsibilities for each.

EXHIBIT 3
Roles and Membership of the IT Governance Groups

Group	Membership	Role
IT Steering Committee (ITSC)	Established by the City Manager and chaired by a member of the CMO's executive staff. Members include: <ul style="list-style-type: none"> Two members of the CMO's executive staff, selected by the City Manager on a rotating basis Chief Financial Officer City Budget Officer CIO 	The ITSC reports to the City Manager and the City Manager's Executive Committee. The ITSC is responsible for: <ul style="list-style-type: none"> approving an annual IT strategic plan approving IT guiding principles establishing the CIOC and DDAC approving recommendations from the CIOC and DDAC
Chief Information Officers Council (CIOC)	<ul style="list-style-type: none"> CIO (Chair) Department CIOs and IT managers from: <ul style="list-style-type: none"> Austin Convention Center Austin Energy Austin Public Library Austin Water Aviation CTM Health and Human Services Municipal Court Financial Services Rotating member from General Fund departments 	The CIOC is responsible for: <ul style="list-style-type: none"> developing an annual IT strategic plan looking for opportunities to leverage citywide solutions to meet the City's business needs identify new and emerging technologies make recommendations to the ITSC for department infrastructure needs approve significant changes to IT initiatives
Department Directors' Advisory Council (DDAC)	<ul style="list-style-type: none"> Rotating membership consists of department directors to represent each of the major City service areas CIO advises 	The DDAC is responsible for: <ul style="list-style-type: none"> Looking for opportunities to benefit from enterprise or citywide solutions Determining and applying criteria for prioritizing and deciding on IT investments across the City Making recommendations to the ITSC for IT initiatives and their prioritization for all City departments Approve significant changes to IT initiatives

SOURCE: OCA presentation of information from *IT Strategy 2012-2017* document, July 2013

According to the *City of Austin Information Technology Annual Report 2012*, the DDAC manages the demand for IT services, while the CIOC manages the supply of IT services. Both groups report to the ITSC.

Governance best practices recommend aligning IT strategies with the organization's strategies. Although these governance groups do not align directly with the organizational structure of the City, management believes this structure compensates by rotating several department directors through membership in the DDAC annually. This structure was designed to increase the communication of business needs between the City's departments and its IT leadership; however, with only two rotations to date, not all department directors have had a chance to serve on the DDAC.

Finding 2: The City does not have an effective communication process in place for its IT strategic initiatives to ensure departments have enough information for them to understand their roles and responsibilities.

Communication between IT and the organization should be free flowing, effective, informative, and provide insight into what IT is delivering to assist in the achievement of organizational goals, and the status of those efforts. However, the lack of a communication process as part of the implementation of the City's IT Strategy is leading to limited information for departmental IT professionals and points of contact.

A survey we conducted of IT department directors and points of contact showed that they are familiar with the City's IT governance initiatives.

- Twenty-one of 23 department directors who responded to our survey stated they are either "very familiar" or "somewhat familiar" with the City's IT governance initiative.
- Sixteen of 21 IT points of contact within City departments who responded stated they are "somewhat familiar" with the initiative.
 - Those same 16 respondents stated that CTM has kept them informed of the initiative through meetings and e-mail.
 - The other five who responded said they are "not familiar" with the initiative.

However, while both groups are familiar with the IT governance initiatives, most agree that the IT Strategy document does not provide enough information for them to understand what their roles and responsibilities are, as evidenced by the following results of our survey. As a result, it is not clear who has the operational responsibility for implementation of the IT governance initiatives.

- Fourteen of 23 department directors who responded stated that they believe the City's IT Strategy document provides enough detail to determine their department's duties and responsibilities regarding IT governance and strategic planning. Of the remaining nine department directors, two stated that do not agree, and two stated that they do not have enough information.
- Additionally, only nine of twenty-one IT points of contact who responded stated that they "somewhat agree" that the City's IT Strategy provided enough detail to determine their department's duties and responsibilities. None of the 21 respondents "strongly agreed."

The CIO stated that he was relying on the department directors involved in the IT governance groups to pass the information down to their departments through their involvement on the DDAC. However, these results indicate that although there is communication about the initiative, there may not be enough detailed information communicated to the department IT

professionals. One cause may be that, to date, only two-fifths of all department directors have rotated through membership in the DDAC. The CIO stated that this might cause some of the miscommunication shown by the survey responses.

Finding 3: The City has partially implemented IT strategic planning and service delivery initiatives. Without full implementation, the City cannot ensure successful implementation of IT governance and planning, which would increase the City's ability to achieve its overall goals and objectives by properly aligning IT objectives with those of the rest of the City.

A working group led by the CIO developed a document titled *IT Strategy 2012-2017*, and came up with a basic plan to implement IT governance using a template provided by an outside

Components of IT Governance	Implemented
Strategic and Operational Planning	Partially
Service Delivery and Measurement	Partially
IT Organization and Risk Management	No

consultant. In addition, the City proactively manages IT investments through the annual budgeting process and essential capabilities related to IT resources have been defined and identified. However, the template was described by CTM personnel as “a roadmap, but not a step-by-step project plan.” Because of the lack of a structured project management approach, an overall project plan and timeline were not created. As a result, neither an implementation plan nor tactical operating plans are in place for the City. In addition, as previously mentioned, measures for IT governance and milestones for completing the strategic and operating plans have not been established. This prevents the CIO from measuring the success of the IT governance and service delivery initiatives, and adjusting the implementation as necessary to achieve the goals of the initiatives.

Strategic and Operating Planning

The *IT Strategy 2012-2017* document addressed IT principles, governance, financial management, architecture, infrastructure, risk management, and other topics. However, it does not lay out a vision, or values and goals that are common to strategic plans, and it does not clarify roles and responsibilities. The *City of Austin Information Technology Annual Report 2012*, which is separate from the *IT Strategy 2012-2017* document, does describe the mission, purpose, and values for the City's IT function. However, these have not been combined into a single document that can be communicated effectively. In addition, these documents do not include action plans containing specific goals with strategies, initiatives, or measures for ensuring that the City achieves the goals of the IT Governance Initiative. Overall, according to the results of our survey of department directors and IT points of contact, the document is not specific enough for the involved parties to understand the initiatives' goals or the departmental staff's roles and responsibilities.

An IT strategic plan should define organizational dependencies of IT and the IT function's role and responsibilities in achieving the objectives set forth in the plan. Additionally, a tactical operating plan should align with the strategic plan of the organization. This operating plan provides the mechanism for measuring the IT function's success in terms of supporting and enabling the achievement of goals defined with the strategic plan. Finally, a communication plan ensures that insight into what CTM is planning is delivered to the rest of the organization.

Without completion of an effective and efficient strategic and operating plan, involved parties may not understand what their roles and responsibilities are. Additionally, the IT governance initiative may fail or take longer than expected to implement. Also, it may result in departmental leadership not viewing the CIO and CTM as an integral part of completing departmental and citywide missions. The benefit of leveraging existing experiences and resources by taking an enterprise-wide approach to IT would be innovations that could result in reduced costs and increased effectiveness in support of the City's business operations.

We reviewed the existing *IT Strategy* document. As shown in Exhibit 4, the City's IT Strategy document addresses most of the best practice components of a Strategic Plan, although not all components have been implemented.

EXHIBIT 4

Comparison of CTM's IT Strategy Document to Standard Components of IT Strategic Plans

Components of IT Strategic Plans	Status	OCA Observations
IT Planning	<ul style="list-style-type: none"> Partially Addressed Not Implemented 	The three IT governance groups (ITSC, DDAC, & CIOC) perform IT planning which is governed by the IT Strategy document. However, an IT strategic plan is not in place for the City.
Strategic Sourcing	<ul style="list-style-type: none"> Addressed Implemented 	The IT governance groups make purchasing decisions as part of the annual budget process.
IT Organization	<ul style="list-style-type: none"> Partially Addressed Not Implemented 	The IT governance structure is in place with the three governance groups operating. In addition, an inventory of systems and applications has been created. However, no further work has been done to create a strategic plan.
Human Resources	<ul style="list-style-type: none"> Addressed Not Implemented 	The IT Strategy document states that IT staffing will focus more on skills related to the ability to communicate between technology and business and less on technical specialties. However, plans to procure the services of a consultant to perform an IT assessment that includes staffing evaluations have not been completed.
Risk Management	<ul style="list-style-type: none"> Addressed Partially Implemented 	The IT Strategy document calls for mitigation of certain risks by establishing clear expectations for goals, coordinate those goals across the City, develop tools and mechanisms to support implementation, and establish clear responsibility. However, half of the plans to address the identified risks are in the "work in progress" stage.
Performance Measures and Controls	<ul style="list-style-type: none"> Addressed Not Implemented 	According to the IT governance initiative manager, performance measures have not been established and will be created sometime after FY 2015.

SOURCE: OCA comparison against IT Risk Framework, July 2013

Service Delivery and Measurement

The City proactively manages IT investments through the budgeting process. In addition, essential capabilities related to IT resources have been defined and identified. The CIO has instituted a project selection process for the City's General Fund projects. Criteria for funding projects has been established and the CIOC and DDAC governance groups (shown in Exhibit 2) review proposed projects before making recommendations to the IT Steering Committee. The Steering Committee then forwards recommendations for IT funding to the City Manager.

However, performance measures for IT governance service delivery are not in place. Other than stating that efforts will be made for common performance measures throughout the City's departmental IT organizations, the strategic plan lacks information about performance measures and controls. Those metrics would normally include measurements of services delivered to users/customers and technical and non-technical user satisfaction. As a result, IT governance service delivery may not align with departmental needs.

IT Organization and Risk Management

The IT Strategy document addresses IT risk management and states that the Office of Homeland Security and Emergency Management is responsible for the City's continuity of operations planning. It also states that each department is required to identify essential IT resources and that the CIO's office will catalog and manage the information. The IT Strategy document also identifies inherent IT risks and issues, along with basic mitigation strategies.

While the CIO has assigned risk management duties to a risk manager and inherent risks have been identified, a sufficiently detailed risk management plan has not been produced. A risk management plan should include detailed steps to mitigate IT risks on an ongoing basis. As a result of not having a risk management plan in place, the City may not succeed at managing risks in relation to meeting organization needs, security, and compliance requirements.

RECOMMENDATIONS

The recommendations listed below are a result of our audit effort and subject to the limitation of our scope of work. We believe that these recommendations provide reasonable approaches to help resolve the issues identified. We also believe that operational management is in a unique position to best understand their operations and may be able to identify more efficient and effective approaches and we encourage them to do so when providing their response to our recommendations. As such, we strongly recommend the following:

- 1. The CIO should continue to develop, implement, and monitor a citywide IT Strategic Plan that lays out a specific vision or values and goals that are common to strategic plans. It also should present specific goals with detailed strategies, initiatives, and measures for ensuring that the City achieves the goals.**

MANAGEMENT RESPONSE: **CONCUR.** Refer to Appendix A for management response and action plan.

- 2. The CIO should develop and implement a citywide communications plan for its IT strategic initiatives to ensure departments have enough information for them to understand their roles and responsibilities.**

MANAGEMENT RESPONSE: **CONCUR.** Refer to Appendix A for management response and action plan.

3. The CIO should also develop a citywide risk management plan that includes detailed steps to mitigate IT risks on an ongoing basis.

MANAGEMENT RESPONSE: **CONCUR.** Refer to Appendix A for management response and action plan.

MANAGEMENT RESPONSE



MEMORANDUM

To: Kenneth J. Mory, City Auditor

Office of City Auditor

From: Stephen Elkins, Chief Information Officer, CTM

Subject: Response to IT Governance and Planning Audit

I have reviewed the draft report of the IT Governance and Planning Audit and concur with the recommendations made to address the audit findings. The audit identified needed improvements that will provide the City's IT Governance with a consistent communication process as well as better planning, identification and mitigation of citywide IT risks.

In an effort to develop a comprehensive IT Strategic Plan, CTM will host a workshop on November 6, 2013 that will include city executives and managers. The workshop will complete a "refresh" of the Citywide IT Strategy document. The IT Strategy document will then be used to form the foundation of a citywide IT Strategic Plan. Development of a Citywide IT Strategic Plan is expected to be completed by September, 2014. Approval and acceptance of this plan is expected by December, 2014.

A facilitator experienced in enterprise risk assessment will work with the City's CIO Council and CTM Executive Leadership to perform an IT enterprise risk assessment. This is expected to be completed by April, 2014. The risk assessment will be prioritized and a mitigation plan will be developed by September, 2014.

The first phase of an IT Communications Plan will include a presentation on IT Governance to be rolled out to department executive leadership. As the communications plan develops it will include goals and objectives, define roles and responsibilities and provide milestones for the IT Governance process. The plan is expected to be in place by March, 2014.

Thank you for the input from the Office of the City Auditor. The recommendations for improving this program for the city will enhance and improve IT Governance for the City.

ACTION PLAN

IT Governance and Planning Audit

Recommendation	Concurrence and Proposed Strategies for Implementation	Status of Strategies	Proposed Implementation Date
1. The CIO should continue to develop, implement, and monitor a citywide IT Strategic Plan that lays out a specific vision or values and goals that are common to strategic plans. It should also present specific goals with detailed strategies, initiatives, and measures for ensuring that the City achieves the goals.	Concur Currently there is a Citywide Information Strategy Document that exists which forms the basis for an IT Strategic Plan. This document will be used on November 6, 2013 to begin the process of developing a Citywide IT Strategic Plan. The Strategic Plan will be developed by City IT Leadership (CTM Executives and members of IT governance) and will include measureable goals and objectives.	Underway – Action is currently taking place, but is not complete.	<ul style="list-style-type: none"> ▪ Re-fresh of IT Strategic Document – November 2013. ▪ Strategic Plan Development - September 2014. ▪ Approval of Strategic Plan by City Leadership - December 2014.
2. The CIO should develop and implement a citywide communications plan for its IT strategic initiatives to ensure that departments have enough information for them to understand their roles and responsibilities.	Concur <i>An IT Governance Overview</i> presentation has been developed as an effort to better inform city departments of IT Governance. A comprehensive communication plan that identifies objectives, goals, tools, roles and responsibilities and a timeline to evaluate results will be in place by March, 2014.	Underway – Action is currently taking place, but is not complete.	<ul style="list-style-type: none"> ▪ Communications Plan - March 2014

APPENDIX A

Recommendation	Concurrence and Proposed Strategies for Implementation	Status of Strategies	Proposed Implementation Date
3. The CIO should develop a citywide IT risk management plan that includes detailed steps to mitigate IT risks on an ongoing basis.	Concur The CIO will work with City's IT Leadership (CTM Executives and CIO Council) to perform an Enterprise Risk Assessment of IT. The CIO will use an experienced facilitator to develop the risk assessment and will work with City IT Leadership to develop a risk management plan to mitigate these risks.	Underway – Action is currently taking place, but is not complete.	<ul style="list-style-type: none">▪ Risk Assessment – April 2014▪ Mitigation plan - September 2014