

To: Corporate Services Committee

From: Beverly Hendry, Commissioner,
Corporate Services Department

Report Number: CORP-17-34

Date of Report: June 15, 2017

Date of Meeting: June 19, 2017

Subject: Internal Audit - Information Technology Function Review

File: C-3100

1.0 Purpose

The purpose of this report is to transmit the KPMG Information Technology Function Audit.

2.0 Recommendation

That the Corporate Services Committee recommend to City Council:

That Report CORP-17-34 dated June 15, 2017 and Attachment No. 1 being the KPMG Information Function audit report be received for information and that the recommendations and management responses in the audit be endorsed as the basis for improving the information technology function.

3.0 Executive Summary

Not applicable.

4.0 Input From Other Sources

The Information Technology Function audit by KPMG was conducted with the involvement of the appropriate City employees.

5.0 Analysis

On November 28, 2016, Council endorsed the 2017 Audit Plan. Six audits were part of the Plan, as follows:

- Overtime Follow-up Audit
- IT Function Review
- Work Order Management

- Cyber Risk and Maturity Assessment
- Recruitment and Retention of Staff
- Administrative Monetary Penalties (AMPs)

The first of the six audits are now complete with the submission of the KPMG Information Technology audit findings and recommendations.

The audit report includes eight recommendations (three high risk, four medium risk and one low risk) related to the following areas:

1. Development of a new Information Technology Strategic Plan (ITSP) (high risk)
2. Standardization of portfolio and project management (high risk)
3. Clarity around information and information systems ownership (high risk)
4. Updating of IT staff roles and responsibilities (medium risk)
5. Better utilization of automation and system tools (medium risk)
6. Clarity around the role of the Information Systems Steering Committee (ISSC) and project executive sponsors (medium risk)
7. Development of key performance indicators (medium risk)
8. Development of knowledge base and documentation repository (low risk)

6.0 Financial Implications

There are no immediate financial implications as a result of this audit; however, a funding request will be brought forward to Council for the new ITSP in the fall of 2017 and a request for a summer student to aid the IT Help Desk will be included in the 2018 budget.

7.0 Relationship to the Oshawa Strategic Plan

This report responds to the Council-approved principle of financial stewardship, which underlies the Oshawa Strategic Plan. It also responds to the goals of Economic Prosperity – Ensure economic growth and a sound financial future, and Accountable Leadership – Ensure respect, responsiveness and transparency.



Helen Break, Director, Strategic Initiatives,
City Manager's Office



Dave Mawby, Director
Information Technology Services



Beverly Hendry, Commissioner,
Corporate Services Department

Attachment



City of Oshawa

Internal Audit of the IT Function

Overall report rating:

Yellow-red: Partial assurance with improvement opportunities

KPMG LLP

May 4, 2017

This report contains 28 pages

Appendices comprise 10 pages



Contents

	Page
1. Executive Summary	2
2. Recommendations	6

Appendices

- A. Summary of IT organization structure
- B. ISSC structure and role
- C. Roles of a (Project) Executive Sponsor
- D. Staff involvement and documents reviewed

Distribution

To (for action):

- Dave Mawby, Director, Information Technology Services

Cc (for information):

- Steve Patterson, Manager, Systems and Security Operations
- Linda Mielwczyk, Manager, Applications Support

Sponsor:

- Beverly Hendry, Commissioner, Corporate Services

This report, together with its attachments, is provided pursuant to the terms of our engagement. The use of the report is solely for internal purposes by the management of the City of Oshawa, pursuant to the terms of the engagement, it should not be copied or disclosed to any third party or otherwise quoted or referred to, in whole in part, without our written consent.



Section One

Executive Summary

Conclusion

We have provided a grading of partial assurance with improvement opportunities (yellow-red) for the review of the IT function at the City of Oshawa. Our review identified Information Technology Services (ITS) as a function is able to provide support for day-to-day operations and able to respond to requests or incidents that are raised, but will benefit from more proactive actions to better meet the needs of the business users. ITS recognizes this need and is currently implementing an approved, significant organizational change initiative alongside other improvement initiatives in order to ensure that the services provided match the needs of the Corporation.

We evaluated whether the current ITS governance structure and the Information Systems Steering Committee (ISSC) ensured stakeholder needs are being identified in the prioritization and execution of IT-related projects for the City. While ITS and ISSC structures have been defined, duties and responsibilities require further clarification as they are not fully understood or executed as described.

We noted that project scoring criteria, approved by the Corporate Leadership Team, has been established and IT-related projects have been prioritized by the ISSC on that basis. Projects have also been assigned Executive Sponsors from the Departments. As these projects are initiated, the duties and responsibilities of the Executive Sponsor on each project can be more clearly defined to emphasize their role in endorsing the project.

We assessed the scope of work of ITS and how the teams are organized and governed to support delivery and alignment with the City's Strategic Plan. We also assessed how ITS roles and responsibilities have been defined and assigned to support delivery, of IT services at the City. As a small team with a broad portfolio, staff are required to multi-task and prioritize day-to-day operational tasks, project initiation and delivery, and support end users with incidents and requests. Future state consideration should be given to the separation of project management duties from operational support to allow for better focus and alignment of skillsets. ITS could also benefit from more robust knowledge management practices, changes to the Help Desk staffing model and leveraging of existing tools to automate or streamline work in areas such as incident management, security event management and change management.

Through interviews with stakeholder groups across the City, we assessed whether stakeholders felt their IT needs were being identified and met, and whether IT-related projects were prioritized, managed and executed in line with stakeholder expectations.



Stakeholders reported receiving good service on operational requests but expected more proactive support, communication and advice from ITS. The nature of support, communication and advice will vary by stakeholder groups and as such, should be further elaborated through undertaking a City-wide IT strategic planning exercise to develop the ITS strategic plan.

We have not benchmarked the City’s ITS budget or resources against other municipalities given the different ways that ITS in such organizations can operate, however leading practices have been incorporated into our recommendations.

Background

This internal audit forms part of the Internal Audit Plan for 2017 for the City of Oshawa (“City” or “Corporation”).

This review focuses on the organizational structure and governance in place across ITS to ensure it is positioned to respond efficiently and effectively to these demands, as well as risks arising from other internal and external factors.

The review includes an assessment of the key processes in place within IT and the team, and also considers the role of the Information Services Steering Committee (ISSC) and how the Committee supports the prioritization of IT-related projects.

Objectives

Objective	Description of work undertaken
<p>Objective one IT Function Review</p>	<p>We assessed the City’s IT organizational design and control practices against good practice frameworks (COBIT, ITIL, ISO27001, PMBOK as appropriate), covering the following activities:</p> <ul style="list-style-type: none"> • Evaluated the IT governance structure of the ITS Branch and ISSC to assess whether accountabilities and reporting relationships for IT have been adequately defined, documented and communicated; • Assessed the scope of work of the IT function and how the divisions are organized and governed to support delivery and alignment with the City’s Strategic Plan; • Assessed how stakeholder needs are being identified by IT and how IT-related projects are prioritized, managed and executed; • Assessed how ITS roles and responsibilities have been defined and assigned to support delivery of IT services at the City;



Objective	Description of work undertaken
	<ul style="list-style-type: none"> Assessed stakeholder views as to how their IT needs are being met.

Areas of good practice

- ✓ Day-to-day operations support is provided by ITS to meet user requests. Stakeholders receive good service once the support ticket has been raised.
- ✓ Infrastructure and hardware are refreshed on a regular cycle in line with industry good practice.
- ✓ A position for the Manager, IT Project Planning and Portfolio, has been created and advertised to establish more effective and efficient project and portfolio management practices.
- ✓ Duties of the Business Analysts are being re-aligned to move towards the standard expectation of the role, including a focus on Departmental and functional specialization to ensure more in-depth understanding of stakeholder needs.

Areas for development

- As has already been identified, the City does not have a current Technology Strategic Plan.
- Information and information system ownership have not been clearly defined, documented and understood.
- Project management practices are not standardized and defined.
- IT job descriptions are not current and responsibilities have not been updated for the recent re-alignment.
- There is limited automation of day-to-day tasks (logging, patch management, ticketing) which results in inefficiencies and potential duplication of efforts.
- The Information Systems Steering Committee (ISSC) has not been able to fully discharge its duties and responsibilities as described in the IT Governance Framework, for example with regards to the ownership of a Corporate Technology Strategy and review of strategic IT KPIs, policies and technical standards. The role of the ISSC is not consistently understood by stakeholders across the City.
- Key performance indicators such as Help Desk performance (average time to resolution, % of calls breaching Service Level Agreements), network performance and availability targets have not been developed for ITS staff to monitor and report against.



- There is a lack of a centralized ITS documentation repository or knowledge base that is shared between the Applications Support Team and the Systems & Security Operations Team in ITS.

Recommendations raised

We have raised the following recommendations (high priority represents the most urgent and high risk category):

	High	Medium	Low	Total
Raised	3	4	1	8
Accepted	3	4	1	8

Acknowledgement

We thank the staff involved for their help in completing this review.

Contact Information

The contacts at KPMG in connection with this report are:

Tony Malfara, Partner
Tel: (416) 777-3461
Cell: (416) 918-5483
tmalfara@kpmg.ca

Nick Rolfe, Senior Manager
Tel: (416) 777-3543
Cell: (647) 242-2452
nicholasrolfe@kpmg.ca

Eelin Chiam, Senior Manager
Tel: (647) 777-5259
Cell: (647) 829-7148
eelinchiam@kpmg.ca

Paul Irving, Manager
Tel: (647) 777-5399
paulirving@kpmg.ca

Eric Grott, Senior Consultant
Tel: (416) 777-8984
egrott@kpmg.ca



Section Two

Recommendations

This section summarizes the recommendations that we have identified from our work. We have given each of our observations a risk rating as follows:

Priority rating for recommendations raised

<p>High – (Priority One): Issues arising referring to important matters that are fundamental and material to the system of internal control. The matters observed might cause a system objective not to be met or leave a risk unmitigated and need to be addressed as a matter of urgency.</p>	<p>Medium – (Priority Two): Issues arising referring mainly to issues that have an important effect on the controls but do not require immediate action. A system objective may still be met in full or in part or a risk adequately mitigated, the weakness represents a deficiency in the system.</p>	<p>Low – (Priority Three): Issues arising that would, if corrected, improve internal control in general but are not vital to the overall system of internal control. These recommendations are of leading practice as opposed to weaknesses that prevent systems objectives being met.</p>
--	--	---

#	Risk	Recommendation	Management response, executive and deadline
1	High	<p>IT strategy</p> <p>The most recent IT strategic plan was completed in 2011. ITS (as well as the City) has undergone a number of changes since this time and there is a risk that the plan set out in 2011 no longer meets the needs of the City.</p> <p><u>Recommendation:</u></p> <p>The City should undertake a detailed IT strategic planning exercise to understand the requirements of the City's Departments and evaluate how they can be met through investment in technology. In conjunction with senior</p>	<p>Management agrees with the recommendation. A request for funding to support the development of an updated Information Technology Strategic Plan (ITSP) will be brought to Council in the fall of 2017.</p> <p>Owner: Bev Hendry, Commissioner, Corporate Services and CLT</p> <p>Due date: 2018 Q4</p>



#	Risk	Recommendation	Management response, executive and deadline
		<p>management, a 3-year IT strategic roadmap for addressing these technology requirements should be prepared for approval by Council. Progress against this roadmap should be tracked by ITS and monitored by senior management.</p>	
2	High	<p>Portfolio and project management</p> <p>A. A standardized portfolio and project management methodology has not been implemented within ITS. As such, the approach applied is dependent on the member assigned to the project and the timings, dependencies and interactions between different projects (which are being tracked in an Excel spreadsheet) are unclear. The development and implementation of formal standards will be the responsibility of the Manager, IT Project Planning and Portfolio, a position that has been created following the restructure and is being advertised.</p> <p><u>Recommendation:</u></p> <p>The first priority of the Manager, IT Project Planning and Portfolio, upon joining the City should be the development of a portfolio and project management approach for ITS or IT-enabled projects. This should include setting expectations over status reporting at the project and portfolio-level, resource management, stakeholder communications, “business as usual”</p>	<p>A. Management agrees with the recommendation. The City has recognized the need to formalize and bolster project and portfolio management practices. To this end, the hiring of a Manager, IT Project Planning and Portfolio is already underway and the position will focus on the identified goals as a priority over the first six months. The development of the appropriate roles and responsibilities of the business stakeholders will also be included as a key element in the development of a new ITSP.</p> <p>Owner: Dave Mawby, Director ITS</p> <p>Due date: 2018 Q1</p>



#	Risk	Recommendation	Management response, executive and deadline
		<p>support procedures as well as supporting the business with understanding the roles and responsibilities of the business stakeholders throughout the project lifecycle.</p>	
		<p>B. Business Analysts in the Application Support division work on projects, perform daily operational tasks as well as respond to incident tickets for their applications.</p> <p><u>Recommendation:</u> Consideration should be given towards separation of project management tasks from the Business Analysts / Applications Support team. This should allow staff to focus specifically on projects or application support and maintenance work, as well as ensuring that skill sets can be better aligned to the work undertaken.</p>	<p>B. Management agrees with the recommendation. With the addition of the Manager, IT Project Planning and Portfolio, the Manager of Applications Support and current Business Analysts are currently collaborating to refine the position's roles and responsibilities. With the number of active IT projects it is expected that some project management duties may need to stay with the Business Analysts in the short term.</p> <p>Owner: Dave Mawby, Director ITS</p> <p>Due date: 2018 Q1</p>
		<p>C. Business Analysts have discretion to work on change requests that are forecasted to take less than two days without going through the formal project approval process, but time spent on such changes are not tracked.</p>	



#	Risk	Recommendation	Management response, executive and deadline
		<p><u>Recommendation:</u></p> <p>A Lean review of Change Request processes, approvals and tracking should be carried out. The nature of change requests versus incident-related changes should be clearly defined by ITS management and communicated to both ITS staff and the business. All change requests should still be logged on the service management system, reviewed and approved by management. Time spent should be tracked through the service management system.</p>	<p>C. Management agrees with the recommendation. Staff will review and update the change request vs incident management processes through a Lean review and communicate them to our stakeholders. The ITS Branch is in the process of implementing a new service management system and will ensure that all change requests will be entered and tracked in the system.</p> <p>Owner: Dave Mawby, Director ITS</p> <p>Due date: 2018 Q2</p>
3	High	<p>Information and information systems ownership</p> <p>A. The concept of information and information systems ownership is not clearly defined, documented or understood. The City collects, processes and stores a large volume of data/information assets on technology systems; however there is a lack of clarity as to who owns the various information assets and which Branch is accountable and responsible for driving the Information Management strategy, policies and standards. There is also no end-to-end</p>	



#	Risk	Recommendation	Management response, executive and deadline
		<p>visibility of information assets that are stored on multiple systems and how they are used and managed.</p> <p><u>Recommendation:</u></p> <p>Senior management should agree on accountabilities and responsibilities for Information Management. Those charged should then drive the creation of the City-wide strategy, policies and standards, supported by the Departments and Branches at appropriate times.</p>	<p>A. Management agrees with the recommendation. ITS has been working to improve information governance and ownership. Progress has been made with the identification of key Corporate Leadership Team (CLT) sponsors. As part of a planned update to the ITSP, senior management will be engaged in order to define the appropriate accountabilities and responsibilities for Information Management at the City. This information will be a key factor in developing the appropriate service and resource levels required to implement the ITSP.</p> <p>Owner: Dave Mawby, Director ITS</p> <p>Due date: 2018 Q4</p>
		<p>B. Some information systems (applications) have been assigned to named business owners but the roles and responsibilities of these owners have not been defined. This does not ensure that sufficient accountability is assumed by specific individuals to</p>	



#	Risk	Recommendation	Management response, executive and deadline
		<p>make decisions pertaining to system and IT support requirements.</p> <p><u>Recommendation:</u></p> <p>All applications managed by ITS should be assigned to named business owners. The roles and responsibilities of business owners and ITS should be defined, documented and communicated to all relevant individuals. ITS, business owners and those charged with Information Management responsibilities should ensure accurate classification of the information stored on the applications and assess for criticality, security and retention requirements.</p>	<p>B. Management agrees with the recommendation. ITS will expand the list of application business owners to include all business applications and will confirm, document, and communicate the current responsibilities. Additional responsibilities as a result of the ITSP per recommendation A above will be implemented following the development of the plan.</p> <p>Owner: Dave Mawby, Director ITS</p> <p>Due date: 2017 Q4</p>
		<p>C. There was an inconsistent understanding of the responsibilities of ITS compared with the business. For example, a user misunderstood that ITS had declined the purchase of a mobile communication device, however the Mobile Communication Device Policy states that approval is to be provided by their Department Head. In addition, a previous audit identified that the business was not aware of existing system functionality although they had signed off on the implementation.</p> <p><u>Recommendation:</u></p>	<p>C. Management agrees with the recommendation. In 2016, the ITS Branch implemented an intranet website 'My IT' to provide information and assistance on technology services and policies. This site will be reviewed and updated to clarify procurement processes and responsibilities.</p> <p>Owner: Dave Mawby, Director ITS</p> <p>Due date: 2018 Q1</p>



#	Risk	Recommendation	Management response, executive and deadline
		Technology-related policies should be clearly signposted to all staff on the Intranet. For all applications and ITS services, procedure documents should be documented to clearly set out ITS vs business responsibilities.	
4	Medium	<p>ITS staff roles and responsibilities</p> <p>A. Job descriptions for ITS staff are not current, with some descriptions dating back to 2001. With the recent reorganization, some staff do not have clear understanding of their current responsibilities and duties. We note that ITS has starting work with HR on updating the job descriptions.</p> <p><u>Recommendation:</u></p> <p>ITS management should complete the review of existing job descriptions and update them to reflect current duties and responsibilities. ITS staff whose roles have changed should be involved and informed to ensure common understanding.</p>	<p>A. Management agrees with the recommendation. The current staff compliment in the ITS Branch fall into 17 distinct job descriptions. In 2016, the Branch updated and/or created 6 of the 17. ITS will continue to review and update where necessary the existing job descriptions in priority order, starting with the Business Analyst job description currently underway, while recognizing that this work will impact resources in both ITS and HR and that additional changes may be required as a result of a new ITSP.</p> <p>Owner: Dave Mawby, Director ITS</p> <p>Due date: 2019 Q4</p>
		B. The Network Security Manager is responsible for designing and implementing security procedures and systems to protect the City's	



#	Risk	Recommendation	Management response, executive and deadline
		<p>technology. The current reporting structure has security-related briefings being provided by the Network Security Manager to the Manager, Systems and Security Operations, who then informs the Director, ITS as required. There is a risk that the Director is not informed of important security messages on a timely basis with the existing communications chain.</p> <p><u>Recommendation:</u> The Network Security Manager should have an indirect reporting line to the Director, ITS to escalate security issues as required. Security updates should be provided to both the Director as well as Managers (the ITS management) on a regular basis.</p>	<p>B. Management agrees with the recommendation. Staff will ensure that the Network Security Manager has indirect reporting to the Director, ITS and that regular security updates will be provided to ITS management.</p> <p>Owner: Dave Mawby, Director ITS Due date: 2017 Q3</p>
		<p>C. The Help Desk is not constantly staffed during standard working hours as Support Analysts may be in the field resolving incident tickets. End users who are unable to speak to Help Desk staff then reach out to other members of ITS, bypassing the standard call intake process.</p> <p><u>Recommendation:</u> A Lean review of Help Desk responsibilities should be carried out. Consideration should be given to revisiting the staff assignment to ensure there is at least one Support Analyst at the Help Desk to take calls or walk-ins at all times during the standard working</p>	<p>C. Management agrees with the recommendation. Staff will complete a Lean review of the Help Desk roles and responsibilities in order to improve live-answer availability during all business hours. Recognizing that this change may negatively impact other services, particularly during the summer months due to the annual technology roll out and vacation schedules, ITS will include a request for a</p>



#	Risk	Recommendation	Management response, executive and deadline
		<p>day. During periods of low call/walk-in activity, the Analyst could assist with other tickets in the queue or update the knowledge base.</p>	<p>summer student during the 2018 budget process.</p> <p>Owner: Dave Mawby, Director ITS</p> <p>Due date: 2018 Q1</p>
5	<p>Medium</p>	<p>Utilization of automation and system tools</p> <p>The IT department does not fully utilize available tools effectively to support daily operational tasks. This has been identified in several areas:</p> <ul style="list-style-type: none"> • The service management system is not used by all ITS members to log and track incident tickets and service requests; • IT change management records and supporting knowledge documentation are maintained in Excel spreadsheets instead of a searchable database or service management system; • The Security Information and Event Management tool is not properly configured to collect and correlate incidents and events from system logs; • Patching of servers is manually undertaken. <p><u>Recommendations:</u></p> <p>The City has existing tools and systems that can be further leveraged to automate some of the manual tasks, including setting up workflows for</p>	<p>Management agrees with the recommendation. The ITS Branch is in the process of moving to the new service management platform. The ticketing function has been migrated however the implementation of additional features and functions has been delayed due to current staff vacancies. It is the intention of the Branch to continue to further leverage the service management platform to improve services and develop reporting metrics. Lean process reviews will be completed as services are migrated to the new tool. ITS will focus on change management functions and documentation.</p> <p>Owner: Dave Mawby, Director ITS</p> <p>Due date: 2018 Q1</p> <p>Staff have recently received updated training on the City's Security Information and</p>



#	Risk	Recommendation	Management response, executive and deadline
		<p>incident and change management processes.</p> <p>ITS management should carry out Lean reviews of existing manual tasks. Subsequently, ITS management should investigate the additional functionality and tools available within existing systems, agree upon a standardized approach in the usage of the various functionalities and train ITS users on how to efficiently utilize them.</p>	<p>Event Management tool. ITS will be requesting additional funds from the Annual Technology Projects budget in order to purchase additional licenses and implement additional monitoring features.</p> <p>Owner: Dave Mawby, Director ITS</p> <p>Due date: 2018 Q3</p> <p>Tools are in place to automate the deployment of Windows updates and global 3rd party software updates to workstations and will be used to automate server updates and patches.</p> <p>Owner: Dave Mawby, Director ITS</p> <p>Due date: 2018 Q1</p>
6	Medium	<p>Role of the Information Systems Steering Committee (ISSC) and Project Executive Sponsors</p> <p>The documented mandate of the ISSC, which includes evaluation of technology projects and oversight of the technology portfolio, is in line with good practice. However, the duties and responsibilities of the ISSC are not being fully executed. See Appendix B for further details.</p> <p>Not all stakeholders interviewed, who were at the Manager or Director-level, were aware of the existence of the ISSC,</p>	



#	Risk	Recommendation	Management response, executive and deadline
		<p>its mandate and its membership. As a result, the agreed-upon process for prioritization of IT projects through the ISSC is not fully understood by stakeholders across the City and may have contributed towards the assumption that IT projects are prioritized at ITS' discretion. It is also unclear if ISSC members are responsible for communicating the status of requested projects to their respective Departments, or if this is carried out by ITS.</p> <p>We also noted that Executive Sponsors from the Departments have been assigned to each project, although given the current status of the project, their accountabilities and responsibilities can be more clearly defined, in particular with championing the project and engaging with senior management.</p> <p><u>Recommendations:</u></p> <p>The mandate and membership of the ISSC should be revisited and confirmed by CLT. CLT members should be tasked with communicating the agreed-upon mandate to their Departments.</p> <p>ITS should provide ISSC with adequate information and documentation to discharge their duties and responsibilities, and address any feedback provided.</p> <p>Clarity should be provided as to whether ISSC members are responsible for providing their Departments with updates on matters discussed and</p>	<p>Management agrees with the recommendation.</p> <p>In the short term, focus will be put on communication regarding the ISSC, its membership, roles and significance.</p> <p>Owner: CLT</p> <p>Due date: 2017 Q3</p> <p>A review of the corporate IT governance structure, including the mandate and membership of the ISSC, and the roles and responsibilities of the business stakeholders as noted above will be included in the development of a new ITSP.</p> <p>The coordination and communications related to the IT Project Portfolio and standardized project governance documentation will be a key focus area for the new Manager, IT Project Planning and Portfolio.</p> <p>Owner: CLT</p> <p>Due date: 2018 Q4</p>



#	Risk	Recommendation	Management response, executive and deadline
		<p>decisions made at ISSC, or whether this is carried out by ITS.</p> <p>For each project, the accountabilities and responsibilities of the Executive Sponsor can be more clearly defined (see Appendix C for typical roles of an Executive Sponsor).</p>	
7	Medium	<p>Key Performance Indicators</p> <p>Key performance indicators (KPIs) have not been defined by ITS to establish standards for service delivery and track and monitor performance for compliance with those standards. Without agreed KPIs that are tied to service level agreements with the business, end users may not have a consistent understanding of the service delivery standards which then contribute towards user dissatisfaction.</p> <p><u>Recommendations:</u></p> <p>We recommend KPIs be developed in collaboration with business service level agreements and approved by senior management. These should include both internal and external KPIs such as average time for incident resolution, number of defects raised on a system, availability and capacity targets. Tracking and monitoring should be established and reported upon to provide ITS and non-ITS staff with visibility into the performance of ITS.</p>	<p>Management agrees with the recommendation. The ITS Branch is in the process of moving to the new service management platform. The previous platform did not provide reliable metrics to enable performance or capacity reporting. The ability to develop and report on future KPIs is a key consideration as business processes are reviewed and migrated to the new tool. Service levels and KPIs will be developed over time. Staff will develop an initial set of metrics related to incident case management.</p> <p>Owner: Dave Mawby, Director ITS</p> <p>Due date: 2018 Q2</p>
8	Low	<p>Knowledge base and documentation repository</p>	



#	Risk	Recommendation	Management response, executive and deadline
		<p>During the review KPMG found limited documented knowledge retention, which results in reliance on specific staff members to support applications and infrastructure and a higher risk of core knowledge being lost as a result of turnover or retirements. There is no central repository that is used across ITS as a knowledge base (e.g. resolution steps for frequent issues) or for maintenance of key documentation.</p> <p><u>Recommendation:</u></p> <p>ITS management should require staff to document key processes and retain them in a central repository where they can be shared between teams while maintaining version control.</p>	<p>Management agrees with the recommendation. ITS system documentation currently resides on the Branch's shared network drive. Staff will review contents and structure of the drive to ensure that the information is properly organized.</p> <p>Owner: Dave Mawby, Director ITS</p> <p>Due date: 2018 Q1</p> <p>Staff will review systems documentation and develop appropriate standards and templates, and will identify the appropriate centralized repository for the information.</p> <p>Owner: Dave Mawby, Director ITS</p> <p>Due date: 2018 Q3</p> <p>Staff will review current practices to ensure that case notes and resolutions are being properly documented.</p> <p>Owner: Dave Mawby, Director ITS</p> <p>Due date: 2017 Q4</p>



Appendices

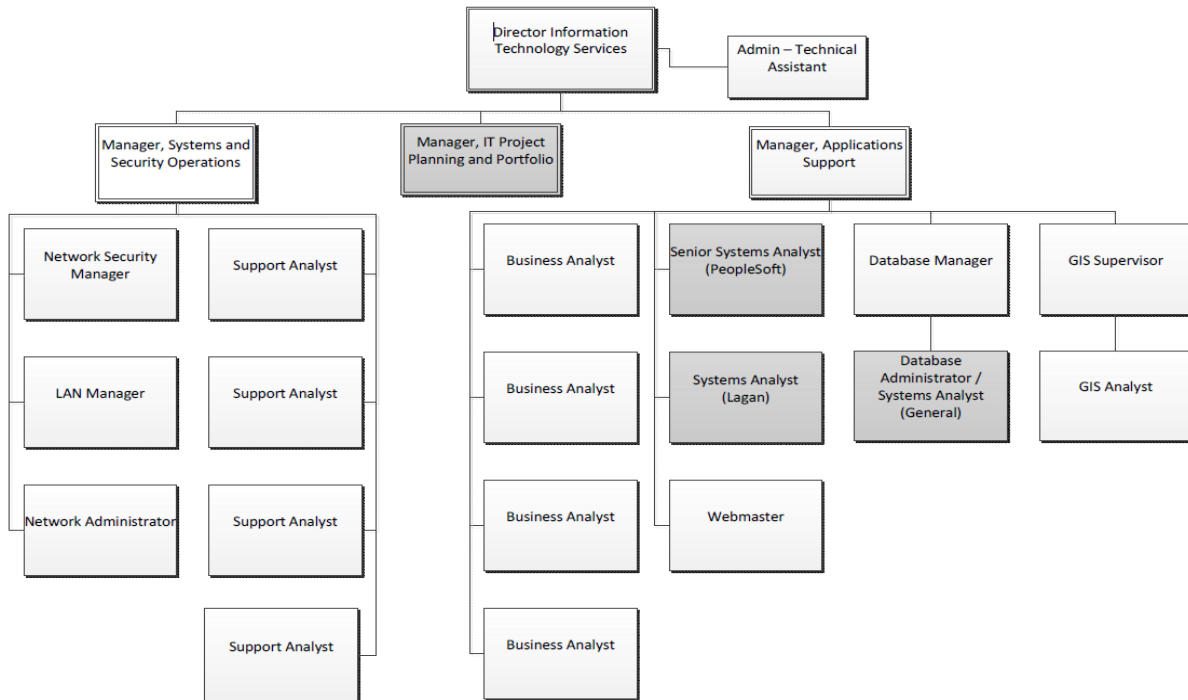
Appendix A: Summary of IT organization structure

In line with the objectives of the scope, we have assessed the current ITS structure and how roles and responsibilities have been defined and assigned to support delivery of IT services at the City. We also assessed if the future state IT function should evolve to better meet emerging or additional needs. The following table sets out our findings through inspecting documentation and inquiring with different stakeholders.

Findings
<ul style="list-style-type: none">✓ The current structure of ITS and planned roles and responsibilities are in line with other IT organizations.• The Network Security Manager does not have a reporting line, direct or indirect, to the Director, ITS (Recommendation 4).• Business Analysts have to fulfil operational support responsibilities, act as project managers as well as undertake “business analysis” (Recommendation 2).• The Help Desk is not constantly staffed during standard working hours as Support Analysts may be in the field resolving incident tickets. End users who are unable to speak to Help Desk staff then reach out to other members of ITS, bypassing the standard call intake process (Recommendation 4).



Screenshot 1 – ITS Organizational Structure





Appendix B: ISSC structure and role

In line with the objectives of the scope, we have assessed the role of the Information Services Steering Committee (ISSC) and how ISSC supports the prioritization of IT-related projects. We have commented on our findings through inspecting documentation, and inquiring with different stakeholders.

Findings
<ul style="list-style-type: none"> ✓ The mandate of the ISSC is in line with good IT governance practices. • The mandate of the ISSC is not being fulfilled as members of the ISSC are not executing the duties and responsibilities set out in the IT Governance Framework (Recommendation 6).

Mandate of the ISSC: Chaired by the Director, ITS, the Corporate Information Systems Steering Committee (ISSC) is responsible for defining strategic directions for corporate information technology systems and services. The Committee will recommend IT funding and evaluation, and make decisions regarding large scale investments within the context of the enterprise IT applications and infrastructure services portfolio.

The Committee is designed to promote a collaborative and transparent approach to delivering technology strategy, recognizing the shared responsibility for successfully leveraging technology.

The Committee will assist in setting technology expectations and provide feedback to ITS regarding its role in supporting the City’s Strategic and Business Plans.

Duties and Responsibilities per the Governance Framework and whether they are currently executed:

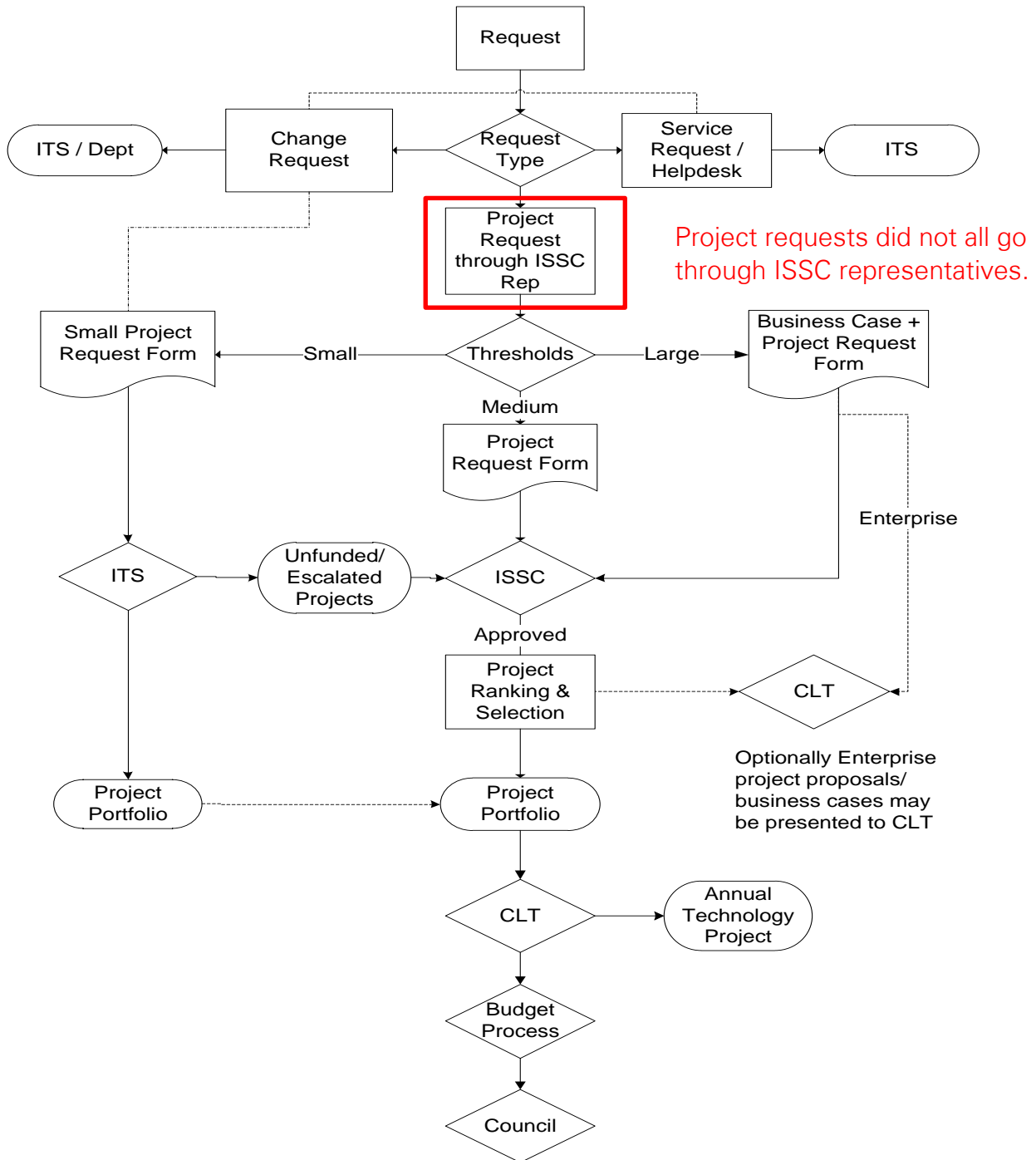
Duties and Responsibilities	Currently Executed?
Own and manage Corporate Technology Strategy	No. There is no current ITSP.
Champion the IT strategy and processes and communicate with management and staff	No. There is no ITSP and IT processes are not sufficiently documented to allow ISSC members to communicate with staff.
Receive, review, and understand requests originating from their Department/Branch in the context of departmental and corporate strategy	Partial. Department/Branches can submit requests directly to ITS bypassing ISSC members. In addition, the scope of some



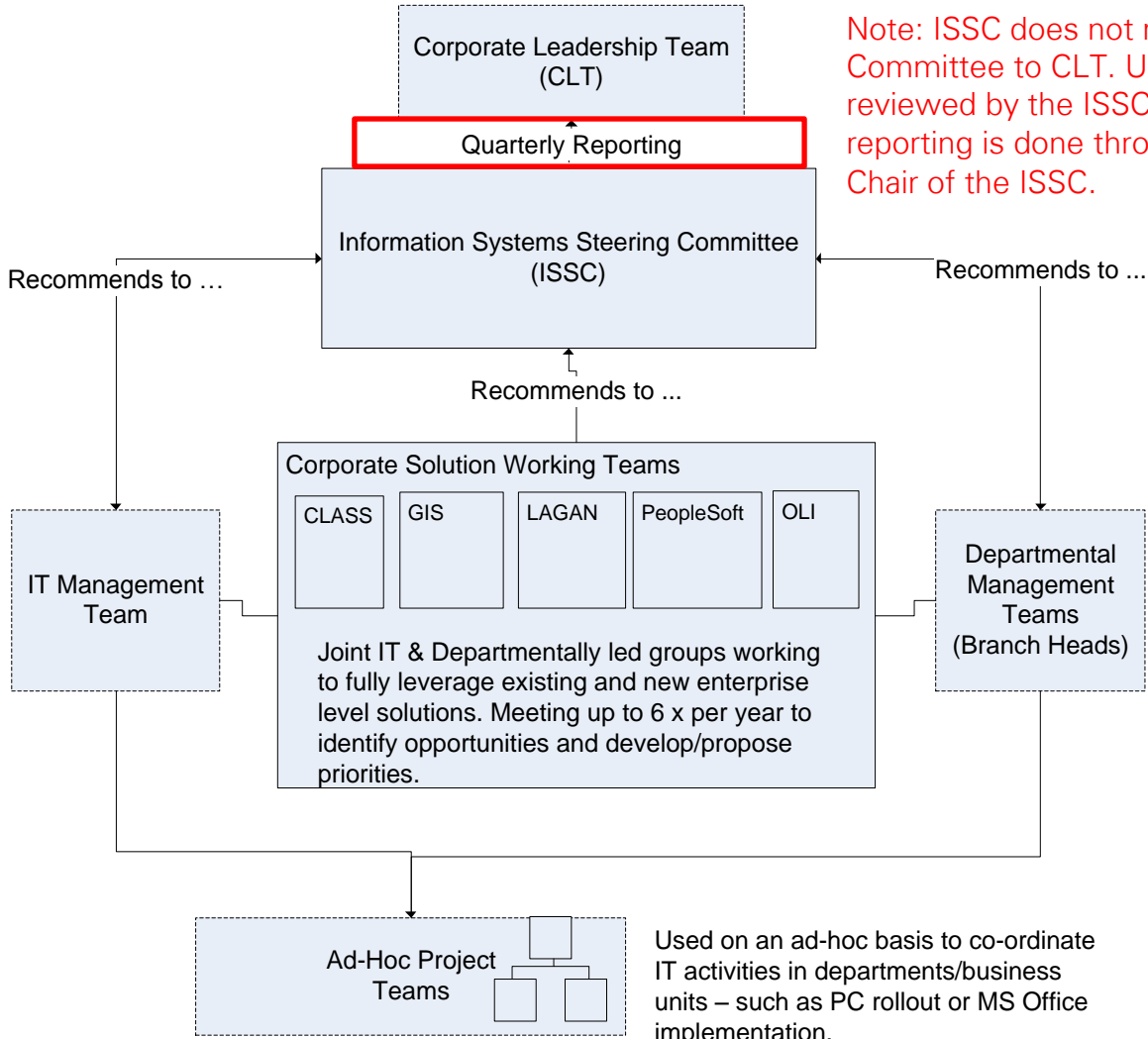
Duties and Responsibilities	Currently Executed?
	Departments are so large that ISSC members may not be able to adequately review requests in the context of the department's strategies.
Develop annual IT Capital Budget	No. ISSC does not develop the annual IT capital budget, although the Director ITS discusses the budget and takes feedback from the ISSC.
Establish and recommend the criteria for evaluation of technology projects	Yes. A scoring framework has been established for the evaluation of technology projects.
Evaluate and provide oversight for the technology project portfolio	Partial. ISSC evaluated and reprioritized the technology project portfolio in 2016. Oversight duties are not being discharged.
Review and endorse (where appropriate, recommend) IT policy review	No. IT policies have not been drafted and submitted for ISSC review.
Review and endorse technical standards, proposed by ITS	No. Technical standards have not been drafted and submitted for ISSC review.
Review and approve work plans and priorities of Corporate Solution Working Teams.	No.
Review and provide feedback on strategic IT KPIs (financial, resource and infrastructure utilization, standards)	No. Strategic IT KPIs have not been defined.
Establish Technology Working Teams as required	Partial. Technology working teams have been set up in some areas and for project-specific requirements.

The Project Governance Structure is shown on the following pages.

Screenshot 2 – IT Change Requests Process Flow



Screenshot 3 – IT Governance Structure



Note: ISSC does not report as a Committee to CLT. Updates are reviewed by the ISSC and reporting is done through the Chair of the ISSC.



Appendix C: Roles of a Project Executive Sponsor

- **Ensure the project’s strategic significance and promote support by key stakeholders.**
The sponsor endorses and defends the project as a valued investment of organizational resources, an investment that serves the organization’s strategic objectives.
- **Support approval and funding for the project.**
Organizations have more opportunities than funds and people to work them. The sponsor lobbies for the approval and funding of the project, including additional funding if required.
- **Resolve conflicts that require senior management involvement.**
The sponsor resolves conflicts that require senior executive involvement: funding, priorities, external commitments, cross-organizational boundaries. The sponsor strives to buffer the project team from political issues. Timeliness to close issues is critical.
- **Be accessible and approachable.**
The sponsor must be available to the project manager and other stakeholders on relatively short notice. The sponsor should be viewed as a stakeholder who is always willing to listen and get involved as needed – to be used as a sounding board and to provide advice and guidance.
- **Support periodic reviews.**
The sponsor approves the need and frequency of project reviews to appropriately assess the health of the project and ensures any significant problems identified are addressed immediately.
- **Support post-project reviews.**
The sponsor promotes the implementation of reviews upon project completion or following a major phase of a long-running project. A post-project review identifies what went right, what went wrong and where improvement can be made on future projects. The objective is to learn from project experiences so future projects can benefit.
- **Encourage recognition.**
The sponsor, working with management and the project manager, supports the timely recognition of noteworthy individual and team achievements.



Appendix D: Staff involvement and documents reviewed

We undertook interviews in March and April 2017 with key stakeholders to inform this work including:

Name	Title
Bev Hendry	Commissioner, Corporate Services
Dave Mawby	Director, Information Technology Services
Steve Patterson	Manager, Systems and Security Operations
Linda Mielewczyk	Manager, Applications Support
Adam Abernethy	Network Security Manager
Nancy Kavanaugh	Business Analyst
Shelly Crosby	Business Analyst
Thomas Kalampukattu	Business Analyst
Ryan Coglein	Business Analyst
Timie Awoleye	Support Analyst
Glenn Simmonds	Director, Operations Services
Mike Saulnier	Manager, Operations and Waste Management
Mike Sluggett	Manager, Traffic, Streetlights and Parking
Lisa Brown	Manager, Business Planning and Operations
Laurie Jones	Manager, Programs and Facilities
Catherine Richards	Manager, Culture and Central Recreation Services
Steve Boyd	Deputy Fire Chief
Derrick Clark	Fire Chief
Jim Naumovski	Manager, Facilities Operations
Julie Maclsaac	Director, Recreation and Culture Services
Beth Mullen	Manager, Strategic and Business Services
Dru Chillingworth	Manager, Parks Maintenance Services
Stephanie Sinnott	Executive Director, Finance Services/Treasurer



Name	Title
Dave Lyon	Manager, Purchasing Services
Michelle Bretherick	Manager, Financial Reporting and Planning
Tim Dwyre	Manager, Taxation and Revenue Services
Jay Martin	Manager, Financial Services and Systems Development
Tracy Adams	Director, Corporate Communications
Mark Robinson	Director, Facilities Management
Jerry Conlin	Director, Municipal Law Enforcement & Licensing Services
Andrew Brouwer	City Clerk
Brenda Jeffs	Manager, Customer Service
John Turpin	Project Manager, Facilities Management
Kevin Alexander	Manager, Capital and Technical Services, Facilities Management
Warren Munro	Director, Planning Services
Susan Ashton	Manager, Development & Urban Design
Jerry Shestowsky	Manager, Administration and Accessibility Services
Mike Leonard	Chief Building Official
Kyle Benham	Director, Economic Development Services
Brett Murphy	Manager, Marketing and Investment Attraction
Patrick Lee	Director, Engineering Services
Anthony Ambra	Manager, Design and Construction Services
Melissa McCabe	Manager, Infrastructure Services

We received the following documentation over the course of fieldwork:

- IT organizational chart, including roles and responsibilities, and job descriptions
- Current IT Strategy and plans for future update
- IT Policies, standards, processes and procedures
- IT Risk assessment standards, methodology, processes, tools and current IT risk report/register



- IT outsourcing agreements and associated risk management, vendor/service level management documents
- List of technology-enabled projects: planned, current and those completed in 2016
- (IT) Project Management standards, methodology, processes
- Systems development standards, methodology, processes
- List of Committees/Bodies where IT matters are discussed (strategic and operational), and their Terms of Reference
- Application and infrastructure landscape