Corporate Technology Strategic Plan

Final Report
Volume 1

Prior & Prior
Associates Ltd.

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1. Executive Summary

Introduction

This Corporate Technology Strategic Plan is the first technology review that the City has undertaken in many years. It is an opportunity to re-think the way technology is perceived at the City and assess what changes are required to re-position both the IT department and technology enabling at the City.

The Opportunity

Information technology as a platform and an enabling mechanism at the City has lost significant ground in the past few years, while many other organizations are reaping the benefits of a more holistic, customer centric approach. Municipalities large and small face daunting challenges as they continue to deliver the same or enhanced services with fewer resources and tax dollars. Each is trying to deliver the same services and meet the same expectations on vastly different budgets.

In response to this challenge, the Corporate Strategic Plan sets out strategic directions and frameworks to position the City of Guelph to be an organization that is FAST (Flatter, Agile, Streamlined and Technology enabled). The major themes of the strategy focus on internal improvements in three strategic:

- *Organizational Excellence*
- *Innovation in Local Government*
- *City Building*

This is a bold strategy that seeks to transform the way the City operates. Undeniably, technology will be central to the Corporate Strategy's success. Building a City that does business differently, more efficiently, a City that looks at all opportunities to work *smarter* is a central concept of the Corporate Strategic plan. It cannot be done without technology.

Smart cities around the world and here in Ontario are doing amazing things powered by technology. For these cities, technology is the engine of innovation. IBM's *Smarter Cities* program highlights municipalities around the world that are using technology to radically improve service delivery and quality. The City of Cambridge, Ontario, an IBM smart city, is one of these. Through their technology-enabled approach to asset management, the City is achieving significant efficiencies and improvements in service delivery. Similarly, the City of Hamilton has reduced its major capital works spending by 6% or $12 million per annum by adopting a technology aided approach to asset management.

Through the implementation of 311 and Open Data, the City of Toronto has developed a flourishing ecosystem, which has seen third parties develop iPhone applications to allow customers to submit service requests to the City (about graffiti and pot holes) and track their resolution. Other municipalities in the GTA, such as Newmarket, Markham and Oshawa, have also made smart investments in customer service as a driver of internal transformation and process improvement programs, and have delivered significant customer service improvements

and internal efficiencies. Each delivers tangible cost savings to the customer and the City through technology.

With the right corporate approach, mindset, and the right level of investment, technology can be a powerful force, an engine that the City of Guelph can use to achieve the goals of the Corporate Strategic Plan.

The Current State

Regrettably, the City's current approach to technology is delivering far less than optimal results. The IT Department *(and technology)* has been viewed as a cost centre, a support organization, not an engine of innovation, growth and service delivery improvement. The IT Department operates at the wrong level – focusing on the basic sustainment of software systems - keeping the lights on. IT staff are fully utilized supporting what is currently in operation, not working on strategic initiatives that can simplify customer interactions with the City or streamline basic administrative tasks.

Although many major systems have been implemented by the City (most over a decade ago), many of the basic capabilities needed to run the City are not working well. Because of this, managers and staff spend an inordinate amount of time on administrative processes and tasks that remain largely manual despite automation. Excel spreadsheets and word documents are used to manage critical business processes because the systems don't do the job. Staff cannot quickly access or assemble critical information to carry out their day-to-day tasks. Consequently, Managers, General Managers and Executive Directors may operate without the necessary intelligence to effectively manage their operations, increasing the risk of producing inaccurate or incomplete information. These are major gaps which must be addressed.

By seeing technology as a back office support function and a cost centre, the City has in effect constrained technology funding, particularly so in recent years. Current funding levels barely cover the cost of maintaining existing systems and technology infrastructure. Major cuts in IT funding have reduced the 10-year capital investment in technology by 35% (from $19 million to $12 million) despite significant staff growth, a doubling in the size of the computing environment, and significant growth in the technologies deployed. The staffing levels within the IT department have remained largely unchanged for the last 10 years.

The Imperative

The outcome has been to create a vicious circle, where growing frustration with the IT department has resulted in year over year reductions in the IT budgets. It would appear that the City has consciously reduced IT funding to a level designed to **sustain** the current systems. Whether this is based upon a false assumption that maintaining the status quo is a viable option, or a failing to fully understand the role of technology in local government, either way this is the wrong approach. The status quo is not sustainable. The status quo does not mean standing still; it means actively choosing to go backwards.

Reduced Business and IT Interaction → Budget & Staff Reduction → IT frustration → Reduced IT involvement and business value add → Increased Business frustration and reduction in perceived value of IT →
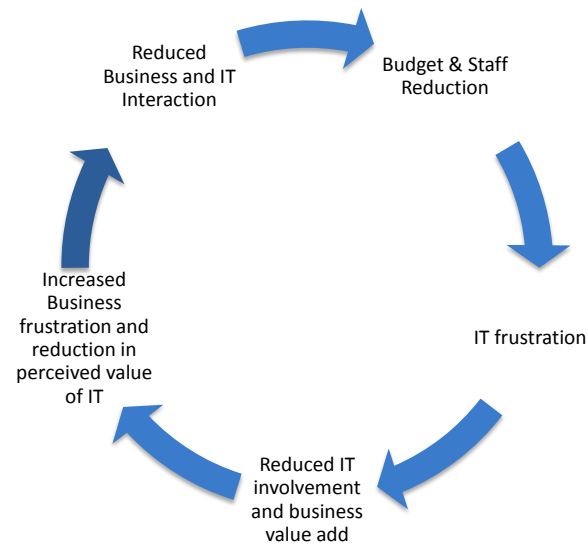
This situation is dangerous. Corporate systems are gradually failing and additional software is being purchased to fill the gaps, adding to the already complex environment. Out of frustration, the departments are beginning to seek alternative solutions to corporate business systems. Additional IT costs will be incurred to support the departmental IT spending whether through the need for integration, servers, training, and so on. Quite likely, business processes will deviate more and more from best practices and information sharing will become more difficult.

The Future State

Guelph's first technology strategy must be an awakening for the organization. The Corporate IT Strategic Plan seeks to tackle these major issues and replace the vicious circle with a virtuous one. The strategy recommends many significant changes to the way the City views, manages and invests in technology. The changes are designed to trigger a cultural shift in the City's approach to technology, and ultimately to position Guelph to become a smart City.

To accomplish this paradigm shift will require a change in outlook at all levels. Council needs to become aware of the power of technology and be willing to invest in technology to improve service delivery, customer service enhancement and corporate productivity.

The Executive Team must support and promote a culture of change and establish the right conditions for the departments and IT to partner in delivering sound, innovative business solutions, reinforcing the new, corporate approach to technology.

The departments must become more involved in leading business changes enabled by technology and assume more accountability for technology initiatives that affect their business. Those instances where the business has taken initiative today have often occurred without the direct involvement of the IT department and usually because of lack of IT resources.

It will also require a significant change in the way that the IT Department (IT) approaches its business. IT needs to establish a new credibility within the City. This means implementing a new approach to the way IT works with departments, as a partner, not a utility, and not a supplier. The new IT organization with updated skills will be able to deliver the technology services the City needs.
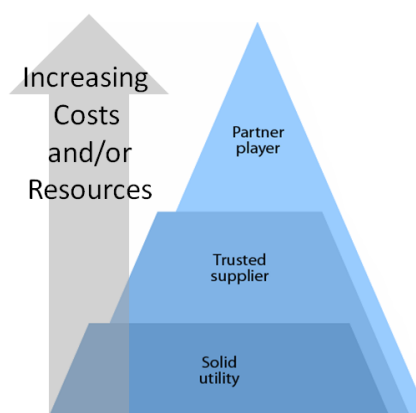
Increasing Costs and/or Resources

Partner player

Trusted supplier

Solid utility

IT is integral to how we do business: IT organization is expected to closely partner with the business to help identify, plan and deliver significant business transformation initiatives - plus be a trusted supplier.

IT delivers critical functionality and services: IT organization is expected to deliver application projects on time and on budget, based upon the operating units requirements and priorities - plus be a solid utility.

Keep the lights on: The IT organization is expected to provide cost effective-dial tone reliability with transparent costs.

Making the Change

The plan sets out a number of strategic directions and a road map to accomplish the plan. These projects form the backbone of the technology roadmap:

- Fix the corporate business systems to support city operations as they should
- Employ new technologies to better manage data and information sharing, collaborate with staff and with the public, achieve operational efficiencies and improve overall service delivery
- Improve the IT department's service delivery capacity and capabilities
- Implement a technology governance framework

The City will need to make the following investments if it is to accomplish the work set out in the roadmap:

- Invest an additional $1.1 million per year on business-driven initiatives designed to improve and transform the City's business operations through the more effective use of technology
- Approve up to seven new positions for the IT department over the next four fiscal years to improve the City's ability to take full advantage of existing investments in major business systems and support new initiatives
- Establish an IT governance framework to provide oversight of the IT investment portfolio

Future Operating Principles

There are a number of principles that the City must endorse if it is to better leverage technology to achieve its corporate goals. Each of these represents a major change in the way the City approaches technology.

1. Accept the findings of the strategy and agree to the ***need for radical change.***

2. Corporately acknowledge the potential of technology to act as an engine of change that is central to the success of the Corporate Strategic Plan, and commit *to **moving IT from a cost centre to an engine of growth and innovation.***

3. Accept the need to ***increase investment in IT***, and ***commit funding*** to support the implementation of this IT strategy ($3.4 million capital investment over three years).

4. ***Implement the recommended technology governance model***, which involves executive, business and IT staff.

5. Commit to using the technology governance model to ***actively manage the corporate technology investment portfolio*** using the IT Strategy work plan as a guideline.

6. ***Accept the new mandate for IT*** and direct the IT department to take a leadership role in furthering the exploitation of technology in the organization.

7. ***Align the IT organization*** to support the *strategy by* ***implementing the recommended organizational* changes** and adding additional resources over a four year period.

These principles must be adopted as a package, not to be selected individually. They are pivotal to establishing the new approach to technology at the City and are necessary to facilitate the City's business transformation process.

Summary

There is a modest window of opportunity to align the City's technology function with the vision and directions of the Corporate Strategic Plan – literally to enable the transformation the City is talking about – but without a concrete strategy to achieve it. Empowering technology within the organization can achieve two objectives at one time:

- Position the City as a leader in municipal service delivery, and, at the same time
- Address a number of internal processing problems, which if left unresolved, will not only set the City back, but will reverse the benefits currently being achieved by the major systems.

Now is the time to invest – to acknowledge the role of technology in transforming the City's service delivery platform.

2. Background

Approach & Initial Findings

The City initiated the development of a Strategic Plan for Information Technology & Electronic Services in December 2011, with Council approval of the IT Strategic Plan Framework. The framework identified four major pillars:

- Open Government / e-Government
- IT Governance
- IT Sustainability
- Service Delivery Standards

Prior & Prior Associates Ltd. was engaged by the City in early 2012 to assist in the development of the Plan. The consulting team used a collaborative approach to involve city staff at all levels. Interviews were conducted with members of Council and the executive team, program managers, IT management and staff, and external partners. An online survey was used to solicit input from front line staff across the City.

A senior level Steering Committee was established to guide the development of the strategy. Membership included the following:

- Executive Director, Corporate and Human Resources
- Executive Director, Community and Social Services
- Manager, Corporate Strategic Initiatives
- General Manager, Economic Development
- General Manager, EMS
- General Manager, Engineering
- Manager, Information Technology
- Supervisor , IT Project Management and Business Systems

The Steering Committee was responsible for reviewing the findings, interim deliverables and recommendations to ensure that the Strategy will meet the needs of the organization and align with the City's strategic directions.

The Current State

The findings from the Discovery Phase are documented in detail in the Interim Report (Volume 2). They suggest that the City is currently poorly positioned to leverage technology effectively, and will find it increasingly difficult to use technology strategically to support the delivery of the Corporate Strategic Plan. In many cases, technology is actually hindering the effective operation of the City.

As referenced in the Executive Summary, technology as a critical service has received insufficient attention at the senior management level. IT has been treated as a back office support function. Since 2004, the operations budget and technology staffing have largely remained static, while the capital budget has been reduced by 35%.

The IT Department focus has been on managing and supporting the computing infrastructure (e.g. networks, telephony, PC's, data centre), and less so on the corporate systems that manage the City's business processes (e.g. Finance and HR systems, Work and Asset Management

Systems) or new solutions. Consequently, many of the major business systems are not effective in supporting the needs of the organization. The problems with the larger systems stem from either inappropriate configurations or incomplete implementations, both of which have resulted in processing issues. In many cases, the result has been a patchwork of many systems to support a business process rather than one integrated system, thereby increasing complexity, operational costs and support effort.

Business systems are being used as traditional ledgers of historical records rather than as dynamic business process management tools. Because of the gaps in the business systems, some parallel systems have been acquired and there is a large amount of manual effort leading to errors, inconsistencies and significant amounts of management and staff time. Inevitably, basic information that departmental managers need to effectively manage their programs, such as financial and HR reporting or asset work history, is not easily accessible, accurate or available in a timely fashion. In many cases, the promised benefits of process automation still have not been realized 10 years after implementation.

Summary Results of the Online Staff Survey

101 survey responses were fully completed. The survey reflects the broader findings of the interviews. It was reassuring to see that staff have the same perspectives as those identified in the management interviews.

Key observations:

- There was a reasonable spread of responses from the departments (73%).
- Staff indicated varying satisfaction levels with the IT services from the perspective of being timely and proactive with these areas seen as key improvement opportunities.
- Newer employees are more likely to be dissatisfied with the services and service levels provided by IT.
- There appears to be limited understanding of the IT organization structure and who to go to for what.
- Internet access and accessing files and folders / common information on the network are areas where satisfaction is lower.
- An estimated 40% of staff surveyed says they haven't received training from IT, from their respective departments or from an external provider.
- 48% of staff surveyed don't feel trained to use the tools that they have access to; this is a startling statistic, compounded by the fact that of the Managers, General Managers and Executive Directors that responded to the survey (70%) said they also didn't feel adequately trained (comments suggest particular issues with JDE and RAC and the "learn it yourself" approach to training).

Training complaints focus largely on:

- The major business systems - JDE / RAC, WAM, Amanda,
- Productivity tools such as Word, Excel
- The help yourself training approach

Areas of Satisfaction (areas that the IT team itself had flagged as strengths):

- People in IT - lots of people doing good work (namely in Client Services)
- Knowledge and skills
- Customer Service / Helpdesk

Areas of least satisfaction:

- Network services / security / controls
- Adoption of new devices
- WAM (including JDE / WAM interface)
- GIS / OnPoint
- 2499 - closing tickets without resolution / timeliness of response / inability to talk directly to someone
- Email inbox size
- Training

New needs:

- Tablets / smartphones / mobile / other device support
- Web access
- Browser updates
- Social media access
- EDMS

How can IT help?

- Improved communication with regard to projects, initiatives
- Be more client focused
- Help me understand what is available
- Hire a trainer / training
- Support existing systems
- Wider access to AutoCAD
- Relax security controls

The detailed comments from the staff survey in the Interim Report add value to the overall findings and provide constructive suggestions. The findings from this survey should be taken seriously.

Results of the Environmental Scan

It is valuable when looking to the future to compare how other municipal organizations manage, invest and staff IT. This can provide an indication of how the City is doing comparatively, but also give pointers to good practices.

Earlier environmental scans conducted specifically for technology research have indicated that comparing an organization to those of a similar size and profile has confirmed overwhelmingly that they are all in a similar deficit in the quality of technology service delivery. The objective of the scan is to find organizations which have overcome the barriers to achieve higher levels of technology service delivery through innovative and best practices. Although a few such municipalities can be found on the City's list of approved comparators, it was necessary to go

further afield to identify other opportunities for improvement. Comparisons with municipalities where IT is known to be under-performing were not considered to be useful, and in some respects dangerous, reinforcing that under resourcing IT is acceptable because other municipalities are doing the same thing. With these objectives in mind, the following municipalities were selected as good comparators, recognized for delivering effective IT services:

- Barrie
- Halton Region
- Kitchener
- St. Catherines

- Burlington
- Kingston
- Oakville
- Thunder Bay

A survey was distributed to the IT leaders in each of these organizations and follow up interviews carried out where necessary.

When considering the results of the scan, it was important to understand the IT service delivery context for each municipality by comparison to the City of Guelph. There is a significant degree of variability in the services that each IT department offers. One of the most obvious differences is whether technology investments and staffing are fully centralized or whether departments also have embedded staff and funds. In some cases the IT department provides some or all technology services to the municipality and to other agencies and boards, such as Police or Library services. These and other factors distort the findings. For example:

- Barrie IT supports voice and radio services for Police and voice and data services for the Library, and holds the *entire* IT budget for the municipality.
- Halton Region provides Police with financial services through SAP and telephony, and provides SAP services to the City of Burlington.
- Oakville IT supports key technologies for the Library, including financial services.

At the City of Guelph, the Police and Library organizations operate separately from the City. The City's IT department does not provide services directly to these organizations.

The fact that Guelph is a separated municipality introduced another set of circumstances because it provides a broader program of municipal services - EMS, Library, Transit services, water and wastewater treatment and solid waste. To illustrate this, none of Cambridge, Kitchener or Waterloo supports any of these programs.

Therefore, making direct comparisons between municipalities can be challenging. Drawing conclusions based upon the raw numbers can lead to misinterpretation if the service delivery context is not fully understood.

The environmental scan indicated that the staffing level for the City of Guelph was six positions less than the comparators. Whereas Guelph has 28 staff, the median showed that the most closely matched comparators have 34 IT staff, while still accounting for key differences. From a budget perspective, the City was on balance with factors, but this did not prove conclusive with so many variables among the comparator municipalities. The scan details are in Volume 2.

3. Vision for a Smart City

This section of the report paints a picture of the future, a future in which the City of Guelph can achieve its vision of becoming a smart city. It sets the tone needed to understand the major themes of the plan and resulting recommendations. It highlights a number of scenarios through which other municipalities have used technology to improve customer service through innovative technology, beginning with this question.

The vision of a modern City is one that offers services to customers when and where they want them. A smart city is one that uses technology to achieve this goal, using technology at every appropriate opportunity to streamline processes and simplify access to city services. This is a city that has all the information it needs, available and accessible, to support effective decision-making. This is a City in which technology underpins the processes needed to deliver streamlined and efficient services to customers.

> *Why can people bank online and purchase products from around the world from their smartphone, but must line up at City Hall to purchase a waste tag or to apply for a business license?*

Simplified Interactions

In the smart City, interacting with the public is straightforward and streamlined. The following are a set of smart city scenarios:

> *On her way to work Mary witnesses a minor car accident. A stop sign has been knocked over. Mary pulls out her smartphone, takes a photo of the scene and uses an app to notify the City of the problem. The request is received, automatically categorized, located and recorded in the City's Work Order Management System. The work order system automatically dispatches the request to a field crew in the area. The crew receives the request on a laptop in their vehicle. They proceed to the site and repair the stop sign. They close out the work order, track the time to fix the problem and input the labour, equipment and inventory used to carry out the repair. Mary immediately receives a notification on her smartphone that the issue has been resolved. On the way home from work, as she passes the scene of the morning's accident, Mary feels reassured that the City is working hard and smart to keep citizens safe.*

> *Arlene has just moved into a new home in the City. She calls 311 to enquire about setting up her tax payments via direct deposit. The customer service agent directs Arlene to the sign up available on the City's website, and asks "Is there anything else I can help you with?" Arlene proceeds to book her youngest child Rachel into swimming lessons, find out where the nearest park with a splash pad is, finds out when her garbage collection day is and where she can pick up a new compost bin, and arranges for a parking exemption for her family (who are visiting from out of town to help with the move), all in the one call with the City.*

Jane has a refrigerator that she needs to dispose of. Her son Jamie has a hockey game at Centennial Park, so, while he plays, Jane stops by the front desk to schedule and pay for the bulky waste collection. She knows she could do this online, but has some questions she'd like to ask before booking. When the collection appointment is booked, the customer service agent helping Jane asks if there is anything else she can help with. Jane remembers that she needs to buy a new transit pass for her daughter. The agent supplies the transit pass, tots up the total and processes the payment for both services.

While out on a summer evening stroll, Peter notices a new development approval sign on a vacant lot near his house. He pulls out his smartphone and scans the QR code on the sign. This opens a City website that shows the details of the planning application, its status and planned timelines, drawings and renderings. The website allows Peter to setup alerts to be notified of future activity on this planning application, submit his comments on the proposed development online, and review comments that his neighbors have submitted.

With each interaction the customer is offered choices about how to interact with the City. Each interaction leaves a lasting impression of how efficient and effective the City is. Each municipality relies on a digitized platform to enable efficient, effective service delivery via any channel the customer chooses.

What is a Digitized Platform?

To enable the types of integrated service offerings experienced by Mary, Peter, Jane and Arlene, a smart City uses a digitized platform (a set of interconnected business systems) to manage its services and automate processes. The digitized platform creates a powerful central core that drives the operation of the organization which in turn facilitates collaboration across the organization. Systems are common and shared across programs so that tasks initiated by one department can be allocated to other departments, such as changes in a permit application status which can trigger a response in another department, such as finance.

When processes are digitized and managed electronically, all processing, workflows, notifications, process checks and validations can be carried out online, so they can happen anywhere (in the office, in the field, at home). Offline steps (manual interventions) are eliminated so that there is complete visibility throughout the organization on the current status of a process. The system manages the process, including escalating the item to senior staff when exceptions are encountered or performance falls below defined levels of service.

Digitization tracks data about the processes and produces performance data for internal and public consumption lending transparency about the effectiveness of each process. Transparency allows the organization (and others outside the organization) to set service levels, identify opportunities for improvement and provides feedback on the success of process changes. Digitization also makes it easy to add new services and facilitate new or changed processes, because changes can be introduced through the business systems.

It is this digitized platform that makes the smart City tick.

Customer Centric

A smart City leverages the digital platform, people and processes to build services around the customer.

It designs services that:

- Are simple and easy to use from the <u>customer's perspective</u>
- Are managed digitally from end to end by the customer, employee or partner using common systems
- Offers customers a choice of channel, and
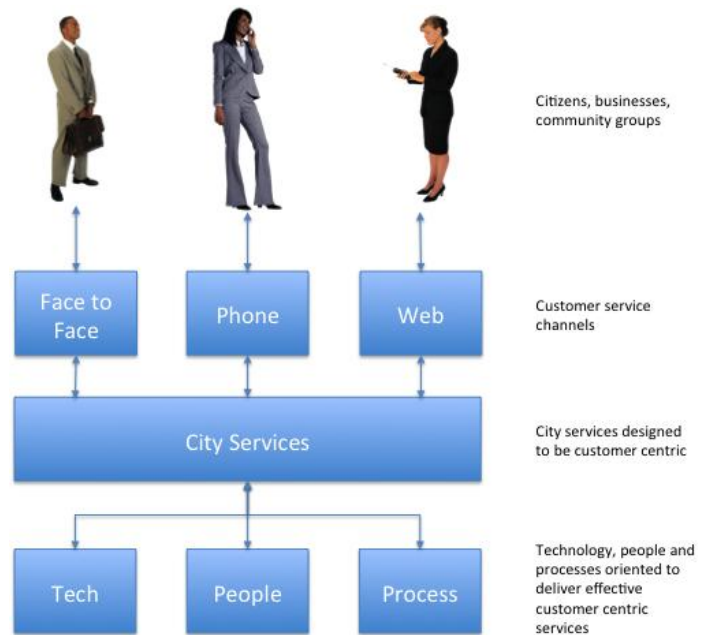- Connects customers to those delivering the services using technology.

By designing services to be inherently customer centric and technology enabled, they can be offered across all channels (face-to-face, phone, web) using common processes and

Figure 1: Technology, People and Processes must work in concert to deliver customer centric services

tools. For example, the City's customer service agents can use the same tools available to customers online. The different channels give the customer a choice, and allow the customer to switch between channels without any difference in the service.   Moreover, it standardizes the process internally to the City thereby reducing costs in processing, training, and so on.

Achieving a digitized platform requires adoption of a number of principles. Two important ones are described below – the Internet first service delivery and open government.

Internet First Service Delivery

Although municipalities will continue to offer services across all channels, the smarter organizations want to be connected. Just as the banks introduced ATM technology 30 years ago, both the public and private sector are increasingly focusing on an Internet First service delivery model, where services are designed primarily for delivery via the Internet. The smart city ensures that its services are delivered via the Internet as a primary design goal, not as an afterthought.

Open Government

A modern City further builds up its digitized platforms to share data with the public for the greater benefit of the community – using technology to involve and engage with the community on the City's toughest problems.

What is involved in the transformation to a digitized platform?

A tech savvy organization uses technology to drive service excellence and deliver great customer service. Municipalities which have accomplished this goal have used technology to drive significant improvements in customer service. Examples of this are City of Toronto's 311 implementation using the Lagan Customer Relationship Management (CRM) solution, and similarly Miami Dade.Gov web strategy.

This IT strategy should set the expectations about the role that technology should play in the City. It should begin the internal conversations to raise the profile, capability, capacity and the maturity of the City's approach to technology to better position the City to become a smart city in the future. This strategy should set the foundations for the digitized platform for the City and the means to achieve the City's vision.

Establishing this type of environment is not just a change in the technology. To become a tech savvy organization requires a far-reaching organizational and cultural transformation that recognizes the power of technology to transform municipal service delivery. A tech savvy organization makes investments in underlying technologies to support core business processes, and then reaps the benefits as these investments are re-purposed and re-used to support new and innovative services and capabilities, such as Open Data. While the strategy outlines the technology infrastructure needed to support a customer centric approach, it does not include the development of a customer service strategy. The scenarios described earlier are examples of how the outcomes of the IT strategy will able to support a future customer centric, smart city.

Effectively leveraging technology for organizational transformation requires a mindset change that embraces technology, digitization, the Internet AND agency openness as being central to service delivery. This requires a change in thinking about how the City designs and delivers its services. This change in thinking needs to permeate the entire organization. Technology (and the IT department) is merely a facilitator in a broad re-thinking of how services can be more effectively delivered.

The City of Guelph aspires to be a tech savvy organization, but is not one at this time. The City does not currently have the capacity, the capability or the maturity to utilize technology in the way that can be transformative, but it can become one.

The City should not look to IT to lead this change – though it must be a major agent of change. To become a tech savvy organization, all leaders in the organization must play a part. Such a transformation in thinking is a major cultural shift that must be led from the most senior levels of the organization, and must be the result of a partnership approach with the IT department.

4. Key Elements of the Roadmap

The remaining sections of this report describe the key elements of the roadmap and the supporting recommendations. This section sets out a number of strategic directions to better position the City to become a tech savvy city. The City will need to focus its attention on these initiatives in the next few years if it is to meet the challenge of developing the platform for a smarter City and achieve the vision of the Corporate Strategic Plan.

The strategic directions are:

- Back to Basics: Corporate Business Systems
- Information Management
- New Technologies: New Ways to Work
- Mobile Strategy
- Open Government

Back to Basics: Corporate Business Systems

Corporate Business Systems provide the operational support for the millions of transactions the City does each year. The City has a number of corporate business systems:

- JDE HR and Kronos: HR information and business processes
- JDE Finance: Financial information and business processes
- WAM: Asset inventory, service request, work order, purchasing
- AMANDA: Planning, permitting, licensing
- CLASS: Recreation programming, booking and facility rental
- GIS: Corporate mapping system
- EDMS: Corporate electronic document management system
- SharePoint: Corporate collaboration platform

The City has already invested in these systems, and they should be acknowledged as core parts of the City's digitized platform. The City needs to focus on opportunities to fully utilize these systems and re-use their capabilities to support new business processes.

Major Corporate Systems

A number of the major corporate systems are not meeting the needs of the organization. Program managers do not have the basic information required to effectively manage their operations.

The **Work Management System**, which is used by all departments to manage purchasing and to track and report on service requests and work carried out on City assets, is poorly configured and hard to use. As a result, the City has a challenge understanding the work that is undertaken and its effectiveness. Users have become dissatisfied with the City's **GIS system**. Access to **Financial** and **HR** data is not timely and is often incomplete. Security in the finance modules is limited. Anyone can post costs against any account intentionally or in error. The HR system does not accurately reflect the City's organization structure.

The problems with these critical operational systems must be addressed as an immediate priority. Before the City can deliver improved, customer centric services, it must go back to

basics and address these problems first.

Recommended Actions for Corporate Applications

- Establish an application steering committee for each of corporate systems such as the one for Amanda (JDE Finance, JDE HR, WAM, CLASS, GIS, and the WEB) to provide direction to program and IT staff.
- The Consultant recommends that the City should continue with JDE and WAM as critical operational systems. Discussions with key stakeholders appeared to affirm this view, however, a firm direction shared by all stakeholders will be necessary prior to beginning re-implementation, this must remove any uncertainty regarding these systems as to whether the City should continue with these applications or replace them.
- Re-implement JDE finance, JDE HR and WAM; conduct a fit-gap assessment of the City's current and future requirements prior to re-design of business processes and re-implementation; use external consulting or contract resources to assist in the activities
- Develop detailed lifecycle roadmaps for each application outlining enhancements, upgrades, end of life, and funding; this level of analysis may identify opportunities to rationalize other legacy systems
- Develop a comprehensive training program for each system. 47% of staff who responded to the online survey indicated that they did not feel sufficiently well trained in the systems they use; there is no training provided on corporate systems for new hires or transfers from other departments, nor refresher training; poor practices are often passed on from one employee to another; application training should focus on the business processes and be the responsibility of the department supported by IT as needed

Information Management Program

Managing ever increasing amounts of data and information has been a major challenge. Whether dealing with requests from Council, customers or working on projects, staff struggle to search, find and compile information from the various information sources and departments. Because the majority of the information the City manages is not consistently stored, cataloged or electronically searchable, much of this searching must be done manually. As an example, storing and accessing basic information across departments for contracts with regard to legal ownership and encumbrance searches consumes a significant amount of City resources, which could be better used.

The City has looked in the past to EDMS as a solution to this problem. However, this is only one part of the Information Management puzzle. Information Management must tackle the ability to manage, store, search and retrieve a wide variety of data and information, including;

- Electronic documents and records
- Archived records (microfiche & other records)
- Email
- Video
- Other unstructured files.

- Paper documents and records
- Raw data stored in databases
- Imagery
- Audio

The figure below is taken from the MIKE 2.0 Information Management Framework, an industry model developed by Bearing Point and Deloitte and adopted by municipalities such as Region of Peel and the City of Regina. It illustrates how broad a topic Information Management is, and the

wide variety of areas that an effective Information Management program must tackle. EDMS itself will not address the information discovery problem. To do this, the City must address the broader topic of Information Management.
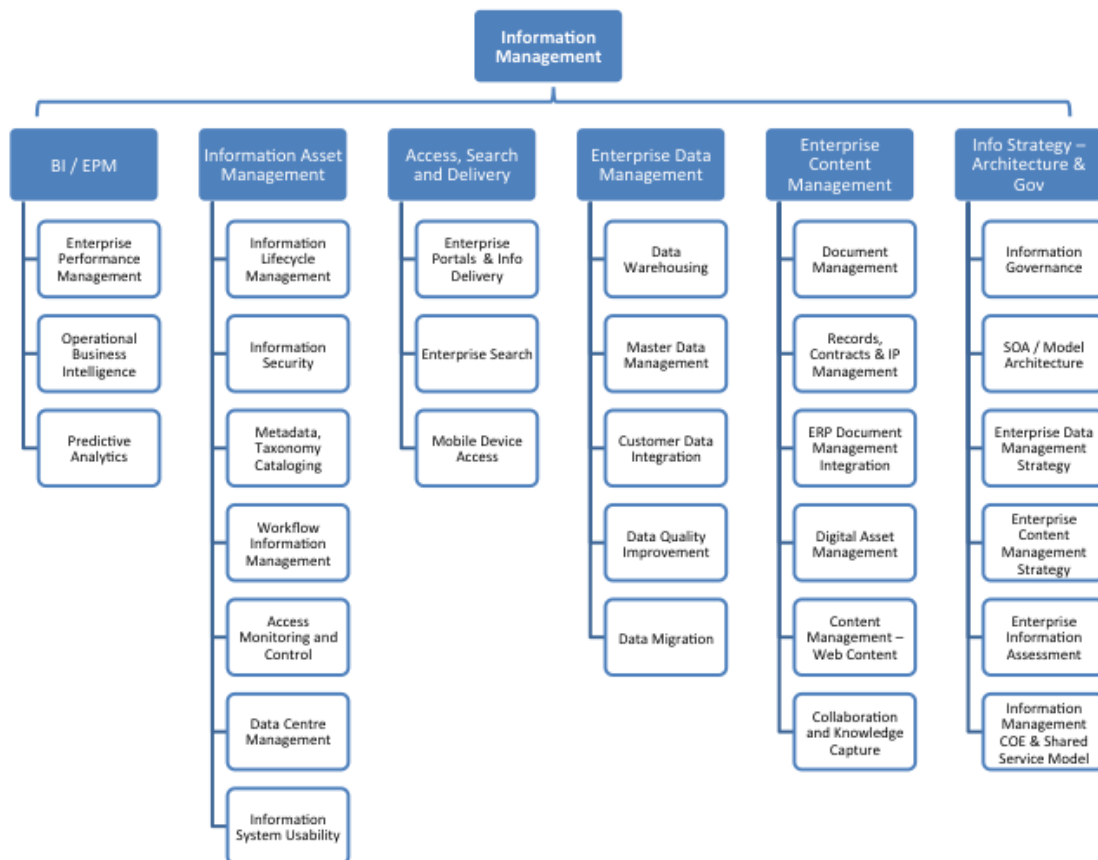
The City Clerk is currently planning to initiate a Records and Information Management (RIM) program with an initial focus on creating an inventory of city records, an assessment of current record and information management practices, and terms of reference for a RIM strategy.

In addition, the IT strategy recommends a number of initiatives as part of Information Management. The key initiatives are as follows:

- Corporate Data Reporting & Data Warehousing
- Master Data Management and Core Data Standards (customer, property)
- Collaboration and knowledge management projects
- EDMS re-implementation

Other projects that are already planned or underway by the IT department, though not directly addressed in the IT Strategy include:

- Exchange 2010 upgrade
- Email archiving

Together these form a major program of work with many interconnecting and overlapping components, which, unless coordinated, will lead to confusion and competing initiatives. The program must be prioritized, coordinated and managed.

It is recommended that the City undertake the development of a high level Information Management strategy to define a shared understanding and vision for Information Management and the priorities to be addressed. This can be done in parallel to the assessment work being led by the City Clerk[1].

In keeping with the recommendations on governance for major applications, an Information Management (IM) steering committee should be established to provide oversight and direction. The leadership of this program of work should be jointly shared between the City Clerk and the IT Department. Membership on the steering committee might include the City Clerk, an IT Manager, and Manager Legal, Manager HR and Service Area representatives.

New Technologies: New Ways to Work

There is a growing list of technologies that support collaboration and the promise of organizational efficiencies and increased productivity. Few of these are in place at the City, and those that are, have been restricted to specific staff.

Often the technologies that staff use at home today are better, newer, and more flexible than the technology provided by the City. The tools that staff use on their laptops and iPad's such as Skype, Google Docs, GoToMeeting and Dropbox offer better functionality than the tools that are available at work. This situation frustrates staff and places the IT department in a position where it appears to be impeding progress.

Video conferencing or desktop screen sharing technologies that reduce travel and face-to-face meeting times can aid collaboration with partners and the community and can reduce carbon footprints. Moving forward the City should embrace these new consumer technologies, implementing secure, enterprise equivalent solutions where appropriate.

Recommended actions to provide new capabilities to staff:

- Improve email management, larger inbox limits, mobile device access to mailbox / calendars
- Simplify large file sharing and distribution
- Instant Messaging
- Voice and Video Conferencing
- Desktop screen sharing
- Online collaboration spaces for shared document editing, project and task management and tracking
- Online discussion forums and other team sites

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[1] The focus of this project is initially on carrying out an inventory of corporate records.

Mobile Strategy

In addition to accessing new services, such as video conferencing, there is a requirement to utilize new devices – such as tablets and smart-phones to support field based working. There is a growing demand to allow staff to work remotely and to access systems while in the field or on the move (in EMS, Building, Fire, Water, Public Works, Forestry).

Extending the solutions that are already in use in the office (e.g. WAM, AMANDA) into the field ensures that processes can be managed from beginning to end in an integrated way, implementing the digitized platform. The adjacent diagram illustrates how a request made by a member of the public, routed and resolved by a crew in the field, and the loop closed back to the customer. This can only be accomplished if all of the systems involved in the transaction are integrated/ automatically tied together.

The intent of mobile working is to make processes more efficient (work orders can be issued directly to staff without a visit to the office to pickup paper work sheets), responses to customer requests quicker (requests can go directly to crews in the field in real-time) and work history information more accurate and complete when entered in the field by the crew completing the work, thereby ensuring that data is available to inform more effective decision making.

Recommended action:

Ideally, before any solutions are developed, the City should prepare a corporate mobile strategy to set policies and standards, taking into account factors that differ by program, platform or process. A clear, consistent and manageable approach is required.

As part of the discussion on mobile working, it is important to note that the City is currently exploring the viability of developing a **Wireless** network (referred to as the Joint Wireless Project) that can be used to handle radio and other network communications in the City. This is a key innovative partnership project between various organizations and departments inside and outside the City including Guelph Police. A business case has been developed and implementation planning is underway. This is a strategic project that will save the City money in the long term and will position the City for its future connectivity needs.

Providing mobile services that build upon the corporate business applications like Amanda and WAM will deliver efficiencies, improvements to customer service and reductions in service delivery costs. While the strategy is included in the IT Strategy roadmap, future applications built on the strategy are not.
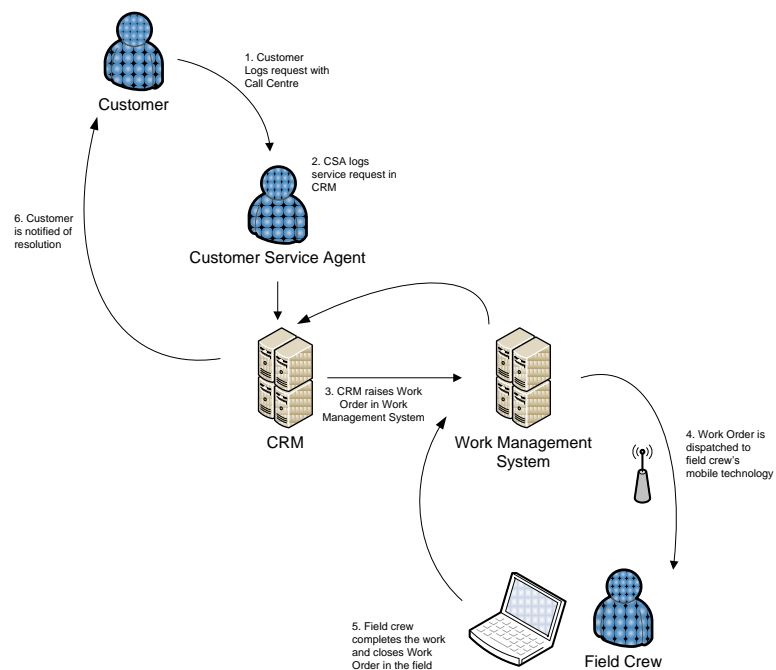
Open Government

The overarching goal for Open Government is seen as building trust between citizens and government supported by the effective and efficient delivery of services and improved community wellness. Open Government represents a significant opportunity to engage the community in working together on some of the tough problems that face the City. Organizations large and small across Canada are reaping the benefits of becoming more "open". It is recommended that the City pursue an Open Government program, **Open Guelph**, with the following goals:

- Implement a Municipal Open Government Framework
- Make government relevant and understandable to citizens
- Develop and implement a sustainable Citizen Engagement Strategy
- Enhance accessibility and transparency by developing an Open Data Strategy and Implementation Roadmap
- Establish guidelines to incorporate collaboration and innovation as the new way of doing business
- Co-design, with citizens, an Open Government dashboard

The program requires coordination and leadership. The City Clerk is to lead the program, in partnership with other key leaders in the organization. There are a number of concurrent activities (some of which are already underway) related to Open Government that suggests the need for an interim coordinating group prior to a more permanent governance model being developed. This Interim Open Government Coordinating group may include:

- City Clerk, Chair and Program Lead
- Corporate Manager, Strategic Planning and Corporate Initiatives,
- Manager of Integrated Services, Community & Social Services
- Corporate Communications representative,
- Service Guelph representative(s), and
- Manager, Information Technology.

Open Government is a major ongoing program of work that is designed to stimulate a cultural change in the organization towards open-ness. The program is comprised of many projects, each of which must be planned, delivered and completed. The overall program goals are designed to change the organization approach to information sharing, collaboration, openness and innovation. The implementation of the program is expected to take at least three years after which it will be operational.

Phase 1: Development of an Open Government Framework (2012)
This phase focuses on establishing the initial project governance and coordination towards developing an Open Government Framework which will be presented to Council for approval.

Phase 2: Development of a Comprehensive Project Plan (2013)
This phase will use the outcomes from Phase 1, and the comments and direction from Council, to develop a comprehensive project plan that addresses project management, project

governance, project deliverables, project resources and a project timetable. The Open Government Project Plan will be presented to Senior Management and Council for approval.

Phase 3: Transform to Open Government (2014 - 2015)

On approval of Council, the third phase will focus on the implementation of an approved Open Government Framework. The implementation should be incremental and look to opportunities to undertake elements of the project plan concurrently as resources and priorities allow. For the implementation, the following may be considered the key activities:

- Establish Open Government governance
- Develop an Open Government corporate policy development and refresh of existing policies as needed
- Develop Open Data strategy and portal
- Develop a communications plan development and provision of civics public education
- Citizen engagement strategy implementation
- Collaboration and partnerships assessment
- Establish Open Government related standards and guidelines
- Implement enabling technology to support open government
- Design and implement a citizen-centric Open Government website.

Phase 4: Iterate from Community Metrics (2015 – ongoing)

The final phase for Open Government will be move it into an operational program mode with ongoing updates based on community defined metrics associated with the program. Iterative changes to the program will be driven from the metrics and a value to the community assessment.

Positively Impacting Customer Service

The City aspires to be an organization that delivers great customer service, and technology will be central to that.

For those organizations that have tackled Customer Service in a complete and holistic way, it has often become the catalyst for transforming a City into a tech savvy organization. Toronto is a leading local example, but smaller municipalities such as Newmarket and Markham have also used Customer Service as an imperative to integrate technologies and streamline business processes, delivering productivity savings in the process.

The City plans to refresh its Customer Service Strategy in 2013. It is suggested that this is *the* opportunity for the City to undertake a truly transformative initiative that uses technology at its core to deliver better City services.

It is time for the City to commit resources and to 'think big' as it refreshes the Customer Service Strategy.

This initiative should lead to business-driven customer service delivery strategy which focuses on the customer first, and leverage the technology investments that are recommended by this strategy. This is not a technology initiative *per se*, but technology will be central to its success. Handling customer interactions face to face, via telephone, online or through smartphone apps

and social media will rely on a common technology framework. This will ensure that the City can deliver a consistent customer experience through all channels.

It should be expected that 'thinking big' on this front will lead to major business process and organizational changes. Implementing the transformation will be dependent upon some of the technology foundations proposed in this Strategy, such as Work Management, Field Worker Mobility, GIS, Amanda enhancements and Information Management. These systems, when integrated, will enable end-to-end processes between customers and City staff to be managed by the digitized platform.

In addition, a customer service implementation plan will likely require specific technology such as Customer Relationship Management (CRM) and call centre technology, which is not included in the scope of the Corporate Technology Plan.

In this way, the Corporate Technology Strategy anticipates and lays the groundwork for the City's future customer service delivery platform.

Mapping the Strategy to the 4 Pillars

As cited in Section 2 of the report, the City outlined four pillars as the framework for the Corporate Technology Strategic Plan. It was important that the technology strategy and implementation plan underline the four pillars. The following table sets out how each pillar has been addressed within this report:

Open Government / e-Government	Open Government is one of the key strategic directions outlined in *Section 4: The Roadmap* and one of the four pillars of the strategy. The Open Government program will be led from the City Clerk's office in partnership with the IT Department and other key stakeholders. The initial work will focus on the development of an Open Government framework.
IT Governance	*Section 6: IT Governance* outlines a new technology governance model for the City that engages the Departmental and IT leaders in determining technology strategies, directions and priorities for technology investments.
IT Sustainability	*Section 4: The Roadmap* outlines major work required to revitalize and sustain existing business systems to ensure they continue to deliver value to the organization.
	Section 5: Re-positioning IT outlines the changes required to position the IT Department to more effectively support the City's current investments in technology and increase the technology enabling of the City's program service delivery.
	In *Section 6: IT Governance,* the report describes the governance model which will oversee the City's use of technology through an effective and sustainable service delivery program.
	Section 7: Implementation Plan outlines the funding required to implement and sustain the roadmap.

	Section 8: Key Principles outlines the principles by which the City must manage the technology service delivery on a sustainable basis.
Service Delivery Standards	*Section 4: The Roadmap* outlines the tasks comprising future investments, the majority of which focus on the City's business systems which are designed to facilitate the delivery of improved services to the public.
	Section 5: Re-positioning IT addresses improvements directly targeted toward the IT Department to improve internal service standards. Specific business process improvements directed at the IT Department are described in Volume 2.

5. Re-Positioning IT

The information gained from the interviews and input from the Project Steering Committee strongly suggests that the current role of the IT Department needs to be enhanced if it is to meet the expectations of the City's management and Council. The strategic directions of the Corporate IT Strategic Plan outlined in the previous section highlight the need for a more focused, agile, IT function to assist the City in attaining its goals. This section will set out the transformation that the IT Department must accomplish if it is to meet the needs as articulated in this plan.

This section of the report and the following section on IT governance could have been presented in the reverse order with the governance section coming before the IT department organization and staffing section. Whereas this section on organization and staffing sets out the requirements of the IT department to support new initiatives as well as ongoing business, there are also new functions needed to support the governance framework. The reader should bear in mind the interactions between these two sections.

Current Situation

The current mandate of the IT Department is focused primarily on technology infrastructure and support – sustaining existing services and solutions and essentially keeping the lights on. The IT Department is largely reactive, dealing with issues as they arise. The full resources of the IT department are consumed with this transactional work, limiting their ability to allocate time and attention to new initiatives. The following describes the current mission and goals of the IT Department, which clearly illustrate gap in vision and reach:

"Information Technology proactively facilitates corporate service excellence through the provision and planned evolution of technology and related support services."

Goals:

- *Provide reliable, secure, and high performance IT infrastructure to meet the business and service needs of the organization*
- *Plan, implement, and maintain the corporate desktop, IT Service Desk, and printing/telephony infrastructure*
- *Support the applications that the corporation uses as a municipal services provider*
- *Develop and support IT Project and Program Management*

The adjacent figure illustrates three different types of IT organizations.

In recent years, the City's IT function has been treated increasingly as a **solid utility.** Even at this level, IT capital funding for the last few years has provided for no growth at all –

Increasing Costs and/or Resources

Partner player

Trusted supplier

Solid utility

IT is integral to how we do business: IT organization is expected to closely partner with the business to help identify, plan and deliver significant business transformation initiatives - plus be a trusted supplier.

IT delivers critical functionality and services: IT organization is expected to deliver application projects on time and on budget, based upon the operating units requirements and priorities - plus be a solid utility.

Keep the lights on: The IT organization is expected to provide cost effective-dial tone reliability with transparent costs.

simply funding the replacement of existing infrastructure (servers, PC's, networks, storage).

From the consultation phase of this project, it is clear that the executive and the departments need more leadership from IT, more strategic positioning and planning for technology. They are looking to IT to partner - to identify opportunities to leverage technology and contribute to more effective city-wide service delivery.

The expectations suggest that the IT Department should become a Partner Player. This assumes that IT can also be a trusted supplier – assisting departments in getting the solutions they need whether provided directly by IT or through vendors or 3rd party resources. This is a tall order, and will require IT to adopt a broader set of goals in the future, such as the following:

- IT will plan and lead, facilitate and coordinate the organization's successful use of technology
- IT will partner with business leaders, using the IT governance model, to develop and implement strategies and plans, tools and services that enhance the efficiency and quality of service delivery, and improve the customer's ability to access those services
- IT will provide reliable, secure, and high performance IT infrastructure to meet the service delivery needs of the City

It is recommended that the IT Department collaboratively develop a new shared Vision, Mission and Goals with IT staff and the members of the IT governance body once the Corporate Technology Strategic Plan has been approved.

Leading the Change

Organization structure changes does help to clarify responsibilities, define roles, and establish boundaries, set expectations and orient resources along appropriate lines. However, behavioral change is needed to transforming the role of the IT Division. The management of the IT Department will need to embrace the new approach to IT. Establishing credibility in the new business model will be critical to its success, and that will require all of the IT Management Team pulling in the same direction.

Improved Service Delivery through Adoption of Standards

A number of areas have been identified within IT that would improve IT service delivery. Three areas stand out:

- The Help Desk
- Network Services
- Application Support

To respond to these concerns, the IT Department will introduce a number of service improvements. This will involve adopting and applying international IT service management standards to the way in which IT operates. Changes for the **Help Desk** will include:

- Revise the way the help desk operates using external consulting support and ITIL business process management as a guideline
- Establish a knowledge base and internal discussion forums (related to business systems and tools) to promote self-help by users
- Improve training and tutorial materials to support self help

- Develop Operating Level Agreements (OLAs/ SLAs) with departments about expected service levels
- Establish an IT Customer Forum
- Extend the Project Management and System Development Lifecycle (SDLC) standards throughout the IT Department

For **Technology Services**, the following improvements are recommended:

- Revised metrics for the key 'problem' processes should be defined, tracked and reviewed regularly with the management team; tighter deadlines need to be implemented.
- The new user and user change processes are high volume request types that should be addressed immediately; these processes should be re-engineered to simplify and streamline approvals and speed up turn around (e.g. parallel processing).
- Lack of up-to-date documentation, resolution documents and SOP's should be addressed to close the gap of under trained/under experienced staff.
- Server, application, services standardization should be implemented with fewer variations.
- Initiate an ITIL project and implementation across the entire IT organization.

For **Corporate Applications** support and enhancement, it is recommended that a higher level of skills be introduced to enable the business processes for major corporate applications to be re-designed and the systems largely re-implemented.

Overall, repositioning IT as a strategic enabler entails:

- Re-tooling the department with new skills, such as project management, business analysis, improved application exploitation and support
- Setting priorities through the governance model

Directing attention to continuous service improvement will be important in setting the City on the path to becoming a tech-savvy smart City.

With this new approach to IT in place, the City must then set about addressing the key business system gaps, enhancing existing business systems and implementing new technologies to grow the digital platform.

New Capabilities

As discussed earlier, the IT Department has traditionally provided reasonable technology infrastructure and client services functions, so in these areas the focus here will be on continuous improvement, rather than radical change. However, new skills and new roles will be required if IT is to be successful in repositioning itself to address new or greatly enhanced service needs.

The new focus areas in which IT needs to build capacity are:

- **Business Analysis**: Staff that can assist the City in translating project ideas into business cases and project plans, and can work with departments to improve business processes using technology
- **Project Management**: Staff with project management skills to enhance the quality of project management, increase the throughput of projects, and increase the likelihood of project success
- **Application and Interface Configuration**: New skills and staff with ability to understand business systems and configure and integrate those systems to meet departmental needs.
- **IT Governance, Strategy and Planning**: Support new IT governance arrangements on medium to long term planning, resource management, portfolio management and IT service improvement

IT must change the role that IT staff play in support of business systems. IT staff, particularly business and application analysts, must become more familiar with the business systems that they support, so that they can be effective advisors to departments upon how these business systems can be used to improve their operations.

IT Organization Model

The current organization structure and staffing is heavily focused on infrastructure maintenance and operations through the Network and Client Services Sections, with very light support for application support and project management.

The current resource base within IT is under-resourced and under-skilled in a number of critical areas, specifically related to the utilization and support of business systems. New resources need to be introduced that bring new skills into the organization, in business analysis, application support and project management. Existing staff must grow into new and re-defined roles to respond to the future needs of the organization.

Beyond the additional staffing requirements, the IT department must be organized for success, so that the existing resources can be more effectively deployed. In making adjustments to the IT organization, the design principles focused on the following:

- Position the leader of IT to be an effective peer with key clients and departmental leaders
- Define clear lines of responsibility for key IT functional areas:
  - Project Management
  - Consulting and advisory services to departments
  - Business Analysis
  - IT Service Management and IT Service improvement
- Ensure that there are sufficient IT resources to sustain the IT solutions in operation at the City, specifically related to:
  - Application configuration and support
  - Data management
  - Enable IT to be more flexible with resourcing and respond to new and changing priorities.

Functional Organization Model

The following functional model provides an outline of the recommended organization structure changes. It establishes clarity of purpose and raises the level of all management positions.

IT General Manager

It is recommended that the position of IT Manager be re-defined at a General Manager level. This will position the leader of IT as a peer with other business leaders in the organization and reflect the broader corporate role expected of the position. In other jurisdictions, the top IT position is at least at this level, and sometimes carrying a higher value as a Chief Information Officer (CIO) and a member of the Executive Team. While this outlook is highly desirable, and in fact expected of the General Manager, a separate CIO position is more in line with a larger IT presence.

The General Manager, Information Technology is expected to play a strong leadership role in the transformation of the IT department, and to provide leadership to the City as an agent of corporate change. The incumbent is expected to spend at least 50% of the time working with senior business leaders (ED's, GM's and Managers) to execute IT strategy and implement the governance model, while at the same time establishing the new IT organization structure and transforming IT service delivery practices.
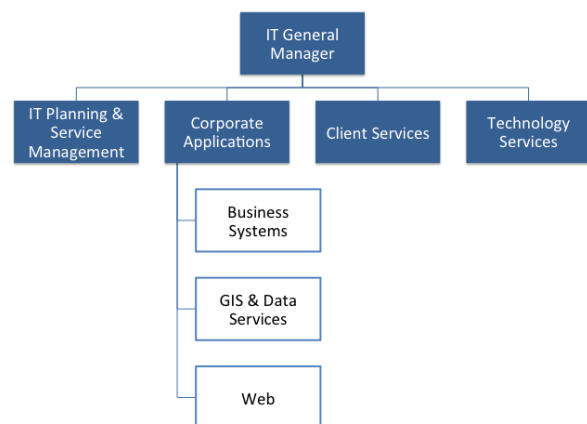
IT Planning & Service Management

This team will take on the PMO and IT relationship management functions – working with departments to plan, define and implement strategies and projects and will provide business analysis and project management services to the corporation. The function will support the implementation of the IT governance processes (including project selection, ranking, reporting and monitoring) and will be responsible for resource management within the IT department.

This function will also be the lead for implementing IT Service Management and process improvements across IT.

This is a new functional area that brings together many tasks that have previously been undertaken by a number of the supervisors. The intent is to bring focus and oversight to implementing a number of best practices that have been demonstrated in other municipalities to improve the effectiveness of IT operations.

Corporate Applications

In the current organization, corporate application support is split across two sections. This single consolidated team will establish a centre of excellence for business systems management and support. The team will be responsible for the management of Corporate Business Systems, including the ERP, WAM, Amanda and for the support of departmental applications. The team will also include the Web and GIS teams. An increased focus on data warehousing, data

management and data standards will also be the responsibility of this team. This team will work closely with department business leaders to enhance service delivery for city programs.

Client Services

The Client Services team will retain the responsibility for help desk, desktop services and IT asset management. The team will strive to resolve incidents 85% of the time on the first point of contact and over time, and more back office tasks will be brought from other areas of IT (specifically technology services and corporate applications) into the service desk team to improve the service responsiveness to internal customers. The team will increase its focus on end-to-end service quality improvements to the IT help desk service.

Technology Services

The Technology Services team will continue to have responsibility for all core infrastructure services. A number of business process improvements will be applied to existing processes to streamline, simplify and automate tasks and processes to ensure that infrastructure services supports business needs in a timely and efficient manner.

Existing IT Roles

A number of existing roles within IT will need to be redefined and/or reallocated to provide improved or changed services required by the strategy. A detailed set of organization charts and recommendations have been provided to the City in support of this transition. The IT Department will develop an implementation plan to support the transition.

Additional IT Resources

In addition to the changes to the organization of the IT department, the strategy recommends the addition of a number of new roles. As outlined earlier, these roles are critical to add both new capacity and the skill sets required to deliver the strategy and to sustain technology investments. The following table summarizes the additional resources needed to support technology in the future. These additional resources will place the City in line with other organizations of a similar size and program portfolio.

These full time positions with the City will be augmented with a number of contract positions (funded through capital) to provide the City with the ability to flexibly acquire resources and expertise as required on the larger projects. Given the diversity of the technology environment at the City it is unrealistic to retain expertise in all areas as permanent employees of the City. As project demands change (e.g. Exchange, WAM, JDE), so do the resource and skill set demands.

Historically, the City has tried to accommodate technology projects with the current resource base which is already 100% committed. This has involved shuffling IT resources between projects and roles. Squeezing more work into existing workloads simply doesn't work, and has contributed less than satisfactory outcomes. If the required resources cannot be allocated to a project, the project has a high potential for failure and should not proceed until resources can be allocated.

Capital project budgets for major IT initiatives should include contract employees, backfill resources and consulting services as required to successfully undertake the project. Just as Engineering might engage a contract project manager to oversee a major capital construction

project, major IT projects would be resourced in much the same way with project staff to support implementation being funded as part of the capital project.

The following table lists the seven additional FTE positions over a period of four years.

2013	Application Analyst	$ 124,964
	Business Analyst	$ 124,964
	Business Analyst	$ 124,964
	Application Analyst	$ 124,964
2014	Application Analyst	$ 124,964
	Business Analyst	$ 124,964
2016	Corporate Device Specialist	$ 103,280
	Total	$ 853,064[2]

Departmental Roles

Based on industry experience, the most successful implementations are those where departments have taken ownership and have driven the use of the system to solve business needs. In too many organizations, IT is seen as the "owner" of new systems, rather than the business functions which they support. Business systems are not 'supplied' by the IT department, and this should not be the model moving forward. Departmental and IT staff must work together to plan and implement solutions that meet the needs of the organization. Departments must assign a business system lead for each of the application they use.

For large enterprise systems, this may be one department (e.g. Public Works for WAM), which fulfills this role on behalf of the departments that use the system. This function may be performed as part of an existing role or departments may need to look to establish a new role (e.g. the BMA report recommended a systems lead position in Finance, in HR the Payroll Analyst may perform some of these functions). These positions should include the following roles and responsibilities:

- Develop a full understanding of the capabilities of the system
- Identify problems, pain points and improvement opportunities
- Develop solution requirements
- Develop a prioritized work plan with the Steering Committee
- Provide some front (first) line support
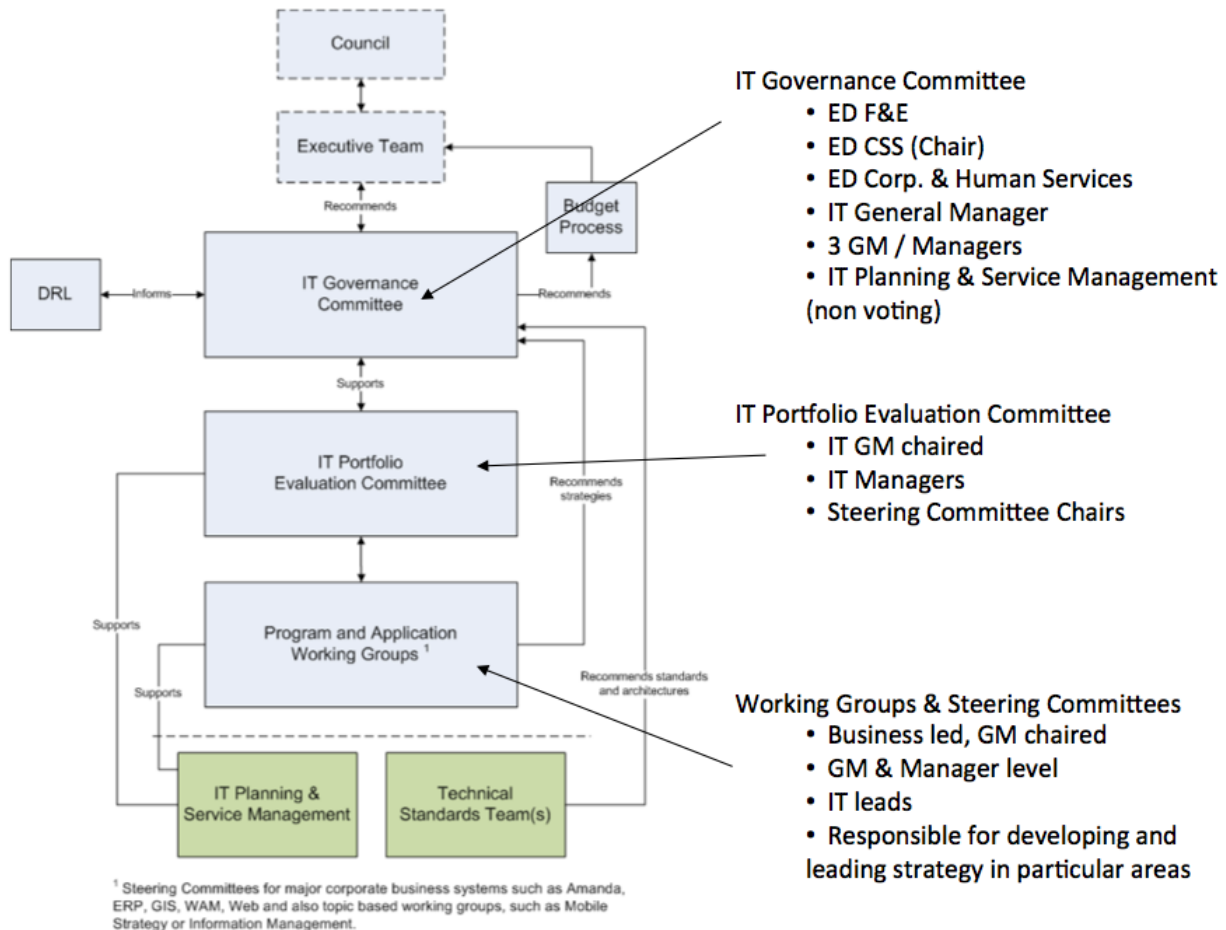- Provide training and training coordination
- Conduct system testing

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[2] Existing cross charges can be used to fund an estimated 2 FTEs

6. IT Governance: A New Partnership

If technology is to be central to the success of the City's service delivery and its strategic objectives, it will be necessary to change the City's IT decision making model. The City as a whole needs to take ownership of technology and its role as an enabler of organizational transformation as opposed to the transactional functions that most of the City's systems provide today. The Executive Team (ET) and departmental leaders must actively support IT leaders in pushing forward together on an agreed set of priorities – bringing the appropriate resources and corporate attention to bear in the right areas.

The IT Strategy recommends the creation of a corporate IT governance model, which engages executive, departmental and IT management in a partnership approach to technology decision making. The representatives for each of the governance bodies are suggested on the right hand side of the diagram.

Recommended Model

IT Governance Committee
- ED F&E
- ED CSS (Chair)
- ED Corp. & Human Services
- IT General Manager
- 3 GM / Managers
- IT Planning & Service Management (non voting)

IT Portfolio Evaluation Committee
- IT GM chaired
- IT Managers
- Steering Committee Chairs

Working Groups & Steering Committees
- Business led, GM chaired
- GM & Manager level
- IT leads
- Responsible for developing and leading strategy in particular areas

[1] Steering Committees for major corporate business systems such as Amanda, ERP, GIS, WAM, Web and also topic based working groups, such as Mobile Strategy or Information Management.

IT Steering Committee

At the center of the governance model is the IT Steering Committee. This is a senior management level committee (Executive Director and GM membership) which has overall responsibility for all technology investments throughout the organization and is chaired by an Executive Director.

Key responsibilities of the committee include:

- Owns and executes the corporate IT Strategy (including coordinating departmental technology strategies), monitoring service delivery and performance, and ensuring regular renewal of technology infrastructure
- Determines the priority of IT-enabled investment programs in line with the corporate business strategies and priorities
- Recommends the IT capital budget
- Tracks the status of projects and resolves resource conflicts
- Monitors service levels and service improvements
- Reviews, approves / recommends policies and standards
- Assesses IT risk management

IT Portfolio Evaluation Committee

This committee is responsible for reviewing, evaluating and filtering the projects submitted for inclusion in the IT work program. In effect, it is doing the work the IT Governance Committee would otherwise have to do. This committee is responsible for:

- Individual project assessment, evaluation and ranking – according to the endorsed criteria – to develop an overall ranked IT project portfolio; this assessment must take into consideration all aspects of the project – procurement, availability of department and IT resources to support implementation; timelines, risk, etc.
- Pre-screening/evaluating individual technology budget proposals
- Recommendations to the IT Governance Committee an annual prioritized technology project portfolio (based upon departmental and IT technology submissions)
- Project portfolio status review and action plans
- Communications to the departmental management teams on issues
- Assistance in the monitoring of ITS capacity allocation

Working Groups and Application Steering Committees

Application Steering Committees are organized around the large enterprise systems (e.g. JDE Finance, JDE HR, WAM, Amanda, GIS, and Web). Working groups are more likely to be established for major programs of work (such as mobile working, information management). Each of these groups should be led by a general manager and staffed by managers (including IT divisional staff). The Amanda Steering Committee has been a reasonable model to emulate. These groups are intended to work at the strategic level – setting the work plan, not to be user groups.

The role of these groups is to:

- Develop strategies, road maps and work plans to deliver against overall program objectives
- Collaboratively prioritize initiatives within or across the application or program areas
- Identify collaborative opportunities across departments to extend or re-use existing software or technology
- Participate in the delivery of projects as part of the program
- Monitor progress against projects and plans
- Members of the working group are expected to evangelize the program or application to ensure that opportunities are aligned with wider program or application objectives

The following table suggests the leadership role for each of the enterprise applications:

Enterprise Application	Lead GM
Enterprise Resource Planning (ERP) – Finance & HR	GM Finance / GM Human Resources
WAM	GM Public Works
Amanda	Chief Building Official
CLASS	GM Parks, Mtce. & Devmt.
GIS	GM Water Services
Web	GM Communications[3]
Information Management	City Clerk

Note: The establishment of an application steering committee for these systems does not preclude the need for a user group. User groups have a valuable role to play. A user group can act as a forum that shares experiences and best practices based on detailed operations experience and can be used as a means of communicating plans and seeking input and feedback. A user group must operate within the overall governance framework.

Council

Council endorses IT strategy and approves IT investment plans as part of the corporate budget process. Annual updates should be provided to Council through the IT Annual Report.

Executive Team

The Executive Team is responsible for establishing the corporate technology principles and desired outcomes from technology investments, and for reinforcing the authority of the IT governance framework. Members of the Executive Team delegate responsibility for the oversight of technology to the IT Governance Committee, and must also operate within the overall governance framework with regard to technology initiatives specific to their programs. The Executive Director membership of the IT Governance Committee provides the linkage between ET and the IT Governance Committee.

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[3] In future the lead for Customer Service should take ownership of the Web as a key customer service channel

Direct Report Leadership Team

The DRL Team will not play a formal role in the IT Governance model, but members of the DRL Team will participate in all levels of the IT Governance model as active members of the IT Governance Committee, the IT Portfolio Committee and Working Groups.

General Manager Information Technology (GM IT)

This position (formerly the Manager, Information Technology) is responsible for leading the development of technology strategy and policy, for overseeing the operation of the IT governance framework, and acting as an advisor to the IT Governance Committee regarding the most effective use of technology.

The head of IT (General Manger) is focused on strategic and change management leadership. Areas that require specific focus are:

- Implementing a new IT business model that focuses on service and business applications

- Refining and reinforcing a culture that encourages the Information Technology Department to be more proactive and strategic in partnering with city department leaders in leveraging technology to meet business needs

- Leading the development and implementation of a business focused technology plan.

- Establishing an IT governance and accountability framework that engages department leaders and meets their needs

- Contributing to and encouraging business process redesign initiatives that can be enhanced by technology.

- Creating a high performing IT team that supports the business and strategic goals of the organization.

The GM IT has direct management responsibility for the supporting groups (including IT SMO and Technical Standards Teams), and facilitates IT decision making by providing insight and transparency to the IT Governance Committee into the overall IT environment, processes and resource utilization.

The IT Governance Framework is supported by the IT Planning and Service Management team which provides the IT Governance bodies with support services to effectively select, execute and monitor portfolio performance. And the Technical Standards Group is responsible for developing, recommending and monitoring compliance with technical standards.

The establishment of this new decision-making model provides clarity about roles and responsibilities and is intended to raise the level of discussion about IT to a more senior level engaging senior management in discussion on IT issues and opportunities. More importantly, it should foster shared ownership of technology.

7. IT Strategy Implementation Plan

Implementation Plan

The implementation plan focuses on the following priorities:

- Establish the IT governance framework
- Reorganize the IT department
- Conduct assessments and develop roadmaps for the key business systems (JDE, WAM, Amanda as examples) to set the right foundations to move forward
- Develop plans for the mobile computing and information management initiatives, and put steering committees in place
- Support the City's Open Government initiative
- Implement a number of internal IT operational improvements

Implementation Plan Costs

The following costs focus on the capital investments needed to support the Corporate IT Strategic Plan, and do not include increases in operating costs related to staffing.

The strategy identified an additional investment for the City in business technology solutions of approximately $3.4 million over three fiscal years. These costs are *in addition* to the current IT capital budget. It is essential that these funds be secured and administered through the IT Governance Committee.

IT Capital Investment Profile ($000's)			
2013	**2014**	**2015**	**Total**
998.0	1,418.0	999.0	3,416.0

Investments at these levels will allow the City to address the major project work identified in this strategy:

- Address the major gaps in Finance, HR, Work Management and GIS systems,
- Extend existing core business systems such as Amanda and Class, for better integrated, seamless service delivery,
- Establish the corporate information management (including corporate reporting, data management, document management (EDMS) and records management)
- Develop the mobile computing strategy (does not support the implementation)
- Introduce new collaborative tools such as voice, video conferencing, shared document collaboration

Note: A number of these projects will see new initiatives started with strategies and work plan development, but do not assume the implementation phases or costs. Examples would be GIS, as the City plans to undertaken GIS strategy this year, information management, and data warehousing. In future budget cycles, the IT Steering Committee will be responsible for developing a prioritized technology project list and preparing the annual technology budget.

This increase in investment must be in areas that deliver true business value to the organization and improvements to service delivery. Technology expenditures should be viewed as

investments in productivity and improved service delivery. The organization must improve its ability to identify business benefits from IT investments:

- Utilize and enhance existing business case models to capture and articulate cost benefit analysis as part of the project ranking process.
- Maintain an ongoing ROI dataset for the City for all technology enabled projects – this will be a key metric to measure and articulate value of technology investment.
- Work with Finance to establish how business benefits / efficiencies will be captured and returned or re-invested.

Balance the IT Investment Portfolio

Organizations that are effective in their technology investments manage on a portfolio basis. Just as an individual would balance their own personal investment portfolio so must organizations.

Clearly some technology investment is required to sustain existing services and solutions, while other investments are required to grow capabilities, add services, improve services or transform services completely.

A typical industry model suggests that organizations should spread their investments in the following ratios.

At the current levels, set by the 10 year capital forecast and operating budgets, Guelph's investment in technology is almost 100% allocated to operations, sustaining existing systems and keeping the lights on.
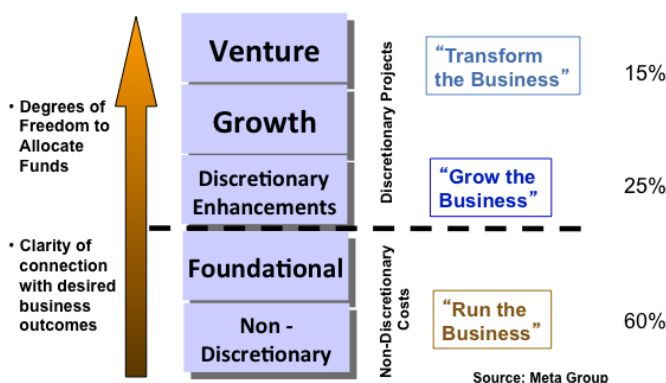
It should be no surprise that the City is disappointed in its ability to use technology to innovate. The city's technology investment profile must change if more innovative results are to be achieved.

The proposals in this strategy elevate the responsibility for the IT investment portfolio to the IT Steering Committee. The IT governance process will oversee the IT portfolio and should lead the re-balancing of the portfolio by categorizing projects/initiatives and setting targets for the portfolio (a 5:20:75 ratio target for instance may be a starting point).

Work Plan

The following table identifies the major initiatives that the City should undertake to implement the IT strategic plan. The table outlines the timelines for the key initiatives proposed as part of the strategy. This plan will be useful as a guideline, but it will be the responsibility of the IT governance committee in the future to review and prioritize technology initiatives. As a result it is subject to change as more detailed plans are developed, priorities change and new requirements emerge.

Implementation Components	2012	2013	2014	2015	2016
IT Governance & Service Improvements					
IT Governance framework implementation	x	X			
Initial IT Organization transition	x	X			
Ongoing IT staffing additions				x	
IT Service Improvements (help desk)	x	X	x		
HR Payroll Kronos					
Establish ERP steering committee		X			
Assess the vanilla JDE HR as the platform		X			
JDE HR Payroll Kronos review and renewal work plan		X			
Kronos Time and Attendance module implementation	x	X	x		
JDE HR and Payroll re-implementation			x	x	
Kronos interfaces enhancements			x		
Health and Safety solution implementation				x	
Finance					
Establish ERP steering committee	x				
JDE Finance review and renewal work plan		X			
JDE Finance enhancements		X	x	x	
JDE purchasing implementation			x		
Enhanced reporting & implementation		X			
JDE interfaces enhancements		X	x	x	
WAM					
Establish WAM steering committee	x				
WAM release monitoring and assessment	x	X			
WAM performance monitoring and remediation		X			
WAM review and renewal work plan		X			
WAM data standards and business processes mapping		X			
Work management reconciliation process review and development		X	x		
JDE purchase module implementation (divesting from WAM)			x	x	
WAM re-implementation			x	x	
Mobile computing					
Corporate mobile strategy		X			
Implementation (pilot)			x	x	
Joint wireless project		X	x	x	x
Web work plan					
Web work plan					
Platform software implementation review					
Internet site development				x	
Information Management					
Establish IM steering committee	x				
Information Management Strategy		X			
Collaboration Tools - SharePoint Expansion as Collaboration Platform		X	x		
Lync / communications & collaboration IM, UC, Audio, Video and Web Conferencing (500 Enterprise CAL users)		X			
Detailed EDRMS implementation plan				x	
EDRMS re-implementation (beyond yr 3)				x	x
Data warehouse work plan and development tasks					
Data warehouse work plan		X			
Warehouse development and set up		X	x	x	
Amanda work plan and resulting tasks					

Implementation Components	2012	2013	2014	2015	2016
Amanda work plan (developed by CSDC		X			
Implement enhancements & additional modules			x	x	x
CLASS work plan and resulting tasks		X	x	x	x
Customer Service Business and Technology Plan				x	x
IT support for Departmental business plans					
Network and Technology improvements					
User facing enhancements (e.g. simplified file sharing)		X			
IT support for Transit Implementation		X	x	x	x
IT support for Solid Waste Implementation		X	x	x	x
Open Government related implementation					
Open Gov. Implementation Planning		X			
Open Gov. program implementation phases		X	x	x	x
GIS technology tasks					
GIS Strategy enhancement implementation		X	x	x	x

8. Major Recommendations

As outlined in the preceding sections, there are a number of principles that the City must endorse and live by if it is to better leverage technology to achieve its corporate goals. Each of these represents a major change to the City's approach to technology.

1. Accept the findings of the strategy and agree to the ***need for radical change*** in the way technology is viewed and invested in by the corporation***.***

2. Corporately acknowledge the potential of technology to act as an engine of change and as a component that will be central to the success of the corporate strategic plan and commit *to **moving IT from a cost centre into an engine of growth and innovation.***

3. Accept the need to ***increase investment in IT***, and ***commit funding*** to support the implementation of this IT strategy ($3.4 million capital investment over three years).

4. ***Implement the recommended technology governance model***, which involves Executive, business and IT staff.

5. Commit to using the technology governance model to ***actively manage the corporate technology investment portfolio*** using the IT Strategy work plan as a guideline for strategic technology initiatives.

6. ***Accept the new mandate for IT,*** and direct the IT department to take a leadership role in furthering the exploitation of technology in the organization.

7. ***Align the IT organization*** to support the *strategy by **implementing the recommended organizational* changes**, adding additional resources over a 4 year period ($853,000 operating impact including benefits).

These principles must be adopted as a package, not to be selected individually. They are pivotal to establishing the new approach to technology at the City and are necessary to initiate the City's business transformation process.

There is a large number of supporting recommendations which can be found in Volume 2.