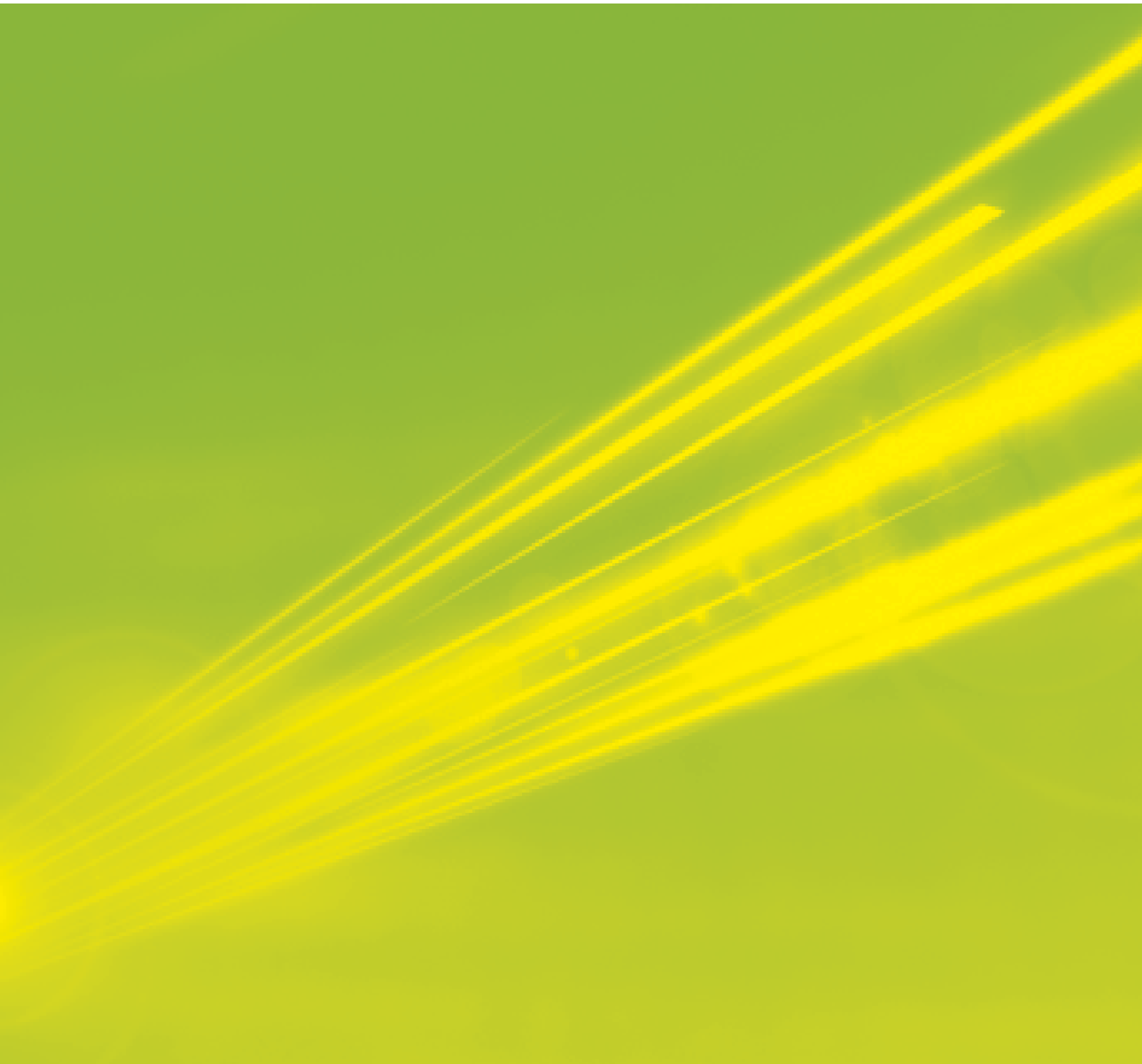
Transforming the governance
and use of information technology
in the post-amalgamation city

# CHANGING THE CONVERSATION

Report from the Mayor of Ottawa's
Task Force on eGovernment
April 30, 2008



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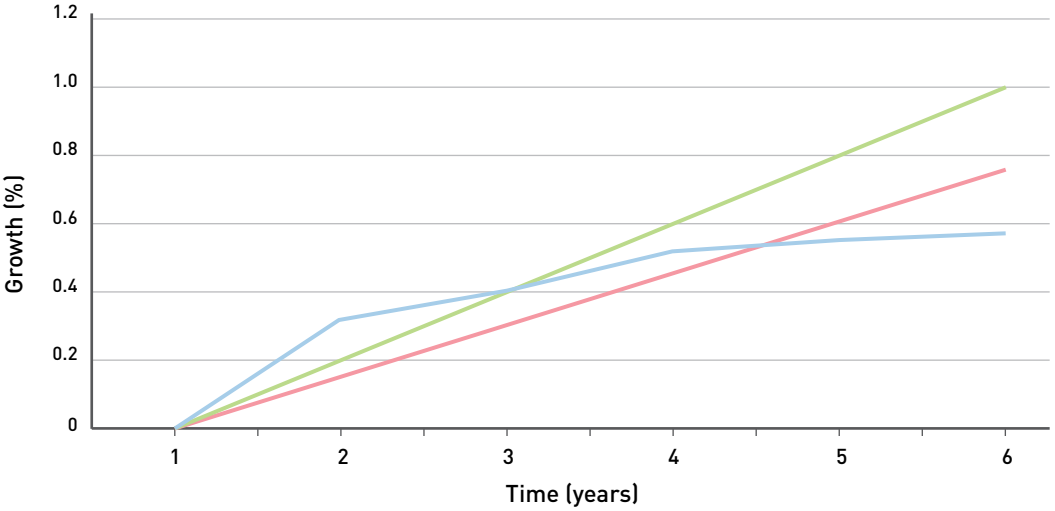
## Executive Summary

The Mayor of Ottawa's Task Force on eGovernment was mandated to make short-, medium- and long-term recommendations to develop an information technology plan that improves interaction with the public while increasing the effectiveness and efficiency of city operations.

The task force concluded that the benefits of exploiting proven, successful information technology tools and applications should deliver improvements that can help the city break the lock-step relationship between city growth and growth in staffing and budgets. Over the long term, the task force believes that cutting the costs associated with city growth could deliver significant savings when measured against the city's $2.1 billion budget.

Even the most conservative estimates show Ottawa's population growing to one million people in the near future. This represents a 23% increase in population from the 2006 census figure of 812,129. To accommodate this growing population, the city's operating costs are likely to grow by at least 20% based on current trends. However, efficiencies gained from investing wisely in information technology and managing it intelligently could offset virtually all of that 20% growth in operating costs.

**INVESTING WISELY IN INFORMATION TECHNOLOGY (IT) OFFSETS GROWTH IN OPERATING COSTS**



The task force initially focused on internal information technology operations. But we quickly realized that the most important opportunities to improve city operations lay outside the information technology branch. A review of city plans, existing use of technology and discussions with staff showed clearly that the best opportunities to leverage information technology to improve city operations were to be found by focusing on how the city chooses to view, manage and deploy technology resources.

In fact, if done correctly, leveraging the power of information technology to achieve service transformation can produce some real and measurable results. The chief result should be an ability to provide services and programs to more residents and business users at considerably less cost than today. If service transformation is pursued aggressively across the city it should be more than enough to produce sufficient savings to keep pace with city growth plus inflation over the longer term. How information technology is deployed and managed holds the key to this service transformation.

Leading organizations around the world know that information technology is the key to maximizing efficiency and service delivery. Information technology lies at the heart of most successful efforts to deliver more services and products while simultaneously lowering costs. However, the task force learned that the city often does not follow accepted information technology governance and management practices used by successful public and private sector organizations. The task force had to reconcile these best practices for viewing, managing and deploying information technology, with the radically different approach used at the City of Ottawa.

Managers at the City of Ottawa typically match increases in service demands with increases in costs. The primary reason for this is that the city's business model implicitly assumes more service capacity can only be delivered with more staff and resources. Information technology is not seen as a way to build scalable services that can increase service capacity while holding the line on, or even reducing, costs.

As the task force executed its mandate, it became obvious that within the parameters that exist today the Information Technology Services branch is doing its job reasonably well. The task force identified that the solution was not better technologists, better computing or more software; the solution must be architectural and systemic. The task force concluded that restricting its focus solely to the Information Technology Services branch would yield little in the way of transformational change at the city.

Instead, the task force determined that the city could only transform itself by addressing three fundamental themes: citizen centricity, investment and governance. Chapters two to four explore these themes and their relationship to information technology in detail.

## THREE KEY THEMES: CITIZEN CENTRICITY, INVESTMENT AND GOVERNANCE

*Citizen centricity*

Successful businesses, and many leading public sector organizations, have truly embraced a customer- or citizen-centric service delivery model. This stands in sharp contrast to the organization-centric model employed by the City of Ottawa. The city and its staff care about its citizens but its operational ethos is one that forces the citizen to adapt to city practices not the other way around. In addition, truly citizen-centric business models have information technology embedded in their operations to facilitate scalable, flexible service delivery, and advanced communication and interaction with citizens.

Ottawa should be a city that tailors its services to individuals so that the more someone uses them, the more rewarding and seamless an experience it becomes. It should be a city that offers around-the-clock access to important services, so people can get what they want when they want it. It should be a city with an online presence that is just as attractive as the best the private or public sector has to offer anywhere in the world. It should be a city where not only the citizen-facing services are seamless and easy to use, but where front-end service provision is integrated into back-end administrative and management systems to reduce staff workload and increase efficiency.

Companies and governments that successfully leverage information and communications technologies in this manner often use the expression "service transformation" to describe both the process and the outcome.

*Investment*
Successful public sector organizations and businesses view technology as an investment in productivity with long-term, ongoing payback. This is not the case at the City of Ottawa. Instead of recognizing that up-front information technology spending will deliver significant benefits and lead to savings in coming years, for the most part the city appears to be evaluating information technology investment on a one-year cycle. This view is rooted in the fact that the Ottawa budget model is expense focused with a short-term timeframe.

The current model of treating information technology as an expense to manage on an annual basis is a primary reason why the results have been so disappointing. Information technology must be regarded as an investment in critical infrastructure much like roads and sewers. Investment decisions must be made on a multi-year return-on-investment basis. If this is not done it will be impossible to gain any sustainable benefit from information technology. Some initial steps towards considering technology infrastructure on a return-on-investment-basis have been taken recently by city staff and council, and should be strongly encouraged.

*Governance*
The right governance model is key to leveraging information technology investment. A formal governance process sets up both a strategic roadmap and a process of measurement against goals. Successful businesses have a strong technology vision supported by a solid governance structure, which holds everyone accountable from the board room to the mail room. In Ottawa, there is no roadmap for the use of strategic technology, no process for measuring the impact of information technology against service goals and no way of holding people accountable. Delivering on a strong technology vision and implementing a strong governance structure is the responsibility of city council and senior executives.

Currently, information technology is mostly used tactically to react to urgent challenges and opportunities that arise separately in each functional area. This approach results in both a lack of accountability and a lack of innovation.

The responsibility for exploiting information technology should lie with all those who deliver city services and manage costs, not just the Information and Technology Services branch, as is the case today. The role of the Information and Technology Services branch is to provide expertise to support projects driven by the 33 city branches. The responsibility to exploit information technology and achieve improved services and reduced costs must lie with the management of those 33 branches.

## CHANGING THE CONVERSATION

Embracing a new information technology management philosophy at city hall — grounded in citizen centricity, investment and proper governance — offers tremendous opportunity to transform how the city operates. The task force recommendations contained in this report offer the potential to:

- Break the current tax-to-grow cycle
- Increase citizen and business satisfaction with services
- Deliver more services while reducing costs
- Promote citizen involvement with government
- Showcase Ottawa as the technology leader it aspires to be
- Enhance the environment by reducing waste and energy consumption

## CITIZEN CENTRICITY, IT INVESTMENT AND GOVERNANCE AT CITY HALL

This report examines how the themes of citizen centricity, investment and governance affect city operations in three key areas: serving citizens, operational applications and shared infrastructure.

*Serving citizens*
Why can citizens bank online 24/365 but they still have to line up in person for some routine city services? The city needs to shift its mindset to design and deliver services in ways that citizens and businesses want.

*Operational applications*
Why can a company based in Ottawa use information technology to continue to expand its global customer base without adding additional staff, but the City of Ottawa can't deliver more services without adding more staff? The city needs to use information technology to radically improve its ability to scale operations to meet increased demand without having to increase costs at the same or a higher rate.

*Shared infrastructure*
Why can companies track a package around the world but the City of Ottawa can't update a citizen on the status of a request to investigate a noise complaint? The city must provide its staff with a shared information technology backbone that supports and accelerates its ability to serve citizens and at the same time reduces costs and promotes transparency in operations.

## RECOMMENDATIONS

The task force strongly believes that **all of its recommendations must be adopted**. Partial implementation is likely to produce no measurable results. Collectively, these recommendations will create the means to transform the city to meet the challenges ahead.

To transform the City of Ottawa so that it embraces a new information technology management philosophy grounded in citizen centricity, productive investment and proper governance, the mayor, city council and senior executives must:

1. Institute a governance model that involves everyone from city council to staff, in accordance with chapter four.

2. Require a citizen-centric focus for all city programs and services, as outlined in chapter two.

3. Implement outcome-based measures for all activities, services and projects.

4. Produce investment plans for each branch identifying how technology will be leveraged to improve service while reducing costs, as outlined in chapter three.

5. Ensure that when council directs staff to take action, the resulting proposal includes a technology alternative that directly or indirectly offsets any increase in staff.

6. Compare Ottawa's service delivery, on an outcome and cost basis, with service delivery in the best public and private organizations in the world, and not just with service delivery in other Canadian municipalities.

7. Ensure that all investment plans respect and leverage the city's common technology infrastructure, architecture, processes and applications.

8. Invest in a chief strategist for service delivery, reporting directly to city council, who will drive the implementation of these recommendations.

**A pragmatic approach**
Despite its ambitious goals, this report is not the stuff of dreams. All the initiatives considered were reviewed to ensure that they make economic sense. Everything included in this report can be justified to taxpayers. All the report's recommendations are based on successful implementations of existing technology, often in municipalities similar to ours. All the examples referred to in the report can be realistically implemented in Ottawa.

## Chapter 1:

## Taskforce mandate, members and process

The City of Ottawa spends $40 million a year in operational and capital costs and employs more than 300 people to provide information technology systems and services. This technology is vital to city operations and communications. In this era of the internet, it is important to assess whether the city is getting maximum value from current technology spending and whether it is fully exploiting the potential of technology to enhance services and reduce costs. To provide this assessment, Mayor Larry O'Brien asked a group of experienced high-tech professionals to come together as a task force on e-government.

**Mandate**
The mandate of the task force was as follows:

- Review available information technology options
- Review requirements and opportunities for all areas of the city and assess an appropriate role for information technology
- Solicit input from internal information technology providers and users
- Examine the City of Ottawa's current Information Technology Plan and all current or proposed projects
- Make recommendations for development of an information technology strategy that improves interaction with the public while increasing the effectiveness and efficiency of city operations

**Members**
**Rob Collins, Chair**
Rob Collins is a software industry veteran with over 25 years of experience. Recently retired from Cognos, as chief information officer of the company, he led the evolution of information technology by achieving greater integration of information technology systems and better aligning those systems with business processes. Collins implemented significant enhancements to business systems and services during a time of growth without an increase in overall information technology spending.

**Dr. Gerald Grant**
Gerald Grant is an associate professor and coordinator of the information systems area, and co-director of the executive certificate in strategic e-government leadership program at the

Sprott School of Business, Carleton University. He is a member of the advisory board of the Ottawa Manufacturers Network (OMN).

**Kelly Kubrick, BA, MBA**
Kelly is the former director of e-commerce development for Time Warner's publishing division in New York City. There, she oversaw the planning, development and launch of more than 60 websites and served on joint Time Inc.–America Online marketing, online customer service and email marketing corporate task forces. Kelly is the owner of OnlineAuthority.com, an Ottawa-based internet marketing consulting practice.

**Andrew Moffatt**
Andrew is a serial entrepreneur and sits on the boards of the Ottawa Centre for Research and Innovation (OCRI) and the Canadian Advanced Technology Alliance (CATA). He is also founder and chairman of Keshnet Technologies where he is committed to promoting young and up-coming software companies by creating a commercialization partnership that will expand their ability to achieve success and retain majority ownership.

**Ben Robitaille**
Ben is an angel investor and board member of The Official Community Company. This is the latest in a series of board and executive positions that Ben has held. He combines management and technical expertise along with entrepreneurial skills.

**Ed Shepherdson**
Ed is an entrepreneur and former executive of Cognos. While at Cognos, he transitioned the customer support organization to an e-service model and improved customer satisfaction while reducing costs.

**Robert Thompson**
Robert Thompson is currently chief executive officer of new-media company DISTIL Interactive. He has invested many years in technology marketing and management in Canada, the U.S. and Europe, covering both start-up and mature company operations, and he has participated in venture-lead and initial public offering financing.

**Michael Turner**
After a career of over 36 years with the Canadian federal government, Michael Turner now provides advice and support to government and private sector executives on strategic technology management issues, with a particular focus on the development and management of information technology and telecommunications solutions and e-government initiatives.

## Process

Over a period of three months, the members of the task force executed their mandate by:

- Meeting with representatives of all divisions of the city as part of an investigation of city policies plans and practices regarding the current and future use of information technologies.
- Meeting extensively with Information Technology Services branch staff to review their plans, processes, strategies, staffing and infrastructure.
- Researching online to learn how other organizations — municipal, governmental, non-governmental and businesses — used internet technology to address challenges comparable to those faced by the City of Ottawa.
- Drawing upon their combined experience gained from decades of work for some of Canada's leading technology companies and the federal government.

- Reviewing the latest literature on e-government and information technology from various studies and governments worldwide.

**A note on process**

The City of Ottawa is a large and complex organization with many parts working independently. It was not possible, even over three months, to meet with each of the city's 33 branches and become aware of every project being considered. Gaining access to staff, outside of Information Technology Services, at times when both they and the task force were available, proved to be quite problematic. As a result, while every effort was made to ensure accuracy, there are bound to be areas the task force could have focused on more closely.

The task force has focused on how the city is missing the opportunity to apply modern technology to transform city operations, rather than on specific technology implementations. The task force is confident that our recommendations are strategic in nature, addressing citizen centricity, investment and governance.

*The "Aha!" moment*

As the task force executed its mandate, it became obvious that the Information Technology Services branch is performing its specific functions reasonably well. Yet it was also clear that information technology is not having a significant impact on the city. Only when the task force expanded its focus beyond this branch did it become clear why this is the case.

This realization led the task force members to have a collective "Aha!" moment. Together, we determined that the city could only transform itself by looking beyond information technology as an isolated budget item to be minimized. The task force decided to address three fundamental themes: citizen centricity, investment and governance. The next three chapters explore these themes and their relationship to information technology in detail.

Chapter two, "The citizen-centric city — unlocking the value of information technology," argues that the city should design services to be delivered and accessed from the citizen's point of view. Today, the city delivers services to citizens and businesses in a way that forces them to adapt to the city's organizational structure.

Chapter three, "Technology as a productivity investment," makes the case for switching from the city's current business model. Today, the city treats information technology as an expense to be managed. Instead it should use a model that treats information technology as an investment in productivity and service.

Chapter four, "Governance in a technology-enabled organization," proposes a governance model that clearly delineates roles, responsibilities and key accountabilities associated with each level of the city's management. Without this governance model, it will not be possible to make other changes recommended in this report. Today, lacking a proper governance model, the city looks to the Information Technology Services branch to initiate change yet looks to program and service delivery branches to manage business processes. This creates a gap between those accountable for systems and those accountable for services. This gap effectively prevents the implementation of information technology to create transformational change.

## Chapter 2:

# The citizen-centric city — unlocking the value of information technology

To be citizen or business centric means designing services to be delivered and accessed from the point of view of the citizen or client. Citizen-centric service delivery presumes a greater level of choice, convenience and flexibility in service delivery modes. Services delivered to citizens or businesses are harmonized and coordinated to provide seamless access whatever the channel used: be it telephone, internet, mobile device, mail or in person.

Traditionally, services delivered by the City of Ottawa are structured in a way that reflects the city's functional arrangements, processes and time frames. This organization-centric approach demands citizens and businesses tailor their interaction with the city based on what makes the city's internal processes run smoothly rather than on what serves the citizens' needs best.

**CITIZEN CENTRICITY SIMPLIFIES RENTING A CAR**

Booking a rental car online, picking it up and dropping it off with a pre-approved contract makes renting easy. It also shows that car rental companies understand how their customers want to interact with them.

Such an approach, while rational and successful in the past, is out of step with how people can and want to conduct business today and in the future. Digital technologies allow organizations to transform their structures, processes and workflow to allow clients to access services on demand without the constraints associated with specific service locations and service times.

Citizen-centric service delivery is not possible if the underlying information technology and data infrastructure remains fragmented and non-standardized and if there is little opportunity for data and information sharing. In today's environment, new information and communications technologies can provide the platform for clients to confidently and securely access services wherever they are and whenever they like. Such an information-technology-enabled business platform is standard-based, flexible and scaleable and is designed to release multiple efficiency and effectiveness benefits while preserving the integrity of the processes and systems it supports.

Leading companies in the travel, financial, retail and shipping industries have time and again demonstrated the value of deploying scaleable integrated information technology infrastructures. These companies are providing better, more accessible, convenient and flexible services that delight customers and lead to repeated use.

**A CITIZEN-CENTRIC MODEL MAKES VOTING EASIER**

Citizens in several U.S. states, including California and Ohio, use e-voting machines. And in Ontario, Markham and Peterborough used an internet-based voting system in 2006. Ottawa could consider adopting this approach.
www.markham.ca/Vote2006FL/index.htm
www.peterboroughvotes.ca

**Making the transition to a citizen-centric business model**

To make the transition to a citizen-centric business model, the City of Ottawa needs to develop an intimate understanding of its clients' needs and behaviours. It needs to research the character, patterns and frequency of access to city services and develop ways to tailor services to benefit from the efficiencies that accrue when service demands and service provision are aligned.

This process is known as client segmentation, and it's used increasingly by governments and private sector service delivery organizations. Using a variety of tools and techniques, services can today be tailored to the needs and expectations of various groups of users. Contrast this with an outdated approach that assumes everyone is prepared to drive to a specific location to line up and submit a form or pay a fee. Instead, consider how much better it is to segment clients according to their service needs and preferred modes of access.

The city must find ways to engage citizens so that their voices can be heard. By doing so, services can be delivered based on a deeper understanding of the expectations of citizens and businesses.

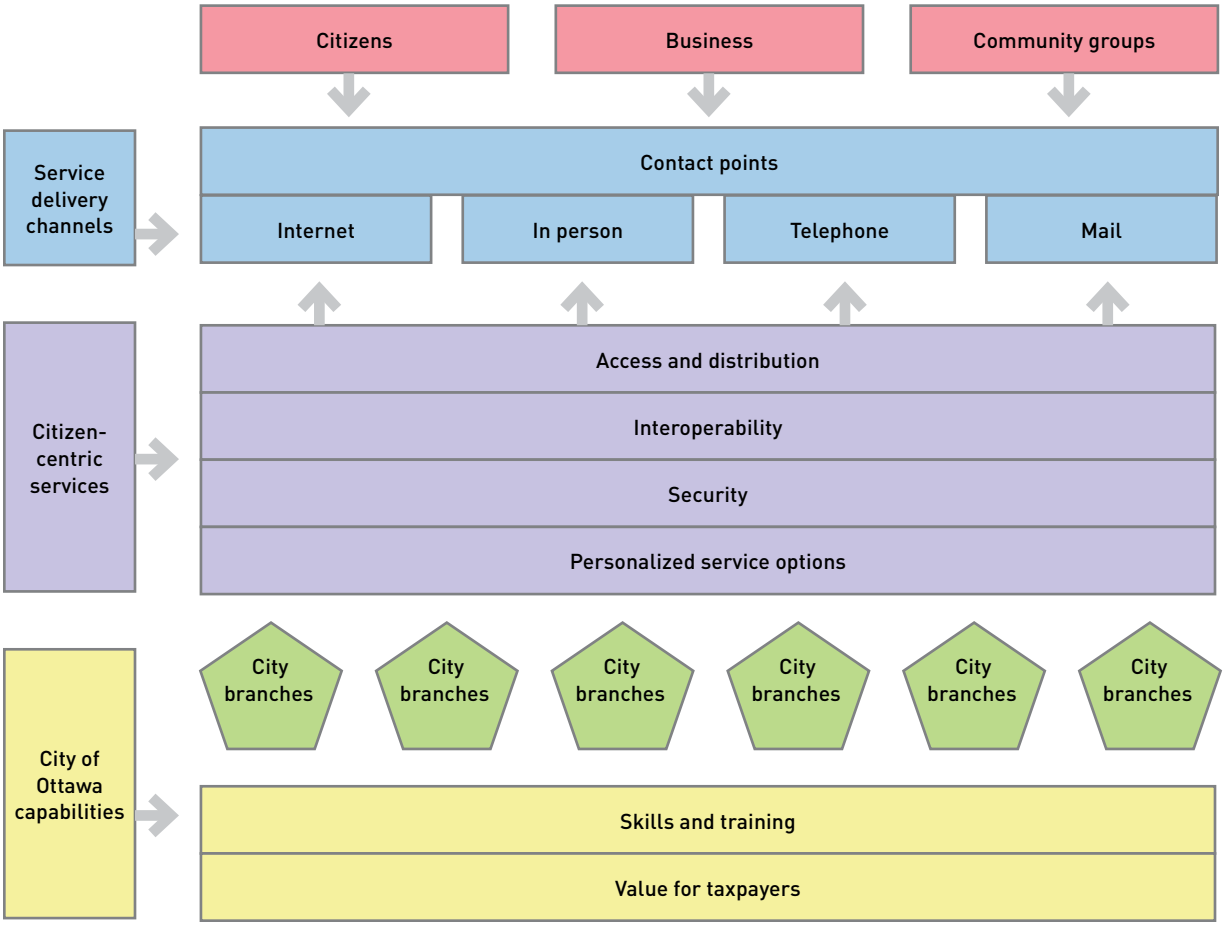
**CITIZEN CENTRICITY MAKES IT EASIER TO PAY FOR PARKING**

Toronto residents and their visitors can easily purchase and print a temporary parking permit online in four simple steps. Offered 24 hours a day, seven days a week, this new online system is part of Toronto's commitment to provide access to its services the way citizens want them.
www.toronto.ca/transportation/onstreet/tppwelcome.htm

Citizen-centric behaviours do not occur simply because they are desired. Like any other business objective, it needs to be measured and managed. Those charged with the responsibility of delivering services to citizens must be held accountable for ensuring that the potential efficiency and effectiveness benefits are realized in practice. Consequently, a governance model that includes everyone in the service delivery chain is crucial to achieve success.

The city must build a model of service delivery that presents a consistent and unified face regardless of how a resident interacts with the city — whether it's online, on the telephone, through the mail or in person. A consistent approach addresses the common frustration associated with trying to understand how the city is organized in order to interact with the right city branch. These notions of tailored yet consistent services across different delivery channels are no longer contradictory. They are routinely enabled by information and communications technologies used to support both the clients — residents and businesses — and the staff delivering the service.

## A CITIZEN-CENTRIC BUSINESS MODEL



## RECOMMENDATIONS

Task force recommendations linked to "The citizen centric city — unlocking the value of information technology"

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**Primary recommendations**

**Recommendation 2:**
Require a citizen-centric focus for all city programs and services, as outlined in chapter two.

**Recommendation 4:**
Produce investment plans for each branch identifying how technology will be leveraged to improve service while reducing costs, as outlined in chapter three.

**Recommendation 5:**
Ensure that when council directs staff to take action, the resulting proposal includes a technology alternative that directly or indirectly offsets any increase in staff.

**Recommendation 6:**
Compare Ottawa's service delivery, on an outcome and cost basis, with service delivery in the best public and private organizations in the world, and not just with service delivery in other Canadian municipalities.

**Contributing actions:**

- Build a model of service delivery that presents a consistent and unified face regardless of how a resident interacts with the city — whether it's online, on the telephone, through the mail or in person.
- Allow clients to access services on demand without the constraints associated with specific service locations and service times.
- Provide the platform for clients to confidently and securely access services wherever they are and whenever they like.
- Develop an intimate understanding of the needs and behaviours of city clients.
- Demand accountability from staff who deliver services to citizens.

## Chapter 3:

# Technology as a productivity investment

All city stakeholders want to get more from information technology. Elected officials are looking for transformational change that will be the basis for future growth. City staff are looking for a solid foundation for more consistent funding, which in turn would allow longer-term planning. The public are looking for better service and an assurance that their tax dollars are being well spent. What everyone can agree on is that it should be possible for the city to do more and information technology should be the foundation for doing more.

The current model of treating information technology as an expense to manage on an annual basis is a primary reason why technology has not been able to deliver transformational change to the city. Successful public and private sector organizations regard information technology as an investment. Investment decisions must be made on a return-on-investment basis consistent with the expected life of the asset being invested in. A three-to-five-year timeframe is a typical period for returns on information technology investments. Only when this longer-term investment model is adopted will it be possible to gain real, measurable and sustainable benefits from information technology.

We must get away from the incrementalism, short-term thinking and cost-containment ideas that dominate how information technology is implemented today. This thinking not only makes it virtually impossible to achieve transformational change, it actually contributes to building up the cost base. Because minor projects cannot replace existing processes, they become add-ons. Thus they increase cost where they should be eliminating it. Instead of reducing workload, minor projects become one more unintegrated piece that reduces flexibility and requires funding.

**An information technology investment model focused on productivity**
All plans for changes or additions to any city service put forward by branches should include a technology component or alternative. Each branch must be responsible for identifying these investments with the support of Information Technology Services. These plans should be considered potential investments with identified returns.

The first test of whether any proposal should stand and be further considered should be whether the sponsors are clear on what the cost is over a multi-year timeframe, not just the

**TECHNOLOGY AS A PRODUCTIVITY INVESTMENT BRINGS PEOPLE AND SYSTEMS TOGETHER**

During amalgamation, the City of Ottawa recognized a longer-term investment need for technology projects when it implemented SAP. The implementation was so successful that SAP promoted the work done in Ottawa as an example to its other customers. Since that time, however, this longer-term investment focus has been lost.
www.sap.com/usa/solutions/business-suite/erp/pdf/CS_City_of_Ottawa.pdf

**TECHNOLOGY AS A PRODUCTIVITY INVESTMENT REDUCES PAPERWORK**

Human Resources and Social Development Canada's online record of employment system has dramatically reduced the paper burden and cost for companies hiring staff.
www.hrsdc.gc.ca/en/gateways/topics/rxr-gxr.shtml

first year start-up costs. These cost estimates would include one-time and ongoing costs. Where staff counts are included, they should be loaded costs. This includes not just salary but also the cost of hiring, training, infrastructure, benefits and the like. Typical loaded staff costs used by local companies range between 160% and 200% of salary costs. Thus an employee being paid $50,000 would have a loaded cost of $80,000–$100,000. Loaded costs should also be included for technology. Ongoing costs like software support and regular maintenance must be built into the proposal if it is to provide an accurate basis for decision making and comparison.

**TECHNOLOGY AS A PRODUCTIVITY INVESTMENT HELPS ONTARIO DELIVER SHARED SERVICES**

Ontario manages and delivers technology products and services, supporting mission and business critical applications across its public service. www.gov.on.ca/mgs/en/IAndIT/STEL02_046937.html

The project sponsors must also be able to estimate what returns will be received on those investments in the stated timeframe. City executives, and ultimately council, can then approve the investments that produce the best returns and fit with strategic goals set by council.

The Information Technology Services branch already has a tool in place for value analysis of project proposals, which can be extended to be used for larger strategic proposals. Measurement against those expected returns and costs can then be reported to executives and council on a regular basis over the five-year timeframe. This will allow for appropriate reaction to unexpected costs or opportunities and should be seen as an opportunity to shift investments from less useful to more useful initiatives as needed.

**An information technology investment model focused on strategic priorities**

This investment model can be thought of as if you were investing in your retirement. There are more places to put your money than the money you have available. The key is to make the right choices. Those choices depend mainly on your sources of income, expenses and goals — typically when you wish to retire and how you propose to live after retirement. Higher rewards are usually associated with higher risks. The key is to have a broad plan, make wise choices, monitor performance and make adjustments as necessary. The worst approach is to abandon your plan for every shiny, new idea that comes up and lose focus on your goals.

**TECHNOLOGY AS A PRODUCTIVITY INVESTMENT SUPPORTS MEASURING OUTCOMES**

If Ottawa spends $40 million a year on information technology and another city spends $50 million, some would contend that Ottawa is not funding IT adequately. However, it could equally be argued that Ottawa is more efficient. Without measuring outcomes as well as costs, a useful comparison is impossible.

Similarly, the city must work toward an overall comprehensive plan and choose to invest money in initiatives that will provide the returns necessary to meet the objectives set by council. The view must be long term to give time for investments to realize their potential. Careful monitoring and action when and only when required will best ensure that goals are achieved. Undoubtedly, some promising investments will have to be passed up due to a limited ability to invest. However, not investing at all is the only sure way to guarantee failure.

Today, city branches will often argue that information technology projects associated with legislated requirements should automatically move to the top of the list of projects to be implemented. This argument is made without providing clear measures of project costs and returns. This should not be the case. Even when a requirement is mandated by legislation, there should continue to be an investment proposal put forward. The process used by Information Technology Services does take into consideration that the requirement has been driven by a legislated — usually a provincial government — requirement, but it also looks at the full range of costs and benefits, as it should. If the costs outweigh the returns, staff should be instructed to find a solution where costs are more in keeping with realized benefits. This will eliminate Cadillac solutions where a bicycle would be sufficient.

Keeping costs in line with realized benefits will also allow these legislated projects to be prioritized relative to other proposals. Thus, an investment that promises great savings or service enhancement should not be sidelined by a project which offers neither but is mandated by another level of government. Proper costing may also provide a means to influence other levels of government by showing the impact of their decisions.

**Measure success — metrics for outcomes**
It is not possible to assess return on investment if you do not measure those returns. Today, the city lacks a benefits realization tool or methodology by which organizations would be required to measure and track whether expected returns are, in fact, being achieved. Beyond project costs and benefits, it is vital that all branches of the city have clear, measurable outcomes that they are responsible for, with regular reports on performance against these targets. It's also vital that these metrics be measures of outcome, not simply of activity.

**Invest once, use often**
The cost and risk of investing can be greatly reduced by reducing the need to invent all or part of new solutions. There are three thrusts that can contribute to this idea. First, solutions that must be built, including infrastructure, should be built with the idea that they will be used for more than just the initial implementation. Secondly, where possible, use work done elsewhere to deliver all, or components of, a new implementation. Finally, and perhaps most powerfully, look for areas where partners will do the work for you.

One of the greatest advances in information technology in the past 20 years has been the idea of reuse. When a new requirement is identified, the first objective is to consider how the requirements may be met with existing technology and possibly even existing implementations. There are a number of examples, SAP being the most prominent, where the city could better leverage potential common infrastructure to maximize the return on investments already made.

If no existing solution is available, the next alternative to consider is where to find someone else who has already done the work. In the case of a city, another city is the most logical place to look. If we can borrow a solution from Edmonton or Paris, then we need only invest in the cost of installing it in Ottawa rather than the full cost of creating it.

When it's not practical to borrow an existing functional capability from another city, maximum use should be made of what is known as commercial-off-the-shelf software.

Requests from the client branches to modify or customize such off-the-shelf products for their special needs should be resisted wherever possible. It is far better for the client branch or program to review their existing business process to determine how it can be modified to work within the existing solution, instead of attempting to modify the purchased software in-house. Customized packages are extremely expensive to maintain, as the customization aspects must often be repeated with each release or upgrade of the product. Information technology security experts also argue that such customization often results in the unintentional introduction of security vulnerabilities into the customized software.

There is also a widespread and growing movement towards open source software, including for information technology applications of interest to various city governments. Such software is increasingly of high quality, and there is a growing industry around provision of professional support services for these software packages. Provided that the city assures itself of the capability, security and effectiveness of an open source solution, there is no reason why it should not be considered.

The city should also widen its search for shared solutions beyond the public sector. Many business and organizations have similar challenges and have produced a solution. What can the city gain from them? Businesses may also be interested in providing services to get exposure rather than being paid.

**TECHNOLOGY AS A PRODUCTIVITY INVESTMENT ENCOURAGES SHARED SAVINGS**

Instead of implementing separate 311 services, Halton Region, Burlington, Halton Hills, Milton, Oakville, Halton District School Board, Halton Catholic District School Board and Halton Regional Police Service joined forces. This reduced costs and the service was implemented faster because it was done once instead of multiple times.
http://cms.burlington.ca/AssetFactory.aspx?did=8240

**TECHNOLOGY AS A PRODUCTIVITY INVESTMENT DRIVES MARKET LEADERS**

WalMart is the world leader in logistics management. It relies heavily on information technology to get the products people want to its stores across North America at the lowest possible cost.
www.walmart.com/catalog/catalog.gsp?cat=542413

The FedEx global operations control center helps FedEx keep its promises to customers.
http://commitment.fedex.designcdt.com/GOC

Canada Post is a world leader in providing innovative physical and electronic delivery solutions. It also runs an international consulting arm focused on technology and delivery solutions.
www.canadapost.ca

**TECHNOLOGY AS A PRODUCTIVITY INVESTMENT IS KEY TO PAYROLL PROCESSING**

Ceridian Canada's full suite of HR and payroll solutions helps companies increase organizational and employee effectiveness. www.ceridian.ca

ADP is Canada's leading provider of integrated business administrative solutions. It helps companies of all sizes efficiently manage their internal processes. ADP pays one in five Canadians. www.adp.ca

In some cases, the solution being implemented to support a city government initiative will also be of interest to groups and businesses in the city. Rather than build a full solution in-house, it may be more practical, cost effective and powerful for the city to provide common infrastructure and allow other groups to build, populate or maintain an application. Given the plethora of talented technologists in Ottawa, it requires little imagination to allow groups, like sports associations, to do much of the work if the city will cover the costs of infrastructure. This combines the city's economies of scale with the nimble initiative of user communities.

**Changing the city's mindset**

The city's current short-term, expense-focused mindset hamstrings transformational information technology investment. In fact, it ends up wasting precious investment dollars that could be leveraged to produce far-reaching change at the city. The current mindset must change if the city is to have any hope of realizing the millions of dollars of savings and service improvements that can be achieved through wise investment in information technology.

## RECOMMENDATIONS

Task force recommendations linked to "Technology as a productivity investment"

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**Primary recommendations**

**Recommendation 4:**
Produce investment plans for each branch identifying how technology will be leveraged to improve service while reducing costs, as outlined in chapter three.

**Recommendation 5:**
Ensure that when council directs staff to take action, the resulting proposal includes a technology alternative that directly or indirectly offsets any increase in staff.

**Contributing actions:**

- Include one-time and ongoing costs in estimates.
- Estimate what returns will be received on investments in a stated timeframe.
- Measure results against expected returns and costs, and report to executives and council regularly.
- Keep costs in line with realized benefits to allow projects to be prioritized relative to other proposals.
- Work toward an overall comprehensive plan and choose to invest money in initiatives that will provide the returns necessary to meet objectives set by council.
- Put forward investment proposals even when a requirement is mandated by legislation.
- Leverage potential common infrastructure to maximize the return on investments already made.
- Borrow and reuse technology.
- Consider open source software.
- Use commercially available software when possible, rather than custom building, or modifying, commercial packages.

## Chapter 4:

# Governance in a technology-enabled organization

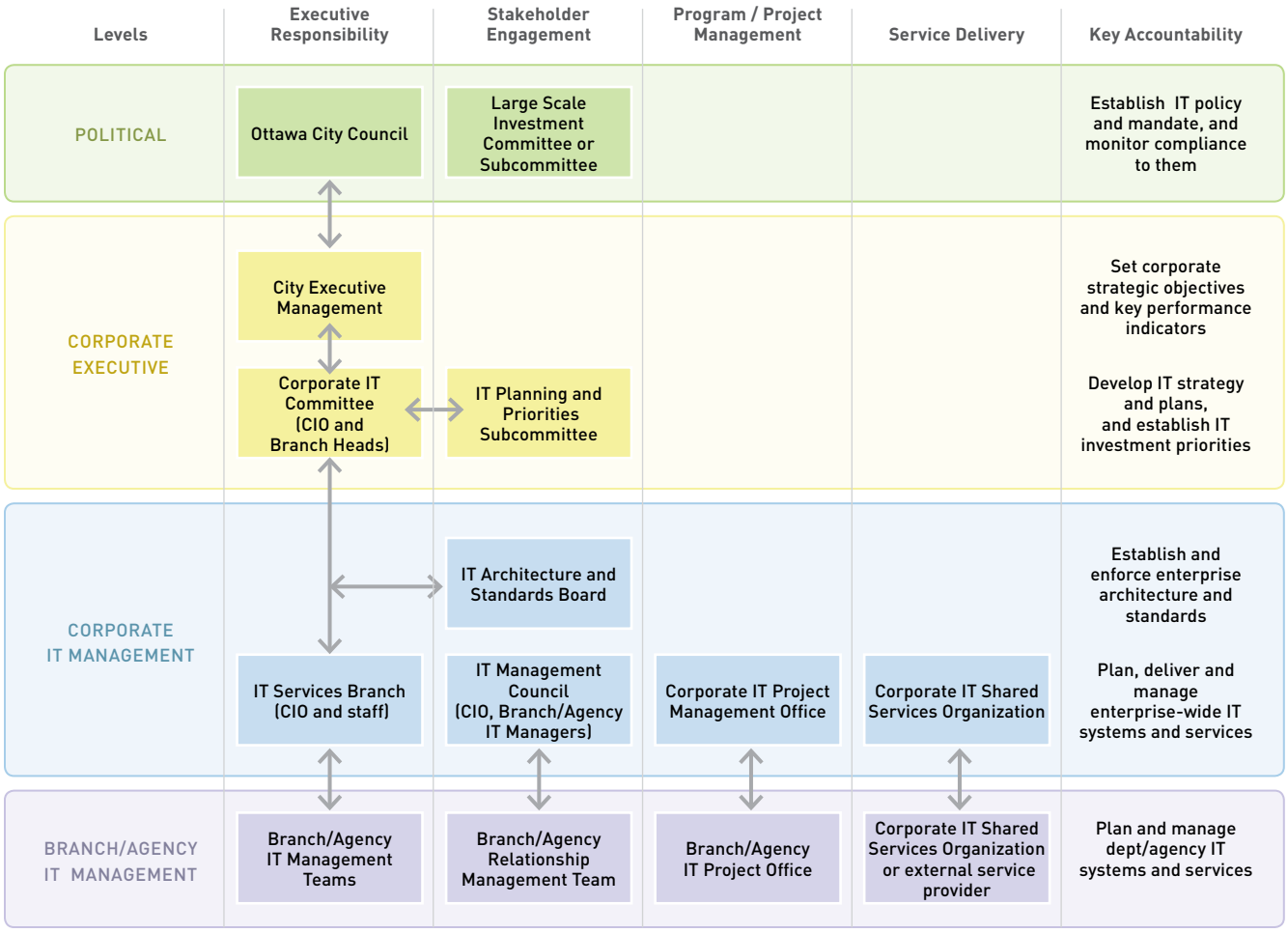
The use of information technology offers the potential to transform the City of Ottawa and break the cycle of increasing budgets and reducing service. But this can only be achieved if the City of Ottawa implements a system of governance that recognizes and assures that information technology is applied in a strategic and accountable manner across all city endeavours. This will involve everyone — from city councillors to individual city employees — and give them an appropriate voice in the process, clear direction, defined measurements and a process to manage change as it occurs.

The task force recommends implementing a new information technology governance structure for the City of Ottawa. The task force believes that this and the investment model are the two most critical changes that it identified. Failing to make these changes will make it impossible to move to a citizen-centric service model and make other changes recommended in this report. These task force recommendations should be undertaken before the next round of budgeting and investment decisions.

A governance structure for information technology as laid out below, or something very similar, will be necessary to allow the city to truly gain value from investment in information technology. Using metrics to measure outcomes at the City of Ottawa is the key to giving elected representatives and management the tools they need to provide effective oversight. A revised governance structure is the foundation for providing real service gains and efficiencies to citizens, businesses and taxpayers.

The proposed governance model clearly delineates roles, responsibilities and key accountabilities associated with each level of the city. The structure has four levels: political, corporate executive, corporate information technology management and branch/agency.

## PROPOSED IT GOVERNANCE STRUCTURE




**IT governance at the political level**
This level includes city council. Its key accountability is to establish policies and mandates for strategic investment in, and use of, information technology and to monitor compliance with them. The political level directs, and receives input from, the city's executive management and listens to external stakeholders as it sets policy directions.

This structure calls for the establishment of a committee or subcommittee that will advise council on large-scale investment in information technology and ensure that appropriate consultation with stakeholders occurs. For example, this group could provide guidance to council on issues such as reducing the need for additional staff by applying technology or mandating the automation of workflow for new businesses dealing with the city.

**IT governance at the corporate executive level**
This level includes the city's executive management and the Corporate Information Technology Committee, which is made up of the chief information officer and selected branch heads. Executive management has key accountability for setting corporate strategic objectives and key performance indicators. The executive receives direction from, and provides input to, city council. It also directs, and receives input from, the Corporate Information Technology Committee.

The Corporate Information Technology Committee has key accountability for developing information technology strategy and plans, and establishing information technology investment priorities. The Corporate Information Technology Committee receives direction from, and provides input to, the executive management committee. It also directs, and receives input from, the Information Technology Services branch, which is made up of the chief information officer and staff. It is supported by an Information Technology Planning and Priorities Subcommittee, which preliminarily assesses and vets information technology project requests. It is also supported by an Information Technology Architecture and Standards Board, which defines and enforces corporate information technology architecture and standards.

**GOVERNANCE IN A TECHNOLOGY-ENABLED ORGANIZATION DELIVERS ACCOUNTABILITY**

New York City has all of its performance metrics online, including its full strategic plan. Residents can search for performance measures about the services they are interested in. They can also review statistics summarizing how well city government is performing in different areas. www.nyc.gov/html/ops/cpr/html/home/home.shtml

For example, the Corporate Information Technology Committee would be accountable for prioritizing and recommending major information technology investment options. It would ensure that this prioritization is consistent with overall city program and service delivery priorities and for ensuring that technology services are being delivered to agreed standards.

**IT governance at the corporate IT management level**

The Information Technology Services branch has key accountability for planning, delivering and managing information technology systems and services across the city. The Information Technology Services branch receives direction from, and provides input to, the Corporate Information Technology Committee. It also directs, and receives input from, branch and agency information technology management groups.

Information technology service delivery is supported by a Corporate Information Technology Project Management Office. Enterprise-wide applications, systems and technical infrastructure are provided through the Corporate Information Technology Shared Services Organization. For example, this group would ensure that maximum benefit is derived from investments in infrastructure such as the common network, shared data centres, and infrastructure applications like SAP. The group would also identify unnecessary areas of duplication that need to be avoided.

**IT governance at the branch or agency level**

At the branch or agency level, there is a need for a person or small group to staff a Branch Information Technology Management Team. This team would have direct responsibility for information technology issues in the branch. It should be colocated within each branch, not within Information Technology Services. There are already several client relationship managers in the information technology services branch who work with the various other city branches, but these are normally technologists expected to act as an interface to the program or service, and are not normally located with the branch they support. In the new scenario, this person or small team should have substantive business and information technology understanding, and be able to articulate, advocate, and manage the interface with the information technology delivery organizations, whether internal or external.

The Branch Information Technology Management Team's primary goal is to focus on the branch's priorities and strategic objectives. The key accountability is to plan and manage the provisioning of information technology systems and services for the branch. The person or team receives direction from branch management and provides input to the Information Technology Services branch. The Branch Information Technology Management Teams work closely with client relationship officers provided by Information Technology Services to ensure appropriate information technology project planning and management. They also work with the Information Technology Shared Services Organization or external service providers to ensure that services are delivered as planned.

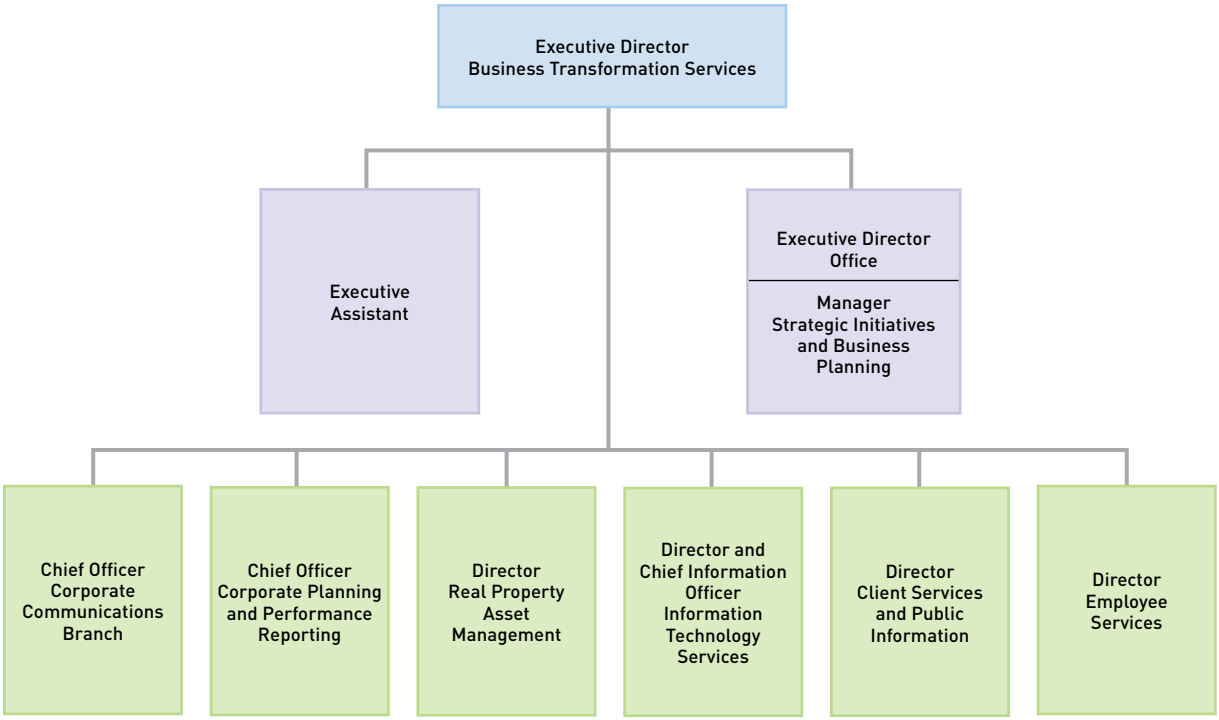
For example, the Branch Information Technology Management Team would, in conjunction with branch management, develop the information technology strategic plan for the branch. This group would fully understand the goals and metrics for a particular branch or agency and identify how technology could be used to both measure and meet these targets.

*Governance is the foundation*
The task force's recommended information technology governance model underlies all the recommendations made in this report. The task force strongly believes that no real benefit can be gained from the use of information technology, or from any of its other recommendations, without putting a proper governance structure in place.

## 4.1 THE CENTRE OF EXPERTISE MODEL

The City of Ottawa administration was reorganized some time ago to group all administrative support and common services functions under one executive director responsible for Business Transformation Services. This organization includes a number of common administrative and planning units, such as the chief information officer, referred to as centres of expertise or centres of excellence. It also includes the Client Services and Public Information branch, which has responsibility for the city's web presence, as well as for the various client service centres.

### BUSINESS TRANSFORMATION SERVICES



During meetings with various city staff, frequent reference was made to the centres of excellence approach the city has chosen. The various support services these centres provide, including Information Technology Services, were referred to as shared services.

While many large organizations, both public and private, are moving to a shared services model, the use of this terminology within the city is somewhat misleading.

For organizations established to provide standardized, usually internal, services in support of the rest of an entity, there are three commonly used approaches: central services, common services and shared services. They are described briefly below.

**Central services**
In a central-services model, senior management decides to place certain common support functions within one unit in order to concentrate scarce expertise, maximize efficiency and ensure consistency. These units are given responsibility for defining and providing a centralized service for the rest of the organization, and have direct control over the budget and personnel involved. This model comes with a strong mandate from senior management, with all other parts of the enterprise required to make use of the central service.

The standards used internally, the level of service, and the procedures the internal client organizations must follow to access and use the service, are normally defined by the managers of each central service unit. This model is most commonly used in areas where highly standardized procedures are important, and where consistency of process and policy application are essential. Finance divisions or pay and benefits organizations are often set up this way.

**Common services**
In a common-services model, senior management chooses to concentrate the expertise and capacity of certain common support functions or activities within one unit, similar to the central services model. However, while the unit is given responsibility for providing the necessary service, and maintains budget and personnel control over its own organization, the services are often not mandatory, such that other parts of the enterprise can, in certain circumstances, make the decision to either provide their own services or go to other service providers in lieu of using the common services unit — though normally such a decision would be subject to challenge by the common services unit management.

Standards and level of service are often the subject of agreement with the client organizations, who are then usually charged directly for the services they consume. Internal delivery processes are the responsibility of the common service unit manager, who is accountable to more senior management to demonstrate that he is operating efficiently while providing a service the majority of the enterprise's other units agree is needed. This combination of some flexibility, combined with direct charging is designed to ensure the common service unit behaves responsibly and delivers efficiently.

This model is commonly used in areas where a high degree of specialization is normally required of the staff, such that it becomes much more efficient to have only one centre of expertise for the enterprise, while recognizing that certain other units with highly unusual or demanding requirements may have valid reasons not to use the common service. The inclusion of chargeback provisions also helps ensure responsiveness of the common services unit. This creates a service obligation for value received in the minds of the unit staff, and a mechanism by which their clients can attempt to hold accountable the managers of the common services unit. Examples of internal services provided in this way could include real property management, public affairs support and some aspects of human resources support.

**Shared services**
In a true shared-services model, elements of central services models and common services are combined with much more active governance mechanisms. Senior corporate management may designate one or more types of internal service that are to be provided on a shared service basis, making the use of this service mandatory across the enterprise. At the same time, the service operates in a full-cost-recovery model, with internal chargeback mechanisms. The shared service unit manages its own budget and personnel and applies such professional standards as are appropriate in its area of expertise. However, the levels of service to be provided beyond the basic norm, and any additional non-standard services not required by all units, are usually negotiated directly between the shared services managers and the client units, with associated added charges.

The significant difference that makes this model attractive is the combining of chargeback or cost recovery with management oversight of the shared services unit by an internal board or council made up of the clients of the service unit. The service unit managers are then required to bring before the board elements like its service and operational standards, budgets, chargeback rates, investment or reinvestment strategies and performance metrics, on a regular basis. This ensures full transparency and effectively gives the consumers of the service a stronger feeling of being in the driver's seat. But it makes them accountable collectively to corporate senior management for deciding on the extent of services they will provide themselves in order to meet their individual and collective business objectives. The shared service managers are then accountable to not only the board made up of their customers, but also to the senior management of the enterprise. This ensures that the unit is managed professionally and meets all required policies and standards of the overall organization.

The shared-services model has been used most effectively in large global corporations as a way of reducing costly duplication while ensuring consistency and standardization of internal services. Examples of the effective use of these arrangements could include information and communications technology, corporate, legal and real property units.

Each of these models has its own strengths and weaknesses, and large enterprises or governments often will use more than one approach, depending on the types of internal services involved, the corporate culture and history, geographic dispersion of operations and offices, and the degree of autonomy senior management in the enterprise are prepared to allow individual units.

While it is an oversimplification, central services units and common services units continue to be commonplace but there has been a move in recent years to the shared services model in large corporations and governments as the best approach for efficient and responsive provision of the many functions that modern organizations require.

**The City of Ottawa Information Technology Services branch**
The City of Ottawa Information Technology Services branch operates in a grey zone that seems to combine elements of each of the approaches outlined above. While closest to a central service in terms of responsibility for technology infrastructure management and overall mandate, and nominally having a single capital budget for the city's overall information technology capital projects, there are many exceptions. Major branches such as OC Transpo, Library and Fire Services often fund their own projects and sometimes carry out the work directly. Some projects bypass Information Technology Services entirely.

Information Technology Services does not normally charge back for services provided, but does accept money from other branches to allow some projects to proceed where their own

Information Technology Services budget is inadequate. Service standards are developed internally by Information Technology Services with no active input, at this point, from users. There are service level agreements dating back to 2003, but these are essentially unused, as there are no effective metrics in place yet that would permit regular quantitative assessment of what the Information Technology Services branch is delivering for its clients. There is no effective governance mechanism that directly engages the other branch clients of Information Technology Services, with the exception of the client service representatives and the value assessment panel, which consider what capital projects should proceed each year.

The task force noted that the central services model is often used successfully in large corporate environments, where there is strong senior management leadership, and a clear imperative requiring full implementation of decisions made at more senior levels. In such cases, it is also essential that the necessary resources be made available to the support unit to ensure it is able to deliver the quality and extent of service the internal client groups require. However, this approach often proves extremely difficult to implement within the public service. These organizations tend to operate with a more consensus-driven management style, and are subject to significant challenges in obtaining the resources demonstrably needed for the job at hand. In other words, budgets often reflect political realities rather than demonstrated need.

**A full shared-services approach is recommended**
On balance, the task force believes that the optimum model for the Information Technology Services branch would be a full shared-services approach, as outlined above, with only a limited base budget within Information Technology Services itself for management overhead and critical non-allocatable functions. All other funding requirements would be returned to the other branches and then cost recovered in accordance with the services provided. New projects or services requiring IT support should be funded from each branch's own budgets.

We recognize that moving to a management regime that requires cost recovery for internal service provision will take several years to complete. This is especially true given the need for a governance structure that assures full participation by Information Technology Services internal clients in the decision process around service standards, levels of service costs and budgets. The task force believes that this approach would be a significant improvement on the fractured and often dysfunctional model(s) now in use.

## RECOMMENDATIONS

Task force recommendations linked to "Governance in a technology-enabled organization"

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**Primary recommendations**

**Recommendation 1:**
Institute a governance model that involves everyone from city council to staff, in accordance with chapter four.

**Recommendation 3:**
Implement outcome-based measures for all activities, services and projects.

**Recommendation 8:**
Invest in a chief strategist for service delivery, reporting directly to city council, who will drive the implementation of these recommendations.

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**Contributing actions:**

- Establish a committee or subcommittee that will advise council on large-scale investment in information technology and ensure that appropriate consultation with stakeholders occurs.
- Appoint a person or small team with direct responsibility for information technology issues in each branch.
- Co-locate this person or small team within each branch, not within Information Technology Services.
- Ensure this person or small team has substantive business and information technology understanding, and is able to articulate, advocate, and manage the interface with the information technology delivery organizations, whether internal or external.
- Move to a full shared services approach, with only a limited base budget within Information Technology Services itself for management overhead and critical non-allocatable functions.

## Chapter 5:

# The potential of information technology

The transformational power of information technology is well understood. The City of Ottawa can draw on countless illustrations to inspire its citizens, politicians and staff. The task force offers the examples in this chapter as a starting point for discussion.

These examples are, however, by no means a comprehensive or final compilation. It must also be understood that given the task force's limited resources and time, the examples listed below represent a high-level survey, not an exhaustively researched or definitive list.

The task force also acknowledges that the city may be considering projects that mirror some of the examples listed below or the city may already have begun similar services in some cases. In fact, the task force encourages others to add to this list of examples as Ottawa's technology future is debated in the months ahead.

### REAL WORLD EXAMPLES OF E-GOVERNMENT SERVICES

Short examples of real word e-government solutions are sprinkled throughout this chapter. Two types of examples are offered — services delivered by other municipalities and services from outside municipalities that could apply to Ottawa.

## DEMOCRACY AND PARTICIPATION

Adopting a citizen-centric approach is key to overcoming one of the biggest challenges in any democratic process — providing meaningful public consultation.

In the past, consultation often took place late in the process. It was usually done exclusively by groups who have taken the time to attend traditional public meetings with presentations by councillors or city officials, and through media coverage of council sessions or of council committee meetings.

Interested citizens then had the opportunity to make short presentations to a future meetings of council or committees at specified times in specific locations. The result was that most people felt disenfranchised from the process, not having the time to attend council committee sessions, participate in public meetings, or to prepare such presentations. Most people simply do not have the freedom to drop everything to attend a meeting that may be far away from where they live and work.

Too often, plans were developed only to have a public outcry bring them to a crashing halt late in the process. Outraged citizens demanded that their councillors act to address their concerns — wasting the effort of staff and committees if the process had to be restarted. All of this occurred with little consideration of the complex factors affecting city planning.

In recent years, the City of Ottawa has made a point of publishing not only the minutes of council and committee meetings on the city website, but increasingly has made available all of the relevant presentation materials and some background materials on projects or proposals for which public input is being sought.

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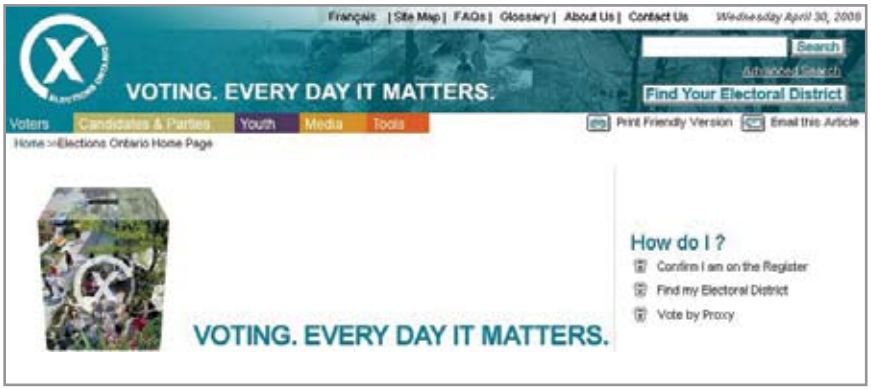
**Citizen centricity makes it possible to discuss sophisticated ideas**

The Ontario government's efforts to engage the public on electoral change showed how sophisticated ideas can be addressed by combining an educational approach with consultation.



However, while this made the documents more readily available for residents, concerns have frequently been expressed that it was difficult to find the material and no explanation of the materials was provided. Also, having the materials available online did nothing to reduce the burden associated with attending public meetings on the proposal or the work involved in preparing and presenting to council the views of a resident or community association.

A number of groups have expressed concerns that Ottawa's efforts to encourage participation are falling short. The task force also experienced a great deal of difficulty finding information that was known to be on www.ottawa.ca. This is a serious concern given that the task force is made up of informed technology users. Less experienced users are likely to have even greater difficulty navigating the site, which in turn has implications for how fully they can participate in public consultation campaigns.

"The current communication processes and website design lacks consistent organization and presentation of information. The maturity level of communication processes are ad hoc at best. The search engine requires enhancement to enable effective location of key public documents. Visitors to the Ottawa website frequently cannot locate the information they require using a 'self serve' communication channel and as a result have to access the 'phone' channel at a higher transaction cost."
*Planning Process Working Group – Rural Discussion Paper, October 2007*
*(http://ottawa.ca/residents/public_consult/beyond_2020/papers/rural/process_en.html#P74_10223)*

"...very few citizens have the time to fully understand the decision-making process nor are most citizens even aware of the number of meetings and variety of documents that are produced leading up to a decision. ... Many Ottawa residents... are denied this right because they are not encouraged adequately to participate in a meaningful manner."
*The Mayor of Ottawa's task force on Transportation, Moving Ottawa, June 2007*
*(http://moving-ottawa.ca/downloads/report-english.pdf: Section 12. Page 65)*

Information technology provides the means to address this challenge because it can help:

- More fully inform the public through online tutorials and audio or video broadcasts on the web (webcasting) of information sessions and committee deliberations.
- More fully involve citizens by establishing consultation sites where they can participate in the process at a time that fits their schedule and in a way that does not require them to travel to do so.
- Start consultations long before recommendations are made by city staff, by communicating the problem to be solved and potential solutions online and inviting discussion.
- Involve those who have chosen to participate more fully in reviewing ideas and plans before they are taken forward for approval. Information technology can also gather this input to help make recommendations for approval to councillors.
- Use active communication through email and push technologies rather than just posting information and hoping someone finds it.
- Develop communities that will support ideas and use them to further educate the press and broader public rather than using city staff and councillors to carry the full load.

Contrast these capabilities with the manner in which the consultations regarding the Ottawa light rail project and Transportation Master Plan were handled until recently. Visitors to the city website were given no indication on the city home page that an important public consultation was underway. The information could certainly be found if one looked hard enough — about five layers down on the city website, or two layers down if one went directly to

the OC Transpo website. But the sole means of reacting to the proposals was to either fill out a short online form or to attend one of the listed public meetings.

Now, with the new version of the Downtown Rapid Transit Plan recently released for public comment, the city is starting to take advantage of the modern tools available. The Ottawa Talks system used for the Lansdowne Park project has been deployed to obtain input, and encourage dialogue. The issue is also listed on the main city list of public consultations, albeit with no special prominence, along with many others of minor importance (almost all of which are simply informational pages, inviting input by mail or participation at future meetings.)

However, this time, rather than having to find an obscure link several layers down on the city site, there is a prominent logo on the city's home page — Ottawa Transit Getting it Right — and if one looks closely enough after clicking on that logo, clicking next on the words Ottawa Talks leads directly to the special consultations site now established on the website used for the Lansdowne Park work at http://ottawa.econsultation.ca. Curiously, the OC Transpo website no longer has anything more than a simple line item on their home page for the Transportation Master Plan, which now clicks through to the city consultations page on this subject.

The new site leads off with a photo and message from the mayor, allows visitors to access the description of the proposals, focusing on the preferred option, provides access to other background materials, and, most important, uses moderated discussion boards to give visitors to the page the ability to read comments posted on the various topics people have chosen to comment on, then to sign up and add their own comments.

**Citizen centricity helps U.S. travellers fly right**
In the United States, the practice of soliciting early input from the community can be seen with the U.S. Transportation Security Administration. It invites input into their plans to screen passengers boarding aircraft at six airports as well as general input that is used to react to public concerns.
www.tsa.gov/blog

**Internet consultation works for big and small projects**
Internet-based consultation need not be restricted to major projects such as Lansdowne Park or the Downtown Rapid Transit Network. Proposals as simple as bus route changes can benefit from early consultation and are listed each year on the OC Transpo site (www.octranspo.com/mapscheds/Service_Changes/TransPlan/TransPLAN_menuE.htm). However, at present the only provision for resident reaction would be to fill out a service incident form elsewhere on the site, or write a letter. No benefits are being gained by engaging riders in a discussion of plans.

Today's technologies offer a number of options for improved consultation and citizen input. In addition to the use of moderated discussion boards, as are now being introduced, more complex issues such as the Downtown Rapid Transit plan and Transportation Master Plan should consider using the deliberative consultations process, whereby interested residents must first read a brief summary paper outlining the major issues, and the options considered with their pros and cons laid out in a neutral fashion, before being permitted to express an opinion.

More detailed background materials are also provided, but usually in short sections followed by specific questions, and any background papers can be reached directly from links

**Citizen centricity makes public consultation meaningful at the Government of Canada**

The Canadian government makes considerable use of online consultation technologies, and has an excellent international reputation for innovative use of internet technologies. http://consultingcanadians.gc.ca. For an example of an individual department site, see Health Canada. www.hc-sc.gc.ca/ahc-asc/public-consult/index_e.html


embedded in the introduction or summary paper. This technique, with threaded discussions, is best suited to complex, multi-year, projects such as long-term strategic plans.

More straightforward proposals, such as the changing of a specific trash collection route, or a change in frequency of an OC Transpo bus route, can take advantage of text messaging systems, and Really Simple Syndication (RSS) feeds to alert interested users to such changes

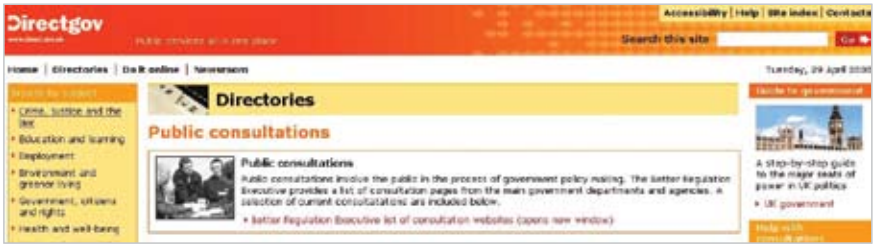
and provide opportunity for quick replies. Even simple voting systems can be deployed to allow community residents to express an immediate yes or no on questions such as whether they favour a four-way stop rather than a two-way stop at a major intersection in the area, once residents have identified their areas of interest, both geographically and by subject or theme. Online chats with neighbours who have also registered an interest in the issue, along with e-balloting, can be used to try and reach a consensus for presentation to council.

**Engage citizens from the start**

In today's connected society, there is a growing expectation that any plans the city undertakes in any branch should be communicated to citizens and businesses from the first moment that changes are considered. Social networks, text messages by cell phone, RSS news feeds and conventional email should all be exploited to include interested citizens every step of the way.

**Citizen centricity all under one roof in the U.K.**

The U.K. government has a well established central online gateway into government consultations. www.direct.gov.uk/en/Dl1/Directories/PublicConsultations/index.htm




We note with interest that other cities in Canada and elsewhere are already making excellent use of a number of the tools outlined here.

All the material used to educate staff and elected officials on a given subject should be made easily available to all citizens. Residents or business groups should also be able to use participant edited wikis to create a group position paper or a presentation for a council committee, using online tools provided directly on the city website. Final proposals from city staff should not be accepted by council without the results of this effort being clearly communicated to them and staff demonstrating that the plan already has the support of affected citizens and alternatives have been considered.

Information and communications technology based consultations can result in significant cost savings by eliminating the need to restart processes that have neared completion. Plans that move forward are more likely to be successful because community support will be achieved before implementation. Time spent reacting to complaints by staff and elected officials will be significantly reduced. Money spent on existing consultation processes, which have often proved ineffective, can be redirected toward new processes, which will be less costly. Such efforts will also contribute to citizen satisfaction with city openness and responsiveness, directly addressing the concerns raised in the 2007 Citizen Survey by Decima Research.

Costs for this type of exercise are minimal. Text messaging to cell phones is extremely low cost, as is distribution of announcements and news feeds by RSS that users subscribe to.

More complex initiatives such as discussion boards can exploit existing social networking sites such as Facebook. The city could continue to contract with an outside service provider as it does for the Ottawa Talks discussion boards system. Alternatively, it could create its own social networking site, using commercially available software packages, to encourage greater resident and business participation in the issues of the day. The existing infrastructure of www.ottawa.ca can easily support the delivery of educational and committee material. The city already webcasts council and committee sessions that can be viewed live or streamed later. In some cities, webcasts are also converted to Podcasts in audio and video, for download later upon demand. City hall already has the tools to do this, but could be making more use of them.

The only significant effort is altering the existing processes used in planning to exploit this technology. Such staff education costs should be minimal and reusable. Thus, the return on investment should be overwhelming even without quantifying the value of more satisfied citizens. Reviewing the costs of the transit exercise of the past few years will easily provide details to support an internet-based approach to improving consultation.

**Montreal uses Facebook for public consultation**

Montreal established an Office for Public Consultations in 2002 to manage the city's major consultation processes. It is already using Facebook as a support tool and under a "C'est votre Montagne!" page is engaging Montrealers in a conversation about development on Mont-Royal.
www2.ville.montreal.qc.ca/ldvdm/jsp/ocpm/ocpm.jsp


The effectiveness of an internet-based approach to consultation can be measured as follows:

- Reduced number of proposals that must be changed late in the process
- Number of contacts regarding planning should be
  - Increased earlier in the process
  - Vastly reduced later in the process
  - Easily and quickly handled by including citizens in the process
  - Not be duplicated by coming in through multiple sources such as councillors' offices, the mayor's office and 311
- Percentage of plans successfully implemented should increase
- Even proposals clearly rejected by residents should result in much better understanding of how to avoid such problems in the future
- Cost of planning overall should be reduced

## EPAYMENT

For most citizens, one of the more common interactions with the city involves payment — whether for recreational programs, licenses, fees, fines, taxes, permits or bills.

**Different payment systems and options**
At the moment, the city's online payment approach is inconsistent. The visitor is expected to anticipate different information requirements, different screen layouts or user interfaces, different payment options and different policies depending on the task at hand. To illustrate:

- Registration for the recreation programs (123Go Register) requires the citizen to have a family personal identification number (PIN) and client barcode before purchasing, neither of which is used for any other payment tasks, and which are only available in person or by phone. The payment process screens then look quite different than those used for other city services.

- Should a citizen wish to pay a parking ticket online, she is expected to navigate a completely different set of screens than those of 123Go Register, or for example, screens for payment of Provincial Offenses Court fines.

- Further, Provincial Offense Court, but not speeding, traffic or parking tickets, fine payments are made through a third party processor, www.PayTickets.ca, whereas property tax and water payment bills are paid through www.ePost.ca, a completely different third party processor.

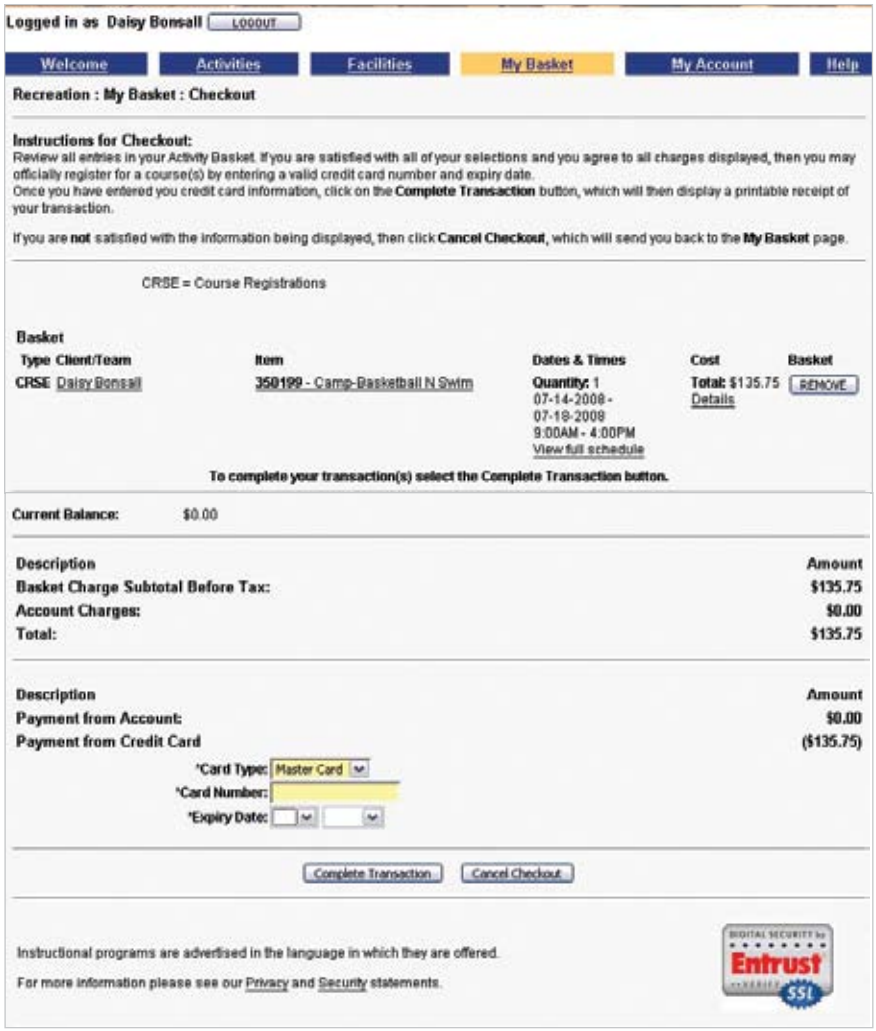
- Citizens are expected to pay an incremental $1.50 administration fee per parking ticket paid online but none for the Provincial Court. On the other hand, citizens are expected to pay a $10.00 nonrefundable administration fee the first time they purchase a parking card, which can only be done in person and not at all online.

**Moving to a common payment system**
A scan of the City of Ottawa website indicates that the city is accepting payment for a wide variety of products and services including activity registration, licenses (e.g., business, pet and marriage), fees (e.g., building permit, building code, development application, parking, sewers, wastewater and user), fines (e.g., Provincial Court Offenses), permits (e.g., burn, building, parking, occupancy, demolition and signs), bills (e.g., property tax and water) and the City of Ottawa store.

Given the size of the city's product and service inventory that it must accept payment for, a coherent technology strategy and financial management approach would assume that each one of those items would be purchased using the same payment processing system. Not only would this allow citizens more efficient use of their time to learn and navigate the system, but the city would also find efficiencies in terms of transaction volume processed and ease of accounts reconciliation — ideally allowing the city to eliminate incremental processing fees such as those applied to parking tickets. Further, the city could benefit from cross-selling its related services, instead of expecting the citizen to know where each is found separately.

### 123Go Register duplication

123Go Register is an example of an online service being incomplete because it requires a process by phone or in person to first obtain a family PIN and individual barcode, which are then used to register and pay online. While forcing residents to sign up in person or on the phone is used as an authentication process to check that the person is really an Ottawa resident, the same process can be done online —providing an end-to-end service and freeing up city staff time.




*eServices model not citizen centric*

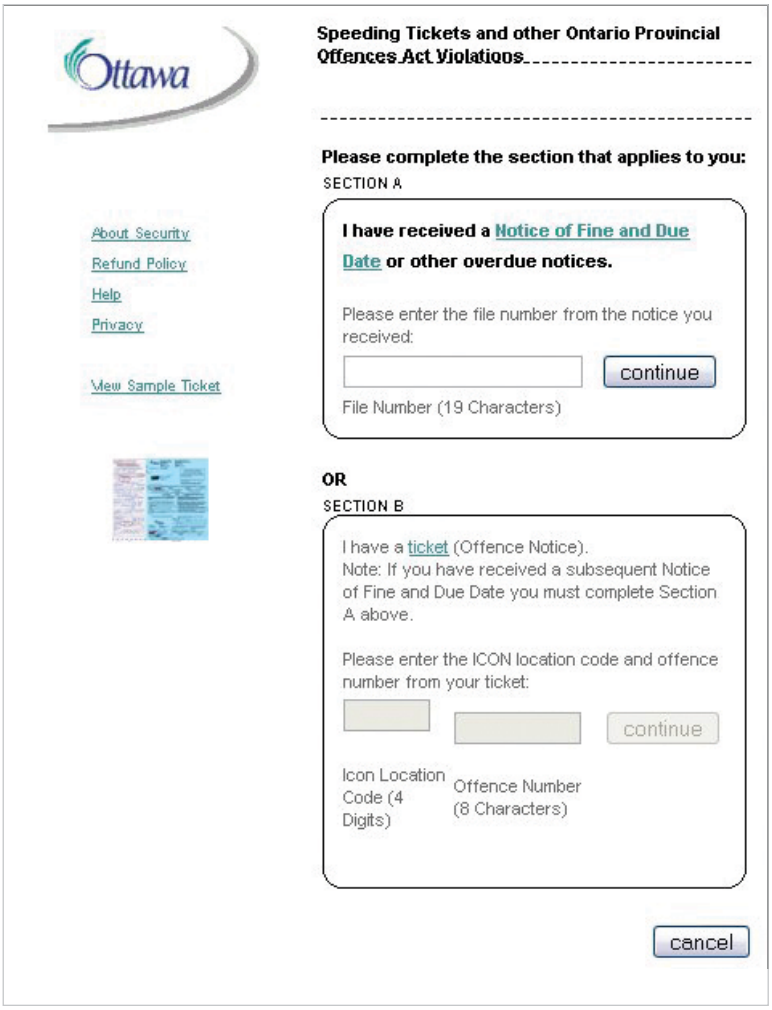
The City of Ottawa prides itself on offering e-services on www.ottawa.ca. Although a good first step, this approach is yet another indicator of the organization-centric approach taken by the city. By virtue of naming the section e-services the city makes a fundamental assumption that the citizen will know which services are available through an e-channel. Yet, once the citizen attempts to interact with the city via this channel, as outlined above, he or she is faced with myriad different payment approaches. Compare the following two examples:

**"123Go Register"**

- eCommerce application used to register / pay for City of Ottawa recreation programs
- Requires that citizen calls first in order to secure a family PIN and client barcode

**Provincial offenses**

It's even more confusing to work out which products and services can be paid for using e-services. For example, the following products and services do not offer online payment:




- Bus passes, bus tickets
- City of Ottawa's online store:
  - "Regrettably, online orders will not be shipped."
  - "You will be required to pick up your online order."
  - "Payment is made in-person, at the time of pick-up of your order."
- Dog and cat registrations, which expire each year on April 30, cannot be applied for online, but can be renewed online.

Further, the city consistently communicates restrictions and limitations the citizen should expect when interacting with its e-services channel. Verbatim examples from the City of Ottawa website include:

- When searching for a product or service: "The Search Engine is currently offline for maintenance. The back-up Search Engine is available but has limited capability. Only searches of the whole site or the Council Meetings and Minutes are possible at this time."
- When attempting to register online: "Please have your Family Personal Identification Number (PIN) and Client Barcode ready. Registrations cannot be completed without this information."
- When attempting to pay a parking ticket: "Only VISA and MasterCard are accepted. A service charge applies."
- When attempting to register a dog or cat: "Please understand that processing may take up to a month from the date the form is received."

**Operational applications**

There is significant opportunity to offer a shared online registration and e-payment technology across multiple City of Ottawa branches, whether they are serving residents, businesses or visitors, or urban or rural communities. These include:

1. Recreational activity registration
2. Licenses (business, dog and cat, marriage, etc.)
3. Fees (building permit, building code, development application, parking, sewers and wastewater, user)
4. Fines (Provincial Court Offenses including Highway Traffic Act, Trespass to Property Act, Infractions under some of Ottawa's by-laws, Compulsory Automobile Insurance Act, and Liquor Licence Act)
5. Permits (burn, building, parking, occupancy, demolition, sign)
6. Bills (property tax, water)
7. Sale of City of Ottawa merchandise

**LONDON PUTS EVERYTHING IN ONE VIRTUAL SHOPPING CART**

London is famous worldwide for its shopping. It applies the same world class approach to paying for city services with a consolidated payment system. Ottawa's myriad payment systems should be merged.
www.cityoflondon.gov.uk/Corporation/online_services

**Shared Infrastructure**

There are numerous examples where the city could leverage shared infrastructure, including:

- A product or services search engine
- A common identification, authentication and authorization system for all residents and businesses.
- Anonymous or registered purchaser shopping cart technology (e.g. add / delete item to / from cart, saving shopping cart for later purchase, calculate shipping and receive confirmation)
- Common payment processing using credit / debit card, PayPal (allows online payment / transfer without credit card)
- Online and email purchase confirmation tools
- Pre- and post-purchase customer satisfaction measurement tools

## GEO-BASED SERVICES

Geographic-based services, including the satellite based Global Positioning System (GPS), open up a world of possibilities for how Ottawa might allow citizens to access services based on their needs and how city staff might monitor vehicles used to deliver municipal services such as buses, snowploughs or emergency vehicles.

Geographic based services are a series of new transformational technologies that have implications for traditional methods of service delivery. For example, instead of customers needing to know where an organization is located, Geo-based services can allows the visitor to determine where he or she is located relative to the organization.

A common application is the increasing use of GPS in cars. Consumers can purchase GPS for less than $200 to anticipate and display the best route to take for a given trip — whether within a neighbourhood or across a continent. In addition, GPS receivers on cell phones and personal digital assistants such as the Blackberry can be used by websites such as Mapquest (www.mapquest.com) or Google Maps (http://maps.google.ca) to allow mobile visitors to determine their present point and, knowing their destination, request directions.

Every internet user is also aware of the enormous power of online mapping services, where the user begins by defining their own position, and seeking directions to another point. To see this live, go to Google Maps and click on Ottawa City Hall and then provide a street address or postal code for a destination to or from that address.

Today, different branches at the City of Ottawa already use or are planning GPS systems to track emergency and other service vehicles:

- Ambulances or the paramedics are tracked so that the dispatch command center can quickly find and route the closest and best prepared team to deal with a specific emergency.
- The traffic control center is testing a system that enables fire trucks equipped with GPS to zip through signal lights without ever seeing red.
- OC Transpo plans to install GPS to track the progress of each bus throughout the network.

Unfortunately, the task force was unable to find interactivity between any of these GPS services. So, instead of deploying a single GPS system across all branches of the city, separate — potentially incompatible — information systems incorporating GPS are being installed individually by branches.

This could result in a significant waste of money, time and learning and doesn't leverage what is known as the network effect. Essentially, because critical mass will not be achieved across the city, the value obtained will never be greater than or equal to the price paid for an individual system. Instead of accruing a technology benefit across all branches, each branch will purchase a GPS-driven information system with tax dollars, and negate the potential savings available with critical mass.

**The future**
We challenge the city to imagine an alternative scenario. In the coming years or even months, the penetration of cell phones equipped with GPS receivers will be as great as email-enabled

**New York City goes on alert**

New York City's 311 Service Request Lookup Online, citywide performance reporting online and "Notify NYC", a test of online and mobile emergency notification (including terrorism alerts), will test different kinds of communications messages to the public — email, text messaging and telephone to determine the best way to launch a citywide program. Ottawa could use a similar system for emergency alerts and for more routine ones like traffic accidents and school closures.
www.nyc.gov/portal/site/threeoneone
www.nyc.gov/html/ops/cpr/html/cpr_home/cpr_home
www.nyc.gov/html/notifynyc/html/home/home.shtml


phones today. The citizen will be able to travel through the city finding the closest, and most appropriate, City of Ottawa service location, tourist information centre, Library, police station or officer, hospital, or even restaurant or gas station.

Using the same technology, the city could easily track all their vehicles to determine which street hasn't been plowed or when it is expected to be plowed based on current location. The city could determine the optimum routes for the snow dump trucks in real time. The city would be able to manage the amount of salt or sand being spread on the streets, just as farmers already use this technology to manage the quantities of seed and fertilizer spread on a large field.

Using onboard condition monitoring feeding into the new GPS location tracking system now being implemented by OC Transpo, the city could determine the health and status of equipment and proactively schedule maintenance before mechanical failure strikes in mid-service. In OC Transpo buses, combining onboard passenger load information with GPS and communications could be used to monitor bus or train occupancy rates at specific points throughout the route. This in turn could provide planning data that could improve efficiency and ridership.

**Coordination is the key to unlocking GPS value**

GPS is a proven technology with existing applications that can save the city money and improve services. However, as noted above, city branches must coordinate their efforts city wide to ensure future services compatibility.

**Dutch go online to pinpoint local problems**

The local government of Amsterdam's Geuzenveld district just launched an online tool that lets people pinpoint neighbourhood problems on Google Maps. This puts power in people's hands and helps the city respond more effectively to citizen concerns.

http://mor.amsterdam.asp4all.nl/MORGeuzenveld.aspx


The task force doesn't presume to know the full range of GPS applications the citizens of Ottawa might need in the future, but by enabling a compatible, coordinated system throughout the city each department would be given the freedom and platform to develop services we've never thought of before.

**Colorado city puts citizens on the map**

Aurora Connect is an easy to use interface offering details about a citizen's property, neighbourhood, available services and events. It's all based on inputting your street address. The service uses cookies to remember the visitor at the next visit. The City of Ottawa offers eMap but it's harder to use than Aurora's Connect and much less useful than services such as Google Maps.

www2.auroragov.org/apps/portal/pages/property.cfm?AddressTag=465070013
www.ottawa.ca/residents/emaps/index_en.html

## EPARKING

Municipal governments around the world are taking advantage of new information and communications technologies to make on-street parking more flexible.

Ottawa relies on parking meters that must be coin or card fed to keep vehicles from tying up parking spots for lengthy periods, and to raise revenues for other services. Ottawa already provides parking meters which will accept a smart card with an embedded microchip that has been pre-programmed with funds that are extracted from the card when inserted in the meter, which provides time on the street parking meter.

The present parking smart cards work for street parking meters, most city parking lots with pay and display machines, and the newest pay on foot systems, gated by unstaffed sites, now installed at two city lots. To obtain these cards, you must first visit a city service centre or at a number of branches of the Royal Bank or Bank of Nova Scotia. There is a $10 non-refundable administration fee the first time a card is purchased. And whenever the card is exhausted, the user must revisit one of these centres or banks to reload the card. However, pay and display machines and pay on foot machines, but not street meters, also accept Visa and MasterCard credit cards.

Using smart cards for meter parking is widespread across North America and Europe. They are an excellent supplement to the use of major credit cards accepted in the more sophisticated gate control systems or pay and display systems in use in major city lots, as street meters lack the electronic connection to the necessary credit card verification systems. However, in some cities the smart card systems have been taken a step further. Once they are near exhaustion a resident's smart card can be reloaded without visiting a city office, either through home card readers, such as are common in Italy and Germany, or through the more advanced parking lot control systems which, like Ottawa's, are connected to the major credit card acceptance facilities. In these cases, one can not only pay for parking at such sites, but insert both credit card and smart card to reload the smart card chip against your credit card.

**Parking permits**
To obtain virtually every one of the parking permits the city offers requires a trip to a city service centre, and the production of various documents to prove one warrants a permit.

Visitors to the city, expecting to stay for a few days with friends who live in a residential on-street permit-zone, must obtain and provide to a city service centre, in person:

- Proof of host's residency — copy of lease if renting, or tax bill if property owner
- Letter from host's landlord stating that there is no parking available at any cost on the property
- Copy of visitor's vehicle registration — if the vehicle registration does not have his or her home address, also provide visitor's driver's licence for proof of non-residency

**Visitor parking in Toronto**
Contrast the rather bureaucratic and onerous process in Ottawa with the process in Toronto, which also issues similar parking permits of similar classes. But in the case of temporary visitor's parking, a City of Toronto temporary parking permit can be purchased online, in four simple steps:

**Solar powered eParking**

Calgary is about to become the first Canadian city to institute a system for street parking from Australia. It's a pay and display system without meters that runs on solar power. If you have an account, you can use your cell phone to pay for parking. Users dial the assigned number, insert the parking machine's street code and the amount of time wanted. The system also provides refunds for unused time and offers details monthly online receipts. New York City has installed more than 2,000 solar parking meters.

Step 1: Enter the resident name, address and the start date for the requested temporary parking permit. You will be notified if parking space is available. If so, you will be asked if you wish to purchase a permit for the week you specified.
Step 2: Enter the licence plate number for the vehicle where the permit will be displayed.
Step 3: Enter your credit card number (VISA, Master Card, American Express) and expiry date.
Step 4: Print the permit and follow the instructions for displaying it on your vehicle's dashboard. Please note that the permit and attached receipt will have a payment confirmation number.

The temporary parking permit that is printed before leaving on a trip to Toronto comes complete with a bar code that is readable by the Toronto parking authorities in their regular rounds, using their hand held machines, thereby automating the process at both ends. Should you be unfortunate enough to be caught parking outside the zone you applied for, or after parking permit expiry, your parking ticket will also be payable online.

Not only in the case of visitor temporary on-street parking, but for the various other types of permits noted above, it would appear that most of these are amenable to an online enrollment and payment process. There is little reason to expect that people would attempt to seriously defraud the city by applying to spend money for permits they are not entitled too, and accordingly, no obvious reason to require people to come to a city service centre to obtain and pay for their parking permits. The entire process can be handled electronically, including passing on the information on valid permits to parking control officers on the street.

**MADISON WISCONSIN MAKES IT EASY TO PAY PARKING TICKETS**

A consolidated payments system lets Madison residents pay everything from ambulance bills to parking tickets.
https://arcout.com/com/index.aspx
https://arcout.com/com/Ambulance.aspx
https://arcout.com/com/ParkingTicket.aspx

### ECALENDAR

The "Spotlight" events calendar is a single application that community organizations use to show what is happening in the Ottawa and Gatineau area. It's focused on arts, cultural and community events. Spotlight has quickly become one of the most visited web services in Ottawa. However, it requires considerable time of staff to review, edit, translate and post the event information. A broader federated calendar could be provided at less cost, while covering more activities and events, by collaborating with other stakeholders to create the application and then letting users have access to city data.

There are many events that are communicated to citizens, business and visitors by websites and mail that highlight what's happening every day. These range from regularly scheduled events, like solid waste pickup, to special functions such as concerts and festivals. Almost all are available on the internet but they are scattered far and wide. The City of Ottawa, City of Gatineau and National Capital Commission between them support and sponsor Spotlight, a community calendar focused on arts, cultural and entertainment events in the national capital area. However, other more routine activities are not included and finding them may involve considerable searching.

Finding summer camps is a good example. The City of Ottawa Parks and Recreation paper and online listing gives information on the city's own day camps and summer camps for children, at: www.ottawa.ca/residents/parks_recreation/programs/guides_pdf/ss_2008/day_camps_en.pdf

But summer and day camps can be organized not only by the city, but by third parties. Researching all the details — availability, cost, payment method and available transport — can be very time consuming for parents. Similarly, visitors considering coming to Ottawa may not find out everything that is going on and may choose to visit other cities that do a better job communicating what's happening.

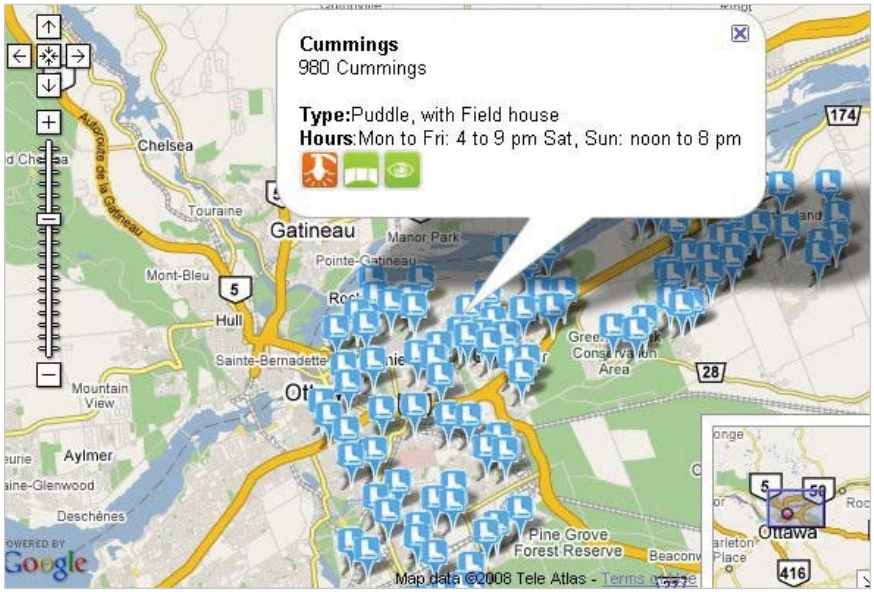
The City of Ottawa should consider expanding the use of Spotlight (http://app01.ottawa.ca/ArtsCalendar/home.jsf?lang=en ) to reach out well beyond just the arts, culture, and community events groups currently listed. This would help to help provide a more comprehensive federated calendar system which all organizations can use, including the cities, NCC, community organizations, and commercial companies. The city's role could be to develop the infrastructure for a standard calendar application and host it on its website. But in a federated model, content could be provided by anyone, perhaps with an initial enrolment approval process, and would be directly published without further editing, translation or approvals by individual participating organizations.

The city can get out of the content business except where one of the branches is the supplier (e.g., parks and recreation or solid waste), in which case it would continue to edit and translate its listings. Other organizations would be solely responsible for their content, though clearly there would still need to be some minimal effort required for monitoring to ensure inappropriate materials weren't posted by outside groups.

If desired, even the application can be outsourced to organizations within the city such as the Chamber of Commerce. The city will provide the large infrastructure, which would be a

**Ottawans want to set the agenda**

A recreational hockey player in Ottawa wanted to find the closest outdoor skating rink to his house without going through a city list of 230 locations and trying to figure out which ones sounded like they might be close. So, he scraped, geo-tagged, and mapped all of the city's outdoor skating rink locations. He also made the information easier to understand. Read the blog post "Where's the (data for) Ottawa mashups?" to find out how the city could be leveraging its data to let citizens set the agenda. www.ottawa.ca/residents/parks_recreation/seasonal/fw/outdoor_rinks/locations_en.html
www.christaggart.com/labs/ottawa-outdoor-skating-rinks
www.christaggart.com/2008/01/26/wheres-the-data-for-ottawa-mashups




significant burden on these smaller organizations, while the organizations would provide the content and the pizzazz. This partnership of government, public and private organizations would provide a better medium to communicate while reducing costs for all participating.

For example, the parents of a family looking to register their children in summer camp would go to the city website either directly or as a result of a search engine query. There they could view any number of possible events and programs and would select the summer camp. Meanwhile, the Senators, ballet, concerts, social, museums, city services and other examples would all be available as different content, directly provided by different organizations, published within the same application. There would be no need to scour the web and still miss the best choice. It would provide one-stop shopping with the city at the centre. The Spotlight calendar could continue to be provided through a separate link, for those looking only for arts, culture and heritage events.

The events could include registration and payment options, transportation options — bus routes and roads — and parking information. Announcements could include links to outside sites, or links to mapping information to assist people to find the activity, where appropriate. Being all available through an integrated system, it will be far easier to provide an integrated

answer to a parent's or tourist's query. For some options, the user would link out to another site (e.g., to buy tickets) but then return to the central calendar to find more.

The organizations that would feed the unified calendar could include federal and provincial governments, neighbouring cities, charities, race organizations, social clubs, businesses and the many festivals Ottawa has become well known for. Citizens and business could even receive email or text message alerts about event changes, new events or classes of events.

**A citizen-centric model**
Such an application would be built around the individual searching for information, not around a department or branch or even a specific organization somewhere in Ottawa. For someone unfamiliar with the city, such as a tourist, it would enable a comprehensive view of what the city had to offer with only one site to visit. For the citizen, it would ensure that all information is easily available without having to visit multiple sites, or pages, and with assurances that it comes directly from the source, without alteration. It would also be more timely, unlike a paper catalogue or flyer sent months or weeks in advance.

**Creating a community**
This approach, that need not be limited to an event calendar, creates a community of information providers within the city. By collaborating on a single solution, they cut costs and provide excellent service to their user communities. Being included in a calendar with other events makes it more likely that their event will come to people's attention.

The city would not only be helping those searching for information, it would be delivering benefits to businesses and charities in Ottawa. This, of course, remains one of the key objectives for the Spotlight system already provided by the city on its website, but with the focus on the arts and culture community. However, moving to a wider all-activities and all-events federated calendar system would significantly broaden the usefulness and appeal of the site, and help build a larger community.

By providing the infrastructure, the city will be reusing resources it has already purchased with little additional cost while reducing the costs to partner organizations and other levels of government. By allowing other groups to drive the interface, the city government can tap into the most talented people in town without having to put them on the payroll.

### THE NEED FOR CHANNEL MANAGEMENT — THE BIZPAL EXAMPLE

BizPaL is an online service that simplifies the process of starting a new business, while achieving regulatory and licensing compliance for entrepreneurs, governments, and third party business service providers. However, the way in which Ottawa has implemented BizPal appears not to be linked to any of the other service delivery methods, or channels, the city also operates.

Developed by Industry Canada as part of the federal Government Online initiative, BizPal provides Canadian businesses with one-stop access to permit and licence information for all levels of government. The service's primary goals are to slash document research time and help entrepreneurs start up faster.
(www.bizpal.ca/Flash/En/popup.html)

For government, BizPaL provides the assurance that business clients will have the information they need to meet all permit and licence requirements quickly and efficiently. It also provides a way to improve the service experience for business clients, while gaining a competitive edge over other jurisdictions.

BizPal is hosted by Industry Canada with individual participating provincial and local governments providing permitting information to the system, and then displaying the service through their own websites. In addition to the service being available for a number of Ontario municipalities through the Service Ontario site, the City of Ottawa has implemented BizPal through the City's own website at: www.ottawa.ca/business/starting/bizpal/index_en.html .

This is an excellent illustration of how a service or function developed and hosted by a partner organization can be  called up over the internet as required, being presented through the city's own website as if it was its own.

Within the city site, the service is logically located under "Starting and Growing your Business," and while it can be accessed directly through the business page from the main site, BizPal does not appear to be accessible through the "Online Services" heading on the Ottawa Home page — another illustration of the criticisms that have been heard from various parties regarding the layout and usability of the city site.

**Using BizPal in Ottawa**
To use BizPal, someone wishing to start a new enterprise in Ottawa would answer a short series of questions about their current or proposed business to create a customized list of the permits and licences you may need from all levels of government. For example, if one wishes to renovate an existing building on a commercial street to sell aftermarket auto parts, including demolishing a small storage building on site, modernizing building wiring, installing signs, you can quickly determine the different permits required from various levels of government.

Unfortunately, for the City of Ottawa, BizPal appears to be a good example of the lack of integration of web-based services with other service delivery channels operated by the city.

To test the service offered, a task force member went to the City of Ottawa BizPal site at: www.ottawa.ca/business/starting/bizpal/index_en.html and queried the system as to what permits and licenses would be required to start a business in Ottawa as outlined above, giving an address on Scott Street, not far from Parkdale Avenue, where a number of automotive shops already operate.

Some 17 different permits were identified, of which 10 were from the city, six were provincial and one federal. Going to the Service Ontario site and using the BizPal tool there produced exactly the same result — as it should. In each case, it took about one minute to step through the questionnaire and obtain a detailed list of required permits and licenses.

**BizPal versus 311**
Calling the City of Ottawa 311 service produced quite a different result. A helpful and friendly operator answered after a short wait, and advised within a couple of minutes that the caller didn't appear to require a city of Ottawa business license.

However, to ensure completeness of their response, they then transferred the caller to the by-law branch. The city staffer who answered within three rings confirmed, after some additional questioning as to location and the exact nature of the business contemplated, that indeed a city permit wasn't required. However, she said certain provincial permits or licenses "might be required." She then provided the numbers for Access Ontario and for the Provincial Vendor Permit office, suggesting those offices be contacted for information from that level of government. Access Ontario is actually the provincial government's list of Service Ontario Centres, and the number provided was for the one located directly at Ottawa City Hall. No mention was made of the possible need for any federal permits or authorizations.

Neither of the City of Ottawa people spoken to at the 311 call centre or the by-laws office ever mentioned BizPal, which could be used to determine the full range of licenses and permits one would required for such an endeavour. Both individuals spoken to confirmed that a city business license was not necessary, but neglected to mention anything about the other 10 permits the BizPal system shows the city would require. And rather than provide information about the other levels of government, phone numbers were offered to call for provincial information.

In deploying an information technology supported tool such as BizPal, the city failed to make potential users aware of the service, by not listing this as one of the city's online services and not making potential clients aware of the new service now available when they phone the city. The city then failed to ensure integration of the BizPal service with the other, existing, channels such as the 311 call centre, or the information provided by the by-law office staff by phone or across the counter. Nor did those spoken to within the city staff seem to even be aware of the BizPal tool, and the responses they gave were very different from that produced through the BizPal service.

Inconsistency of response across different channels calls into question the quality of service an organization provides its clients, impacting negatively on public perception of the service provider. These situations also negate the significant time advantage, for the client, and time saving, for city staff, inherent in the information-technology-based solution. Best practice in cases where similar advice can be provided residents or business operators through two or more means is to ensure a high degree of coordination and consistency between them. This is an important aspect of what is usually referred to as channel management.

In this case, once city staff were confident that the system has been programmed correctly and provides reliable, timely advice, BizPal should be used directly by the 311 operator or by-

law officer when responding to a caller or visitor. Deploying the same tool, whether for use by a local business person at the office or home, or at the fingertips of contact centre staff, or by a by-law staffer at a counter top, maximizes efficiency while ensuring consistency.

The way BizPal has been deployed to date is a classic example of why a web-based service is far more effective and efficient for this type of support service to business. Unfortunately, it also illustrates why channel management is so critical, to ensure that consistent, correct and timely information and service is provided citizens, no matter which channel they use to contact the city.

### A CITIZEN-CENTRIC TAX BILL

A key concern of Ottawa citizens is how to effectively access routine city services in a convenient, timely, and self-service manner. One service that is very routine and widely used in the city is getting an up-to-date record of property tax payments required for completing a real-estate transaction.

Lawyers involved in closing a real estate deal usually require the seller to provide them with an official statement indicating that property taxes have been paid and are up-to-date. This on the surface is a very routine transaction.

However, to get a copy of a current tax bill, a resident is required to go to a city client service centre in person to make a payment of $30. When the payment is made a request is then sent by the client service centre personnel to the tax branch to provide a copy of the tax bill. Clients are told that it could take up to 48 hours for the bill to be ready. They are also told that the document should be picked up at the office at 101 Centrepointe Drive in Nepean.

Once payment is made the transaction can be processed very quickly. In fact the tax statement can be ready for pick up in as little as an hour. The difficulties with this scenario are the following:

1. The requirement to go to a client service centre to make a payment. This means that a resident in Kanata or North Gower must wait until the centre is open, drive to the centre, make the payment then wait for the request to be sent to the City of Ottawa Revenue Division.

2. To pick up the statement, the client must then drive to the Revenue Division office at Centrepointe to pick up the copy of the tax statement once it has been processed (or have it sent out).

3. Even if the statement is ready within minutes of the transaction being done, unless one uses the Centrepointe Service Centre, it means that the client has to go to the offices twice for the same transaction.

4. There is no direct relationship between making the payment and the getting the service. It has to be mediated by a client service officer sending a separate message to the Revenue Division. This makes the whole process time consuming and expensive, for both the city and the resident.

In the event that the lawyer actually requires a formal tax certificate from the city, even being willing to drive around town is insufficient. The only mechanism available is to mail in a request to the City of Ottawa Revenue Division, along with a cheque for $60, and wait.

**A seamless future**
Picture a situation where a resident requires an up-to-date statement of her tax bill. The resident visits the City of Ottawa's website, finds a link to services provided by the City of Ottawa Revenue Division, clicks on request a tax bill reprint, fills out the appropriate identifying information, makes a payment, if necessary, using her credit card through the

City's integrated e-payment facility, is provided with a PDF version of the tax bill that can be saved and printed out at home. The client can then email the bill to her lawyer.

All this would take 10 minutes and can happen from anywhere at any time. The client does not have to physically show up at any office. It saves energy and is great for the environment. No one has to be paid to fax or pick up the phone to call the Revenue Division to lodge a request.

Is this possible? Think about it the next time you print a boarding pass at home before going to the airport. Or consider that today, students at the University of Ottawa can get all their transactions, bills, payment records and tax slips in PDF online. The university mails nothing to students unless they ask for it and then it charges a fee for this out-of-standard service. Or just go to the City of Winnipeg's service at: www.winnipeg.ca/citytax and see how tax and payment information is already made available by another Canadian city.

**Citizen-centric service through self service**
Today's technology provides the City of Ottawa the opportunity to make many more routine services available through self-service channels than it currently does. But when doing so, experience in Europe has clearly shown that services need to be re-engineered to provide complete front-end-to-back-end automation, to achieve cost savings while improving service. This will increase the access and use of these services, significantly reduce cost, and increase the level of convenience. More time and resources can then be put toward dealing with more complex service requests.

### AMALGAMATION AND SAP

The culture of incrementalism has not always been dominant at the city. With amalgamation, the Information Technology Services group undertook significant projects that had a real impact on the operations and cost of municipal government. The best example of this was the project to implement SAP as the core application for administrative support for the new City of Ottawa.

Unlike the model primarily used today, the SAP project was sponsored by the city's most senior management with a view to modernizing the city as a whole. It had clear, measurable goals and various branches were told that they must participate as their budgets would be reduced to meet those goals. The project was well run, to the point that the software manufacturer used it as a reference example for their other customers (www.sap.com/usa/solutions/business-suite/erp/pdf/CS_City_of_Ottawa.pdf).

**A missed opportunity**
Clearly the city has shown the ability to use information technology to make transformational change and tackle the big problems facing it. However, given the largely incremental approach to current investments and projects, the city has neither accomplished similar transformation change since nor built on the success of the SAP core application to realize further savings and service improvements. Why has so little happened in this area since amalgamation?

**SAP lessons**
The city has demonstrated the expertise and governance necessary to deliver significant savings by tackling large-scale projects. The city has also shown that it can deliver on projects that cross many silos by providing executive sponsorship and, where necessary, mandating compliance to deliver the value of shared infrastructure.

## GREEN COMMUNICATIONS

There are numerous opportunities to use technology to be not only cost-effective but also environmentally responsible. It can be as simple as not printing emails. It can be as comprehensive as adopting internet communication as the standard means of communication for all city business.

Today, the city mails bills and information to every household and business in Ottawa. Hundreds of thousands of pieces of paper are printed, stuffed into envelopes, given sufficient postage and then delivered through the post office. This is done for tax bills, water bills, waste-pickup calendars and more. Even with reducing costs to the minimum possible, the annual budget runs into the hundreds of thousands, if not millions of dollars.

Bills may end up in a pile waiting to be paid. When the bill-payer eventually gets around to paying, it's often by mailing payment to the city. City notices may be discarded immediately or be put on the kitchen fridge where they are a static reference  Should that information become out of date in any way, the city must either re-mail it to everyone, or deal with calls from people acting on outdated information.

**Soft copies deliver solid benefits**
With the vast majority of citizens, and virtually all businesses, being online, email would be a better means to communicate. Costs of mailing and printing are eliminated. Delivery is virtually instantaneous. It is far more likely that, in the case of a bill, payment will be made immediately if online payment options are made available. Where the communication is informational, it need not even be sent at all. Merely a link to the city's website can be sent so that those interested can find the information. They can even go beyond that to interact with the site and can also decide that in the future they want to be notified if the information changes or that they would prefer not to be bothered with this in the future.

For those who do not, or cannot, use this means of communication, information can be printed and sent. But this would be done only when it was specifically needed. There would be less waste. The city could also consider reversing its current policy of charging extra for internet interaction, which penalizes those using a more efficient and greener medium, and instead charge those who choose to have printed material sent. Exceptions could be made for those who truly cannot operate electronically. These should be minimal given not only the connectivity available in the city but also the farsighted policies of the city and federal government to provide broadband to rural communities and internet access terminals in community centres and Library branches.

**Green can be citizen centric**
Going green means information can be delivered in a more timely, more interactive fashion. Over time, it can become more targeted as citizens and businesses identify what type of information they do, and do not, want. If information is provided in a coordinated fashion, more can be provided in fewer mailings. This means less junk mail is created that people must put in their recycle bins. Coupled with effective online payment options, this means of communication will not only reduce costs to the city but also to the citizen and business.

Costs for mailings will be greatly reduced at the same time they are much more likely to be effective. Information kept online can be easily updated, reducing the need to resend it or

**GREENING THE OTTAWA RECREATION GUIDE**

Twice a year the City of Ottawa distributes over 100,000 copies of its recreation guide. Ottawa Citizen subscribers receive a copy automatically and every city facility offers copies. Switching to an online-only distribution model, with paper copies available on request, would save a huge amount of money and paper. Corporations are already doing this. Most mutual fund investors have to opt in if they want paper copies of quarterly statements. Canadian Tire is no longer publishing paper copies of its catalogue.

**Illinois makes life less taxing on the environment by filing electronically**
Illinois taxpayers are being encouraged to go green and file their taxes electronically by Governor Rod Blagojevich. Illinois taxpayers filed 2.7 million paper returns in 2007, enough paper to cover the distance from Springfield, Illinois to the outskirts of San Diego, California. In Canada, the Canada Revenue Agency is a world leader in the development and use of online tax filing systems, like NetFile, which has saved millions of dollars and speeded up refunds.
www.tax.illinois.gov
www.netfile.gc.ca


**THE CITY OF LIGHT IS A BEACON FOR MOBILE CONTENT**

Paris offers a limited mobile version of online content in three languages: French, English and Spanish. Ottawa should take its bilingual approach mobile.
www.paris.fr/portail/mobi/Portal.lut?page_id=7574

to deal with people having out-of-date information. Fewer trees are killed and less fuel is expended carrying around loads of mail from the city.

A similar approach should be taken to determine the extent to which announcements that are currently published in local newspapers could be replaced with online announcements. Delivering this information directly to citizens as part of a weekly or monthly city update would be far more effective and far less costly. This will be even truer as the city develops communities to allow it to target its information to the people most affected and most interested.

Utility companies and chartered banks make it possible for customers to deal with them exclusively by internet. These businesses not only save costs by this but also get higher customer satisfaction. They do not miss the opportunity to point out that this is not only economical but also ecologically responsible.

**Going green means sharing infrastructure and simplifying processes**
The ability to consolidate communications with citizens and business provides the ability to share costs across silos, gives the city a single face to citizens and simplifies the processes and systems needed to deliver information.

## RESTRICTED INTERNET ACCESS AT THE CITY

The city should be a shining example of what can be done with technology. Instead, as illustrated by its policy on restricting internet access, the administration of the city is behind the curve in a number of areas.

Administrative policy decrees that standard web tools like Google must not be made generally available to all employees on the grounds that internet access has been abused by a few staff. Staff must get special authorization to access certain widely available online services. This is the equivalent of restricting city vehicles to city parking lots out of fear that vehicles might be used inappropriately.

Only by being aware of what is happening with other organizations both related to, and distant from the city, can city staff be in a position to understand the expectations of a populace that deals with the internet on a daily basis both at home and at work.

**Hamstringing staff**
It has been advocated in this report that staff seek to reuse solutions developed elsewhere rather than take on the risk and expense of developing their own. Not being able to see how colleagues in other cities have developed and implemented such solutions will severely hamper staff's ability to do this.

The internet is a basic tool that any knowledge-worker or customer-service provider now requires to be able to deliver service comparable with the expectations of customers or citizens. This draconian restriction on internet usage must be eliminated. In its place, proper education and management policies that deal with staff misuse of city resources, for everything from automobiles to the internet, must be put in place to deal with the real issue of inappropriate employee behaviour. The city already operates a selective website blocking tool, maintains internet access logs, and has personnel trained and capable of investigating misuse if necessary.

**Turning away from the world**
There is a large community of companies and people who would gladly commit time and effort to making the city an information technology showcase, if only the city would open up to allow it to happen. Putting consultants, citizens, businesspeople and volunteers in a situation where they cannot even check their email while working at the city is not going to contribute to that cooperative environment.

### THE NEED FOR COMMON SOLUTIONS ACROSS DIFFERENT BRANCHES AND SERVICES — THE TELESTAFF EXAMPLE

Telestaff is an automated tool for managing staff scheduling across complex organizations. The city lets some branches use Telestaff but denies it to others.

The Library has many staff, including volunteers that must be managed over many buildings throughout the city. The Library needs an automated tool to help expedite this — reducing costs and improving service and employee satisfaction.

Telestaff is used by other city groups. However, there has been no decision made on what system will be used for the city as a whole. The Library has been told that they can't use Telestaff. But they aren't presented with an alternative because their request has not been deemed sufficient a priority to become a funded project. This Catch-22 has left the Library fully prepared to adapt their processes to make improvements but denied the opportunity to do so.

In many organizations, policies such as this would be coordinated through a staff function, in this case human resources — or Employee Services as it is called at the city. Bringing together management from all aspects of the organization, human resources would define the requirements for a corporate solution and lead the drive to implement it supported by information technology. They would deliver the business case and be accountable for its success.

A staff management solution is a perfect example of a tool which leads directly to cost management. Having the right number of people in place will ensure that the city is in a position to deliver services without having too many, or too few, staff on hand and without running up unnecessary costs for overtime.

**A shared solution is needed**
It is clear that most operations in Community and Protective Services and quite possibly all operations in the city would benefit from a solution that would allow efficient scheduling of staff. In the case of the Library it boils down to having the required staff on hand to deliver the service expected by citizens.

Again, a staff management application is an obvious example of a tool that crosses virtually all aspects of city operations. To have a tool on hand that is not being used is a waste. To have a tool that is not integrated with the basic infrastructure application, in this case SAP, also works against maximizing the potential of the city. The Catch-22 situation in which the Library finds itself, points to a serious flaw in management accountability in the city.

Having common solutions like a single staffing tool provide not only better functionality for all branches but also provide a means to consolidate and analyze information across branches. By having shared data definitions and processes, it will be easy to compare how staff are managed in one branch to determine if lessons can be learned and applied to another.

By using the SAP solution for as much of the common infrastructure as possible, this analysis can be extended across different processes. By identifying driving factors which lead to cost

or service metrics, processes and systems can be fine-tuned to deliver constant business improvement.

All aspects of SAP should be examined to determine where this fundamental infrastructure application can be expanded to provide a common basis for operations across the City of Ottawa. Any application which duplicates functionality of SAP should be scheduled to be replaced with SAP functionality as quickly as possible.

### ENCOURAGING CREATIVITY AND INNOVATION WHILE MAINTAINING STANDARDS — THE LORETTA TRAFFIC CONTROL SYSTEM

The traffic control system that city staff have put together from scratch is an encouraging example of collaboration and exploiting technology with an eye to the future.

The team at the Loretta traffic control centre embarked on designing and building their own traffic control system because their existing tools didn't provide the functionality they needed to accommodate city growth. Leadership shown by key branch staff got this project off the ground and some key decisions were made that enabled the project to move forward successfully.

Chief among them was a decision to use a standard and open infrastructure that can accommodate growth and evolving technology. The Loretta team built a leading edge system. The technology building blocks that they used included fibre optic, GPS, webcams, Wi-Fi, WiMax, and video, which complement or add functionality to the specialized traffic control and monitoring systems all cities use. The latest feature to be added and tested in Manotick is a system that clears a path for a GPS-enabled fire trucks to move through traffic lights without stopping. The alternative solution using strobe lights on every truck with sensors at every intersection would have doubled the cost.

A second key decision was to design systems to allow ease of partnership. Loretta collaborated with other city services, neighbouring cities and other public entities. This collaborative effort also provided Loretta with extra ongoing revenue to offset its own operating costs. The work at Loretta has also produced valuable intellectual property for the city, which could be licensed by an independent third party.

Another key element was a commitment by senior management in the business unit to ensure adequate funding was in place. The system would not have been possible without considering the cost as an investment to increase the efficiency of the city's road infrastructure.

The Loretta experience shows that properly funded technology can yield huge gains for the city and individual branches. However, the task force cautions that the Loretta experience is not easy to emulate and for most branches would lead to less than optimum results. Instead, a systematic, city-wide approach to information technology as outlined in this report should be adopted.

## Chapter 6:

# Conclusion and recommendations

### Conclusions

To allow information technology to transform how the city operates, the city must focus on citizen centricity, investment with clear returns and proper governance. If these three areas are addressed properly, the city will understand that information technology is not just an add-on to existing operating models; it is a facilitator for better, more efficient operating models.

In fact, the task force concluded that the benefits of exploiting proven, successful information technology tools and applications should deliver long-term savings that can be measured as a significant percentage of the city's $2.1 billion annual budget.

Even the most conservative estimates show Ottawa's population growing to one million people in the near future. This represents a 23% increase in population from the 2006 census figure of 812,129. To accommodate this growing population, the city's operating costs are likely to grow by at least 20% based on current trends. However, efficiencies gained from investing wisely in information technology and managing it intelligently could offset virtually all of that 20% growth in operating costs.

If the city gets out of its old mindset and adopts a new information technology management philosophy — grounded in citizen centricity, investment and proper governance — it can:

- Break the current tax-to-grow cycle
- Increase citizen and business satisfaction with services
- Deliver more services while reducing costs
- Promote citizen involvement with government
- Showcase Ottawa as the technology leader it aspires to be
- Enhance the environment by reducing waste and energy consumption

However, achieving these realistic, but ambitious, goals is not a task for the Information Technology Services branch alone. It is a task that requires the leadership of city council and the city manager's office. There must be a fundamental change in attitude and approach by elected officials, senior managers of the city's operating divisions and their staff. They all need

to look beyond operational and cost comparisons with other cities in Ontario and measure their performance against the best public and private sector organizations in the world.

The city's leadership must embrace a citizen-centric service delivery model. City leaders must view technology as an investment in productivity and manage it as such. And they must promote a strong technology-supported service delivery vision grounded in active governance at the city council, executive management and staff levels.

### Recommendations

The task force strongly believes that **all of its recommendations must be adopted**. Partial implementation is likely to produce no measurable results. Collectively, these recommendations will create the means to transform the city to meet the challenges ahead.

To transform the City of Ottawa so that it embraces a new information technology management philosophy grounded in citizen centricity, productive investment and proper governance, the mayor, city council and senior executives must:

1. Institute a governance model that involves everyone from city council to staff, in accordance with chapter four.

2. Require a citizen-centric focus for all city programs and services, as outlined in chapter two.

3. Implement outcome-based measures for all activities, services and projects.

4. Produce investment plans for each branch identifying how technology will be leveraged to improve service while reducing costs, as outlined in chapter three.

5. Ensure that when council directs staff to take action, the resulting proposal includes a technology alternative that directly or indirectly offsets any increase in staff.

6. Compare Ottawa's service delivery, on an outcome and cost basis, with service delivery in the best public and private organizations in the world, and not just with service delivery in other Canadian municipalities.

7. Ensure that all investment plans respect and leverage the city's common technology infrastructure, architecture, processes and applications.

8. Invest in a chief strategist for service delivery, reporting directly to city council, who will drive the implementation of these recommendations.

## Appendix A:

# Information Technology Services branch review

The first area the task force reviewed was the existing Information Technology Services branch. This group was extremely helpful and open to any input from the task force on how to improve. Task force members reviewed the existing systems and project portfolios, processes and practices, technologies used, infrastructure and organization structure. The focus was on the major areas that are generally grouped together as elements of service management in the global information and communications technology industry.

Overall, the task force was impressed with the quality of people and management in Information Technology Services. They are well versed in best practices and industry standards. They are very conscious of the amount of money that they spend and always try to get the most for it. Any preconceived notions of making easy improvements by tweaking the Information Technology Services branch were quickly dispelled.

At the same time, there was a degree of frustration evident among senior Information Technology Services managers with the apparent unwillingness of other branches within the city to see the advantages that more extensive use of information and communications technologies could bring to city operations and services. There were also strong concerns with the continuing nibbling away at information technology expenditures in isolation from the programs and services they are intended to support. Frustration was also voiced with the lack of longer-term business plans in most of the branches that Information Technology Services supports.

This appendix contains the overview of the task force review and some recommendations specifically aimed at the Information Technology Services branch.

**Vision**
Currently, the vision of the Information Technology Services branch is to be a leader among Canadian municipalities. Aside from being difficult to properly assess, it is the opinion of the task force that comparison to this peer group sets the bar too low. Municipalities outside Canada, governments outside the municipal level and private industry should all be valid comparisons for the City of Ottawa. It is recommended that the city compare its use of and success with information technology to the best in the world. While it will not always achieve

that standard, it should, as a part of Canada's high-tech capital, be aware of where it stands relative to that goal.

**Planning and programming**
The overall city long-term strategic plan is extremely high level, with no significant information on what role Information Technology Services may be expected to play in support of administrative systems or delivery of services by operational branches. In most cases, with a couple of notable exceptions, city branches lack business plans that would include an indication of the strategies the branch is considering for application of technologies within their area. The result has been a reliance on rating, ranking and approving specific projects submitted to Information Technology Services by branches, using a tool developed by Fujitsu with modifications for Information Technology Services.

Recent work with Fujitsu to further adapt that company's value management process will result in a strengthened analysis process including a business value index. The results of these reviews of proposed projects are reported to the city's value analysis panel made up of managers from a number of branches. The panel then ranks projects to decide which ones should be approved and proceed with in the coming year, funded from the Information Technology Services budget. For major initiatives, the business value index is revisited and reconfirmed at each major phase of a project. Expected costs, and intended benefits of Information Technology Services to be derived are carefully considered and ranked, though there is no post-project tracking to ensure benefits of Information Technology Services are actually realized.

Unlike many corporations and government agencies, about 75% of such projects are funded from a common pool within Information Technology Services, though a couple of large branches. Library, Fire Services and OC Transpo, often make their own funds available for their capital projects. Information Technology Services indicates that about 65% to 70% of their annual budget is dedicated to sustainment — sometimes referred to in the industry as keeping the lights on — with 25% to 30% dedicated to growth and transformation. This means that about $13 million to $14 million annually is capital budget.

Since 2001 the largest branch consumers of capital spending, excluding the Information and Technology Services branch, have been:

- Transit Services — $14 million. Transit Services has been a regular consumer of information technology capital, most of which is related to bus information and scheduling systems.
- Ottawa Public Library — $5 million. The Library's major spending occurred during amalgamation, but since then there has been fairly regular investment in new and improved services and upgrades to the existing system.
- Fire Services — $4.5 million. Fire Services has not had significant capital spending since 2003, at which time the entire dispatch and records system was replaced as a result of amalgamation.
- Parks and Recreation — $2.9 million. Parks and Recreation has focused on a single, but significant system (CLASS program registration), also implemented as a result of amalgamation. Most of the recent spending is related to upgrades.
- Since 2001, about $127 million has been spent on information technology-enabled projects and lifecycle equipment renewal at the city. But about 75% of that has been for amalgamation-related enterprise projects (e.g., SAP, GIS, e-services), infrastructure (servers, desktops, network and telecom), and ongoing upgrades. The remaining 25% has been distributed among the branches.
- The Integrated Business System project, which was the SAP deployment during amalgamation, was by far the largest system initiative since 2001, with key stakeholders

primarily Finance, Employee Services, Real Property Asset Management and Public Works. At $40 million, this project accounts for about 30% of all the capital spending since 2001.

Since all hardware and software purchases are considered capital in the city's system, even if they are simply routine replacements or upgrades, the actual funding available for new applications or significant service enhancements is considerably less than it appears. In fact, just as some larger branches are now trying to resolve the problem of limited capital within Information Technology Services by offering to fund their own capital projects, some branches often have to fund their own laptop and desktop replacement PCs and peripherals.

With the very limited capital funding available each year, most projects submitted by other branches tend to be minor enhancements of existing systems, or incremental service improvements, rather than major transformative initiatives. Managers from some branches advised the task force that it simply wasn't worth investing the time and energy in producing proposals for significant information technology-based projects, knowing how few would ever be funded. This approach practically guarantees that the city will always be locked in an incrementalism mindset in its information technology investments.

Recently, the city's auditor general recommended that these anomalies in funding sources be resolved by centralizing all information technology capital with Information Technology Services. The task force does not support this approach, and notes that industry best practice is now to ensure that each program, service or business line should be funding significant new information technology projects from within their internal budgets. This ensures that investment competition is between a range of possible alternative information technology and non-information technology investments within and across the internal or public facing service branches, rather than only between centrally funded technology projects. Once successfully implemented, operational sustainment, incremental demand and routine equipment replacement should continue to be funded centrally from monies transferred to Information Technology Services on a fee-for-service basis, in accordance with the shared services model described in chapter four, "Governance in a technology-enabled organization."

Information Technology Services staff indicate that there have also been a number of instances in which projects have not been reviewed through the Information Technology Services prioritization process before being approved by council, and that there is an ongoing tendency for some branches to argue that suggested projects should automatically be approved on the basis that they are either required by provincial law or policy, or the activity they would support has already been approved by council or a council committee. However, it is now policy that all projects are to be put through the value management assessment process before consideration by management.

The task force has confirmed that, once approved, the various, usually small, information technology projects are implemented using a proper project management approach based on a light version of the UK PRINCE methodology or the Project Management Institute processes and risk management methodologies commonly used in the information technology industry, for both private and public sector organizations.

However, although the information technology services branch assessment and prioritization process, including the use of a project approval committee appears sound and well managed, the task force is concerned that:

a) Capital project funding is woefully inadequate for a city attempting to provide the scale and range of services that Ottawa residents and businesses require, in an era when Canadians are demanding that government organizations measure up to the service levels normally available from large private sector companies. Please note, however, that this funding gap should only be addressed in conjunction with a proper investment and governance framework. We do not recommend additional funding under the current management processes.
b) The attempted centralization of information technology capital funding, has become an impediment to service improvement, with some branches no longer bothering to develop and submit project funding requests, and others bypassing the formal system to either fund the information technology services work they require, or sometimes quietly developing their own systems on the side, without Information Technology Services involvement.
c) The city has become overly reliant on the Information Technology Services managed capital project prioritization system to decide where scarce capital should be invested. This value assessment process and associated business value index, along with the decision-making process inherent in the use of the multi-branch value assessment panel, are necessary and well run processes. But they cannot replace adequate strategic business plans within the other branches that would indicate their intended future direction and the expected technology investments needed to achieve those business objectives.

**Enterprise, technology and application architecture standards**
One of the most important aspects for any large information technology environment is to standardize and consolidate as much as possible, with a view to reducing operational costs. Having a well-defined technology architecture and approved set of equipment based on open industry standards, are key tools in this regard. However, the city's Information Technology Services branch has found this somewhat challenging given that they inherited a broad range of different equipment and technical architectures as a result of amalgamation.

In addition, there is no established business architecture for most programs or services within the city, making it difficult to then have an integrated and responsive technology architecture to support the various business line applications. The result was that the technology architecture and standards of the largest of the organizations that came together at amalgamation have tended to dominate. Information Technology Services branch is now trying to address the technology architecture aspects by using the equipment replacement cycle and associated procurement processes to evolve to a more standardized environment, but this will likely take several years. The task force cautions, though, that consolidation and standardization must also take into account the need for some degree of flexibility in how standard equipment and standard applications are used in various branches and services.

One area in which there are evident opportunities for cost reductions over the longer term would be through the introduction of a services-oriented-architecture approach for applications in particular. Such an approach moves away from tightly integrated, single purpose, custom built, software providing an end-to-end capability for a major set of functions. The alternative is one where, as they are renewed and/or replaced, applications are developed with a series of much smaller-specific-purpose modules that are joined together to deliver higher level functions. This approach has the significant advantage of allowing each of the small individual modules to be designed for constant re-use and re-combination with other similar mono-function modules, as new applications are developed. This modern approach lowers the cost of application development and maintenance, while making it much easier and quicker to put together new applications to meet the needs of other services across the various branches of the city.

**Other service management and service delivery standards**

Just as there are strong advantages in developing and following a consistent architectural approach in both the deployment of information technology equipment and the development of software applications and tools, it is widely accepted throughout the industry that professionally managed information and communications technology organizations should also follow a standardized set of processes in the conduct and management of their service delivery.

The most widely accepted approach, originally developed within the U.K. government, is referred to as the Information Technology Infrastructure Library. While these standards were originally focused largely on the hardware, as the name implies, the latest versions also include a significant number of standards focusing on information technology service management or information technology services.

Accordingly, the task force looked at the operations and management of Information Technology Services through a service delivery lens, including checking specifically to determine the extent to which the Information Technology Infrastructure Library standardized processes are being followed. Information Technology Services acknowledged that it had begun implementation of these processes after amalgamation, but regrettably, this work had to be dropped after the budget cuts of the universal program review of 2004, in which 55 staff and some $5 million in Information Technology Services budget funds were removed. Recognizing the importance of this work, Information Technology Services relaunched the Information Technology Infrastructure Library program in 2006, with the service desk functions being the first to be deployed. An appropriate tool set has been acquired to support the roll out of the Information Technology Infrastructure Library Version 2. Other areas to be addressed will soon include asset management, incident management and tracking, and software seat management.

An important aspect of service management within the Information Technology Infrastructure Library system is the creation of mutually agreed service level agreements with each major client of Information Technology Services, which would codify what Information Technology Services is committed to provide the client branch of service, for each application and associated infrastructure. Information Technology Services has advised, and clients confirm, that in the post-amalgamation environment, it did develop a series of agreements for this purpose in 2003. However, these have not proven to be an effective management tool — largely, the task force suspects, because of the lack of an adequate system of performance metrics — and have generally fallen into disuse.

Information Technology Services advises that it intends to return to this work, and is developing a set of support agreements consistent with the Information Technology Infrastructure Library standards, as a next step in returning to the concept of formal service level agreements with each major client group. It will be important that this work on service level management is tied closely to the introduction of an adequate set of performance measures for all branches, and that the various client branches are fully involved in the development and acceptance of such agreements.

More focus appears to also be required on the areas of business alignment and application management within the overall Information Technology Infrastructure Library suite of processes and standards. However, it will also be important that any new processes being introduced as part of the Information Technology Infrastructure Library implementation are not too heavy, creating an additional management burden out of proportion to the risks associated with the decisions being made.

**Metrics**
Much of the focus of this report has been on how information and communications technologies can support service transformation for more efficient and effective service delivery to residents and the business community. But information systems are also the backbone of good management in today's world. It is commonly said that "what isn't measured, isn't managed," and good data on the performance of all services and organizations is essential if the city is to improve its internal management processes.

As with all areas of the City of Ottawa, Information Technology Services should strive to measure its impact on the city using appropriate metrics. Some of these will be specific to Information Technology Services — such as network availability resolution rate for trouble calls to the help desk, server up-time, security patches implemented and email messages processed — and many are already in place.

However, technology services are but one of several inputs required by Information Technology Services' clients. Others, based on service outputs and outcomes, must reflect the larger service delivery efforts of the branches served by Information Technology Services. Unfortunately, most branches lack these metrics. Information Technology Services can help branches develop metrics and adapt existing systems to produce these results, but cannot alone define what those metrics should be. Metrics should then be combined into appropriate key performance indicators, and be signed off by user groups to ensure that they meet the needs of both Information Technology Services and the branches for which they were developed.

These key performance indicators should be reported monthly, with a clear indication of which have been met and which have been missed. There should also be trend information that shows whether metrics are improving or deteriorating.

Key performance indicators specific to the manner in which Information Technology Services branch has delivered its services and supported its internal (other branch) clients should then form the basis of service level agreements with branches. If the indicators available are not being used to make decisions at a management level then either the wrong things are being measured or the processes are broken.

Less emphasis should be placed on unit-cost comparisons to other cities. Without being able to compare output and outcome metrics, comparisons that only reflect costs are of little use.

**Business continuity, emergency preparation and security**
As one would expect of a large, professionally managed, information technology organization, the city's Information Technology Services branch has implemented an overall branch emergency plan, maintains a roster of management and technical experts available 24/7 in case of such emergencies, and provides support for an Information Technology Incident Management Centre at its 100 Constellation Crescent site. This site is also considered a major city alternative emergency centre.

Information Technology Services staff have also pre-identified standby facilities for major critical functions, but have been unable to go much beyond this in Information Technology Services planning, lacking decisions by the various other branches about what they consider to be their priority applications. Thus, only a few obvious corporate-wide applications such as SAP and MAP, plus some critical email users, are currently assumed to require standby or backup facilities. It is anticipated that resourcing to develop such added capabilities would be a challenge even if other branches fulfill their responsibilities in regard to critical application prioritization.

The city currently operates four different data centres. And although each one is very small by industry standards, they all require more personnel than major industry centres do. There are plans to reduce this count to two or at most three centres, which will then serve to back up each other in event of major emergencies. However, there are currently no plans to contract with the private sector, or to swap capability with another municipality elsewhere in Canada, to provide a remote backup site in event of an emergency affecting the entire area.

In the information technology security realm, the Information Technology Services branch has an overall security policy that is kept up to date. But it has not been adopted as a formal city-wide policy, which somewhat inhibits broader application. Applicable Information Technology Services staff are now developing a set of security guidelines for approval, which should help address this gap. Security staff are mandated to be involved at the early stages of every significant project, using the project charter to ensure that adequate security measures are baked in. Sensitivity statements and privacy impact assessments are also routinely used.

Normal virus, worm and malware detection capabilities are deployed and managed across the city's extensive 340-site network, and regular network security assessments are done through an outside contractor. The city also has a website screening tool that allows blocking of access to specific sites — although this is only relevant to public access sites in city facilities, and the limited number of city staff who have special permission for external web access. Nonetheless, network use tracking and policing occupies about half of a full-time-equivalent position.

**Technological leadership**
Information Technology Services has rightly won awards for some technology implementations. Despite this, it has a strong aversion to risk as indicated in its stated principle to avoid "leading/bleeding edge technology." Such technologies represent unique opportunities and the city may be overly concerned with the level of risk. It appears that relatively mature technologies such as thin client, desktop collaboration tools, internet protocol telephony, and server virtualization are only now being trialled or implemented, whereas these are all considered very mature technologies within the private sector.

In the case of newer, perhaps riskier, technologies, while one might not want to employ them in critical areas of finance or emergency services, they should be embraced in other areas of service provision where they represent the potential to leapfrog forward in providing value to citizens.

**Mapping**
The Information Technology Services branch contains a large component that does mapping for the city. This is vital for planning and for areas such as OC Transpo and other infrastructure components. However, the use of these tools, based on the Autodesk suite, should be limited to internal use where their sophistication needs to be exploited. For external use, standard internet tools such as Google Maps or Mapquest are a better choice. Users are already familiar with them and they can be used at little or no cost.

There were discussions of whether the mapping group belongs within the Information Technology Services branch. While this may not be a standard part of an information technology organization, the mandate of this group is so similar to that of any other application that it would appear best to keep it in its current position where it will benefit from synergies and leadership contained in Information Technology Services.

**Information management and records management**
The city appears to have a well thought out strategy for information and data management, based on a series of process models along with at least a high level information architecture. However, there is not yet a business-process level information standard. The city has chosen the Stellent package for electronic records management and website content management, but to date, only about 300 desktops, or 10% of the available licenses, have been deployed. Web content is not currently considered a formal part of information management, being more transitory, but the system automatically retains previous versions, effectively acting as a web archive system. The city does not currently have a formal information and records management governance committee although there are plans to correct this situation, likely in 2009.

Although traditional records management would not normally be included in the Information Technology Services branch, the city has a strong tradition of solid records management. While this group benefits greatly from a relationship with the technical skills of Information Technology Services, there is a risk that this will inhibit process improvement. Because the function has been delegated to Information Technology Services, groups who generate records will not have the motivation to improve the processes that create them and reduce their associated costs. Whether it would be more beneficial, in alignment with an investment strategy, to put the record keeping function back into the branches, or charge back to the branches so that they remain accountable for costs created, should be investigated.

However, this should only be considered if all branches then holding and managing records are required to comply with the central information and records management policies and standards. The integration of traditional paper records, interim scanned records originating on paper but stored digitally, and full electronic records including web content management, has now become the Holy Grail of the records management community. But success in any large organization is highly dependent on applying common standards and processes, and effective governance.

**Information access**
Related to the larger area of information and records management, it was noted by the task force that the Information Technology Services branch has a principle whereby it will provide access to information only as required for business purposes, for reasons of information security — which today is also a prerequisite of information privacy. While it is vital to secure information that can identify individual citizens or businesses, Information Technology Services should look to promote the use of information across silos and across processes to maximize benefits to citizens and businesses. Using their knowledge of the data collected, Information Technology Services is in a unique position to suggest opportunities for various branches to exploit the wealth of information collected to provide better service and reduce costs.

**Managing the cost of growth**
The Information Technology Services branch has done a credible job of keeping its costs down as the city government grows. As can be seen in the chart below, Information Technology Services has kept its head count relatively static while the number of computer users at the city has grown by over 15%. This is a model for other branches on how to manage growth.

**Technology life cycle management**
Information Technology Services is doing a good job of managing technology through its life cycle, though there are some concerns that the 2004 universal program review cuts left the organization significantly constrained in its ability to keep up with equipment replacement needs, and avoid rust out. Evergreening of such things as personal computers is being

CITY STAFF GROWTH VS. GROWTH IN COMPUTER USERS


City staff (full time equivalents)
Number of computer users
Information Technology Services branch staff (full time equivalents)

done over a five-year period wherever possible. This strikes an excellent balance between managing the cost of upgrading and the cost of maintaining old equipment.

Information Technology Services does not rush to new operating systems like Microsoft Vista which means that it keeps its support costs lower by using proven technologies. Although the task force notes that it may be possible to further decrease the costs of regular desktop refreshes by moving to much greater use of thin client devices on many desktops, given the high quality and capacity of the data network links between the city's major sites. Information Technology Services is currently renewing a group of the older servers, and expects to use the opportunity to also move towards a more consistent technology architecture.

The city continues to follow a program of regular infrastructure upgrades and consolidation so as to grow capacity to meet demand while holding down costs. As is the case in most organizations, storage requirements are the fastest growing demand area, followed by network capacity, and as the use of the city's web services increases, greater capacity is required to support this aspect. New technology approaches such as virtualization are now being introduced in order to allow multiple applications to run on larger machines at lower cost. New asset management and metrics tools are being introduced, as is a specialized operations management software package that will allow infrastructure management staff to more closely monitor and track equipment performance.

**Application portfolio rationalization**
Despite significant efforts to reduce the number during amalgamation, Information Technology Services currently supports between 400 and 500 applications and tools. About 55% of these are commercial software packages, the rest developed in-house. This is an extremely large number for an organization of this size and consumes a significant portion of the Information Technology Services budget, though it's well down from the approximately 1,600 applications at the time of amalgamation. Still, it requires a great breadth of expertise across Information Technology Services, which strains staffing efforts and reduces flexibility in staff deployment.

A concerted effort should be undertaken to reduce this number further, especially in light of investment that will introduce new technologies into the mix. Standardization of things like reporting tools will reduce support and training costs. Elimination of applications that duplicate functions available within SAP or other infrastructure applications will also accomplish this as well as making it easier to analyze data across the entire organization. It will also improve the ability to extend processes onto the web without duplicating them.

Applications that are reaching the end of their useful life or are used by very few users should be targeted for replacement. Information Technology Services should take the lead in recommending alternate solutions and help prepare investment plans for the affected branches. Where such applications cannot be replaced, they should be stabilized and no future enhancements should be undertaken without a very strong business case. These applications should be isolated on servers, which will also be quarantined from operating system and other upgrades, to reduce the likelihood of integration problems and to cut support costs.

To determine which applications and tools should be maintained, a return on investment calculation should be done to determine where the costs of supporting them has increased close to or beyond the value they represent to the city.

The task force believes that Information Technology Services should target reducing application support costs by 10% per year through this process. This saving should be invested in new applications that have a solid business case. This process should be completed within three-to-five years.

**Alternative service delivery**
The task force noted that although there is no express policy of favouring the alternative service delivery or outsourcing of various information technology functions within the city, Information Technology Services has done an effective job of mixing together city staff in many of its functions with contracted support from the private sector where most appropriate. At present, in addition to some of the more obvious functions such as provision of telecommunications capacity being provided through outside contracts, about 20% of other information technology support functions are provided through commercial contract, or outsourced.

For example, internal staff are routinely augmented by professional services specialists from outside the city staff for many of the larger application development projects, including the project planning phase. Similarly, most new equipment purchases now include provision for installation, ongoing maintenance and other trouble shooting support from the supplier, as a part of the purchase contract. Other areas that the task force suggests be considered for outsourcing would be the maintenance of older business applications that, while still needed, are likely to be discontinued or replaced by newer systems, within the next few years. Staff thus freed up can be reassigned to more current requirements.

As an ongoing part of their responsibilities, both Information Technology Services staff and corporate staff routinely consider other opportunities for alternative service delivery arrangements. However, keeping in mind that the city operates in a largely unionized environment, there will also need to be ongoing consultations with unions if the city decides to pursue other possibilities in this regard.

What is important for all parties to keep in mind is that no matter what name is used — contracting out, alternative service delivery or outsourcing — such an approach should be honestly and openly considered on the basis of what best enables Information Technology

Services to provide a high quality service to the other branches and programs of the city, rather than being either artificially constrained due to concerns over job impacts, or artificially promoted due to a predisposition to favour private sector over public sector solutions.

**Conclusion**

The task force stresses that the assessment offered here is based on a series of interviews with the responsible managers within Information Technology Services, as well as with a number of the branch's internal clients from the other branches they support.

The process used was not intended to be an internal audit, nor did the task force have the time nor budget to carry out a formal systems or management review of the Information Technology Services branch and Information Technology Services operations. This would not have been consistent with our mandate, and there are others, such as the city's auditor general, better equipped for such work.

However, the task force does include a number of experienced senior executives in the information and communications technology field who, between them, have considerable practical experience in the management of organizations similar to, and larger than, the Information Technology Services branch.

The comments offered here therefore represent a summary of the task force's assessment of Information Technology Services branch against the professional standards, processes and practices with which various task force members are personally familiar. Overall, it is clear that while there are certainly some areas in which Information Technology Services could still improve on its practices and service management, the city appears to be well served by its centre of expertise and Information Technology Services people.

The largest challenges facing Information Technology Services are therefore not of Information Technology Services own making, but rather the result of the management environment in which it currently operates, combined with limited resources due to the city's overall financial circumstances and governance practices.

## Appendix B:

# Lessons from the Library

The Ottawa Public Library is the most advanced group in the city when it comes to exploiting information technology. It has effectively integrated the internet into its core operations and it has a strong focus on the public. The Library also is responsible for providing public access to the internet via terminals in Library branches. The Library was an amalgamation success story, bringing together organizations and catalogues from the various libraries that united as the Ottawa Public Library. This appendix draws lessons from the experience of this portion of the city administration.

The Library represents 13% of Information Technology Services branch spending, making it one of the branch's biggest customers.

**Mid- and long-term planning**
The task force was not only impressed with the Ottawa Public Library's effective exploitation of technology but also with its business plans. These were, by far, the best plans that the task force saw. There can be no doubt that this focus on planning is a direct contributor to the Library's success at taking advantage of technology. Library staff clearly understand where and how they will use technology and what benefits they expect to achieve by doing so.

**Integrated systems**
Despite the challenges of amalgamation, the Library has come away with an integrated system, called the integrated Library system, which serves not only Library users but also performs the bulk of administrative functions specific to the Library. Thus there is no duplication, which eases maintenance, reduces costs and makes the Library more nimble in implementing programs and integrating other technologies

The Library does not have one set of processes for people accessing it via technology and one set for those being dealt with in person or over the phone. This single-process approach is the most important factor in the Library's success. The internet is considered a virtual branch of the Library.

**Citizen-centric focus**
The Library does an excellent job of understanding its users and building its processes, and the systems that support those processes, around users. It makes extensive use of self-

service capabilities, from catalogue searches via the web to checkout kiosks in branches. It has successfully harnessed the cycle of increasing use by citizens, which allows the Library to deliver more services through technology, which in turn further increases use.

This focus has been hampered somewhat by not being shared throughout the city. For example, the Library has long hours of service covering seven days a week. Other areas of the city, including Information Technology Services, may not be focused on this level of availability. Thus, there have been instances where the Library has been unable to get timely support to problems that have arisen. This is offset somewhat by the relationships that the Library has developed with groups upon whom it relies.

The success of this can be measured in the fact that the Library is consistently rated as having the highest approval rating of all non-emergency services provided by the City of Ottawa

**Technology savvy**
Library staff responsible for planning and implementing projects are very well versed in modern technology. They are familiar with the use of social networking sites like Facebook and quite capable of providing a presence for the Library in these environments. They can easily envision how technology can improve service and cut costs. A good example of this is the email and telephone notification sent to users who have a reserved book waiting or are late returning material.

**Relationship with Information Technology Services branch**
This technical savvy contributes to an excellent relationship between Library and Information Technology Services staff. It is not, however, the sole reason for this. Because Library staff understand the vital role that technology plays, they have made a conscious effort to develop and maintain this relationship. This is quite different from other branches that regard technical aspects as the responsibility of Information Technology Services. The Library sees Information Technology Services as a key partner.

As well as technical skills, Library staff are well trained in project management. This common ground with Information Technology Services staff also contributes significantly to the effective relationship. Both branches have learned to respect and trust the other, which has allowed them to be more effective working together.

Information Technology Services customer relationship staff are colocated with Library staff. This is an exception to normal business practices at the city. It came about more from circumstances — lack of space within Information Technology Services — than from good planning. However, Library staff have taken full advantage of this proximity to build the relationship. Should colocation end, it would be likely that the relationship would be less effective to some degree. Barbara Clubb, the city librarian, attributes much of the success to "colocation and slow rotation."

The two groups have a fairly good division of responsibility. The Library staff focus on the applications specific to their function and the devices installed in their buildings. Information Technology Services staff provide the infrastructure and broader expertise for areas such as servers, networks, security and the like. While it cannot be said that there are no areas of conflict, the relationship is effective enough to resolve any issues quickly and without lasting rancour.

**Governance**
Library management regard themselves as responsible for their implementation of technology and for the success of projects. This is quite different from other groups that regard Information Technology Services as responsible for this area. Thus the Library and

Information Technology Services have common goals and shared responsibility, which leads to less risk in projects and less cost due to poor communication.

It should also be noted that the Library controls much of the budget that is applied to information technology projects. In part this comes from the varied sources of revenue available to the Library. This has the advantage of having the responsibility for costs and the responsibility for obtaining value from that spending in the same hands. However, it does not reduce the dependence on Information Technology Services. Despite having adequate funding, Library projects can still be held up due to a lack of resources in Information Technology Services. This can be the result of decisions made in the prioritization process managed by Information Technology Services. While that process involves staff from various groups in the city, it does not include a representative directly from the Library. Thus, Library staff find their projects delayed without having an understanding of why or without having a feeling of being able to influence the process.

There are service level agreements in place between the Library and Information Technology Services. These, however, are not seen as having any value by Library staff. They see them as something imposed upon them by Information Technology Services without seeing them as aligned with their goals, providing any benefit or being used to manage the business and relationship. As a result, they work around the agreements to achieve their success.

The Library board also provides a layer of governance that is not the case for many city branches. Continuity on this board has allowed for longer-term planning and budgeting despite the city's annual budget focus. It has also provided the Library with a strong voice at council. It is not clear if this is due to the fact that there is a board or due to the specific board members and their continued presence on the board over time.

**Website**
Due more to circumstances of outsourcing rather than predetermined planning, the Library has greater control of its website than most branches. This has given staff the ability to drive a citizen-centric focus and do so in a timely fashion. There is concern that, should the servers supporting the Library website be integrated into the city infrastructure, they would lose this ability and suffer degradation of service and increased time for project implementation.

**Reaping the rewards**
Library staff are clearly aware of the value they receive from employing technology. For example, each checkout machine installed delivers the service that would otherwise require an additional staffer to be hired. This allows staff to be refocused on more value-added functions when dealing with clients. It also allows for better cost management over time.

Plans for future use of technology, including e-payment, not only promise better service but can result directly in improved revenues by making it easy for someone to pay fines.

**Part of the community**
The Library has developed excellent partnerships with other libraries in the National Capital Region. By integrating, but not duplicating, technology, it is possible for Library cardholders to find and obtain material from the federal government, university and college libraries. This has greatly extended the service available to the community without the need for the Library to obtain copies of all these materials and the facilities and staff to manage them.

The Library has also greatly benefited from a strong community of libraries throughout, and beyond, the province of Ontario. Libraries appear to be very good at sharing experiences and

learning from each other. They provide a model of what could be accomplished with similar relationships for other city branches.

**Challenges of shared services**
Where Library staff faces its most serious challenges, with regard to technology, is in keeping up its pace of advancement while trying to avoid duplication within the city. Where staff wish to use a service, such as e-payment, which other city branches should also use, they want to be part of a whole-city solution. However, the Library staff's sense of urgency is often not shared by other branches, which puts them in a situation of either delaying their plans or moving ahead knowing that they are potentially creating unnecessary expense for the city down the road.

Staff management illustrates this problem. The Library has many staff, including volunteers, which must be managed over many buildings throughout the city. The Library wants an automated tool to help expedite this, reducing costs and improving service and employee satisfaction. Such a system exists, called Telestaff, which is used by other groups in the city. However, there has been no decision made on what system will be used for the city as a whole. Thus the Library staff have been told that they can't use Telestaff but they aren't presented with an alternative because staff scheduling has not been deemed enough of a priority to become a funded project. This Catch-22 has left the Library fully prepared to adapt its processes to make improvements but denied the ability to do so.

**Lessons**
The Ottawa Public Library shows that improvements being recommended by the task force are not only possible, but are already being realized by this far-sighted group. It should not be concluded that the other areas of the city are lacking relative to the Library. The Library has a number of advantages, which it has exploited quite successfully, that are not available to other branches. The key lesson is to find a way to provide these advantages to all groups within the city.

In that light, the following lessons can be learned from the operations of the Ottawa Public Library.

- Mid- and long-term planning can be made to pay off with better service and reduced costs and are not incompatible with city priorities.
- Integrated systems allow branches to be more responsive and reduce costs.
- A citizen-centric focus will be rewarded with increased use, increased public satisfaction and an ability to build upon success to provide even more benefits.
- Technical and project management skills embedded within branches can be used to build cooperative relationships with Information Technology Services and improve overall effectiveness.
- Colocation of Information Technology Services relationship managers is extremely beneficial.
- Having the responsibility and accountability for delivering the benefits of technology projects within the branch can lead to excellent results focused on clear returns.
- Service level agreements are of no use if they do not align service functions, such as Information Technology Services, with the objectives of branches.
- Funding need not be concentrated solely within Information Technology Services to deliver effective technology projects.
- Strict controls that do not take into account the need to deliver services, such as using tools like Telestaff or the ability to manage web content, are a threat to effective service.
- Integration with other community organizations can reap benefits for the public without incurring significant costs.
- Relationships with other cities and organizations with similar functions can be leveraged to provide benefits and reduce costs while reducing the likelihood of failure or the need for pilot projects.

## Appendix C:

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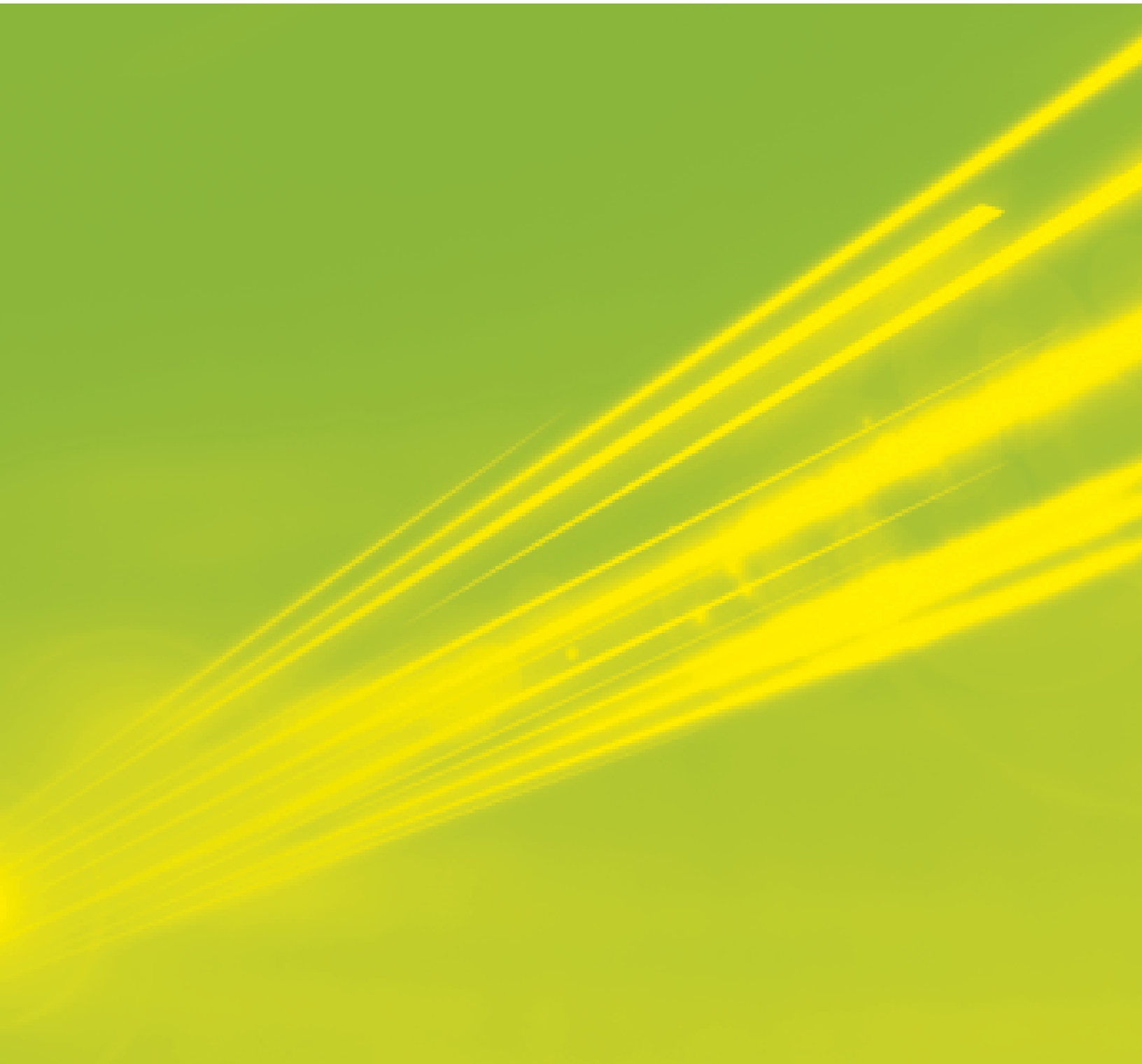


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