

Operational Budget Reviews for Administrative Services Information Technology Services Branch

22 February 2008





IT Services provides secure access to information for City staff and citizens, and ensures that the information technology that departments use every day to deliver City services is reliable, cost effective, and well managed. This is accomplished by providing technology solutions, automating manual business processes, and improving the management of information to make it accessible to City staff and citizens, while protecting privacy and fostering openness.

ITS is responsible for:

- 1. The City's wired and wireless telecommunications and network infrastructure
- 2. Corporate-wide and departmental business systems/applications
- 3. Records and information management across the corporation
- 4. Providing legal survey and mapping services in support of City infrastructure renewal
- 5. Planning, designing, and supporting information/technology strategic direction and risk management



Measuring our performance...

We know we are being successful when...

- The cost to maintain and support the City's distributed computing environment is 30% less than peer organizations
- Our clients have timely and seamless access to information
- Technology is reliable and unobtrusive
- We enable our clients to realize millions of dollars of efficiency savings, productivity improvements, avoided costs, and reduced risk.



Measuring our performance...

Some examples...

- 1. Builder's Portal
- 2. eACR (Ambulance Call Reports)
- 3. "Spotlight" Cultural Calendar on ottawa.ca
- 4. Enterprise, integrated systems such as SAP generate more than \$8m of annual efficiencies

Extensis Portfolio	AVLC - Bulletin Board	CancerCareRel3	Schedule Take One
Extremal URL Redirect for Statistic	cs AVLC - Information Display System	CaseWare Working Papers	SD (Service Desk)
EX(RA! Personal Olient	AVLC - Radio Test System	Cash Operations Database Web A	Applica BOMT Print Program
EZ SPO FOMER MANAGENE	NT_AVLC - Relation Schedule Update M	lodul6atbase Viewer	Secure Cisco VPN 3000 Reports
Facility Allocations Tool	Measuring ou	r nerformanc	Secure NetTerm
Facility Allocations Tool BI Perform	MEASULUIS YU		🐨 🖿 🖫 🖶 curity Control System
Facts and Comparisons Drug Dat		CD Services	Seekpak LIMS
Facts and Comparisons Drug Dat	aba saa(⊠ye	CD-Oasys	Select Phone Canada
Family Index System	BajEye	CD-Oasys	Select Phone Canada
FDM-RMS	BajEye	CD-Oasys	Sentinel Infinity
FDM-RMS	BajEye	CD-ROLL	Sentinel System Driver
FDM-RMS (ODBC Client)	BatteryShop	CENSUS_2006	Service Delivery Model Technology
FDM-RMS (ODBC Client) Benchmarking Public Health		Central District Lib (SERVER Build	ding Astervice Delivery Model Technology [SDM]
FeedPeeder			

FDM-RMS (OD FeedReader FierySpooler File Maker Pro FileMaker Pro FileMaker Pro FILEMAKER F Finance Porta FinePix Viewe Fire Recruitme Fire Re

From amalgamation, the City inherited 1,600+ business applications that needed to be supported, upgraded and managed...

By 2007 this was reduced to 440...

2002.2

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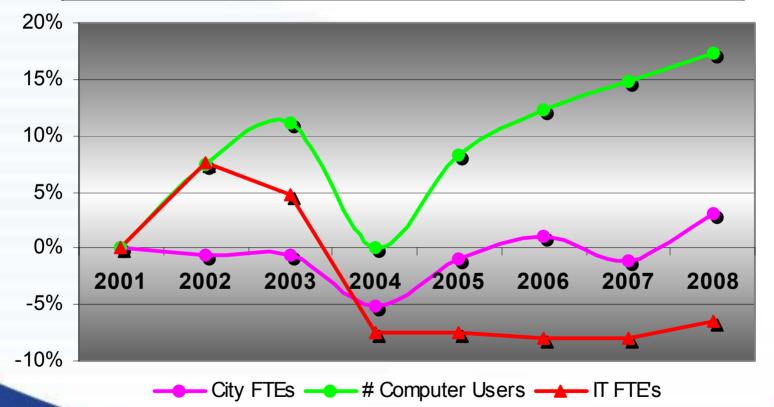
We are working to reduce even more.

FONTS Public Health (PALS) Food Smart Ford 2002 Service Information E-SeriesT GPS Logger Ford 2003 Expedition/Navigator Ford Technical Service Publication System (WEB) City Council & Committee Agendas & Mi8ony Ericsson wireless PO City Council & Committee Agendas & Mi8partan Electrical Chassis Foresight DXM Bugzilla Formatting Solutions PRO Building Division Tracking System - Gloucety Council & Committee Agendas & Mispeed Analysis System BuildingCode City Council Agendas & Minutes Permissoprts Scheduler Foto Source **Bulk Printing System Gity Council Docs Indexer** Spring/Fall Clean the Ca FoxPro - Dos BusStop Shelter Inventory System FoxPro - Windows Citv Forms SPSS FreeVimager CA OpenRoad City of Ottawa Asset Mgmt System (COASMPSS



Branch Staffing; ITS is not growing

ITS	2001	2002	2003	2004	2005	2006	2007	2008
# FTE	394	424	413	362	365	363	363	369



ITS has been able to apply process and technology efficiencies to its own operation – while City FTE's and the number of computers has continued to grow, the number of staff required to support this growth has declined and remained relatively stable since 2004.



ITS Branch: Operating Spending by Activity Type

ITS spends nearly 60% of its operating budget on keeping the City's information technology running and thus keeping City business running The industry range is 60-75%.

Activity	Spending (2007	%
Core IT Operations	\$18,813,300	58.3%
Minor Enhancements	\$4,033,700	12.5%
Major Enhancements & Client Projects	\$ 9,422,800	29.2%
Total:	\$ 32,269,800	100.0%

Our goal is to reduce the cost of IT core operations to enable greater investment in enhancing existing technology and new capabilities, that in turn make other branches of the City more efficient and effective.

> Note: To enable IT industry comparison, this chart/table <u>excludes</u> the IM Division (Records Management/Surveys & Mapping)



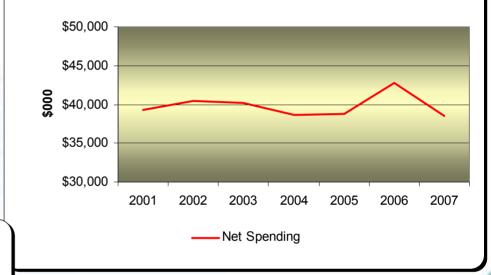
Historical Branch Spending 2001-2008

Operating Expenditures

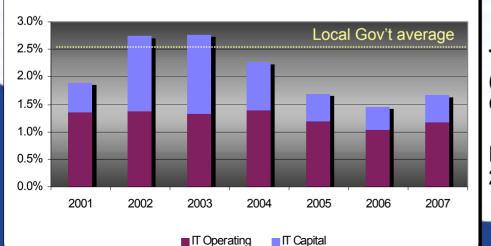
Major Variances:

- Transition (2001-2003)
- Universal Program Review
 & Re-Organization (2004)
- Spending/Hiring Freeze (2005 and 2007)

Information Technology Services Spending (adjusted for inflation)



Total IT Spending (2001-2007) % of City Budget

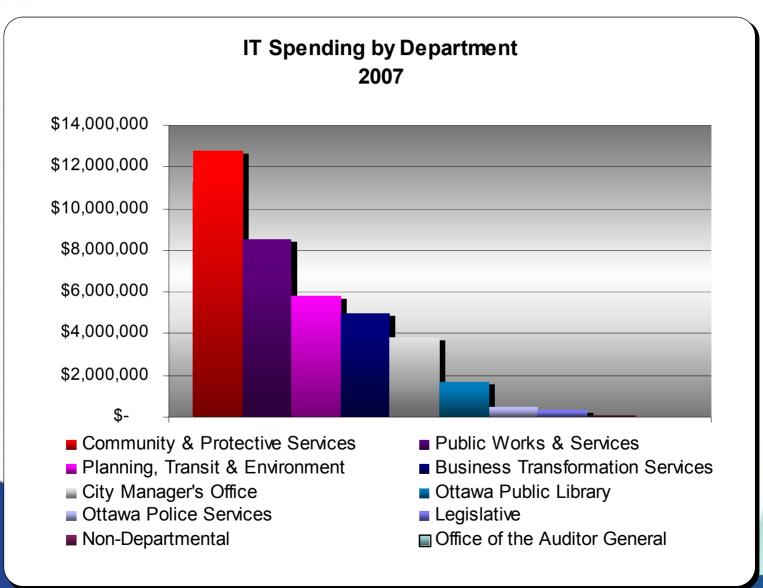


The City's annual investment in IT (operating + capital) as a percent of City budget, has declined since 2001

Local Gov't average (source: Gartner): 2% to 3% of revenue/budget

ITS Branch: Operating Spending by Department

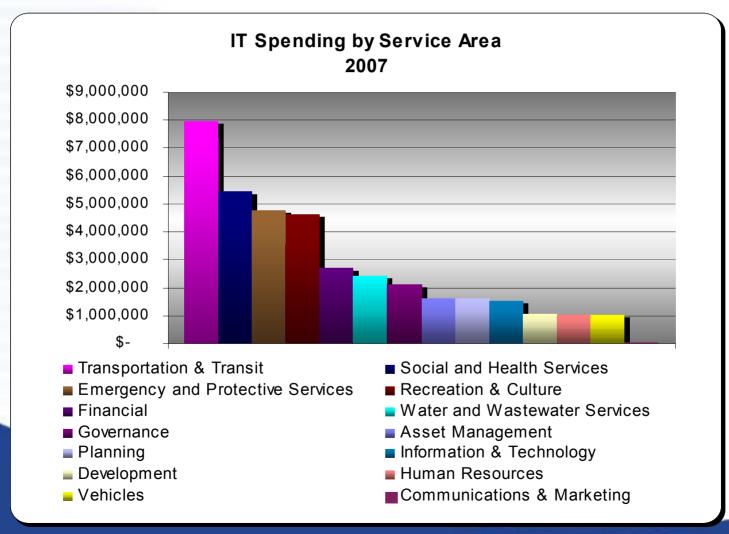
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ITS Branch: Operating Spending by Program/Service

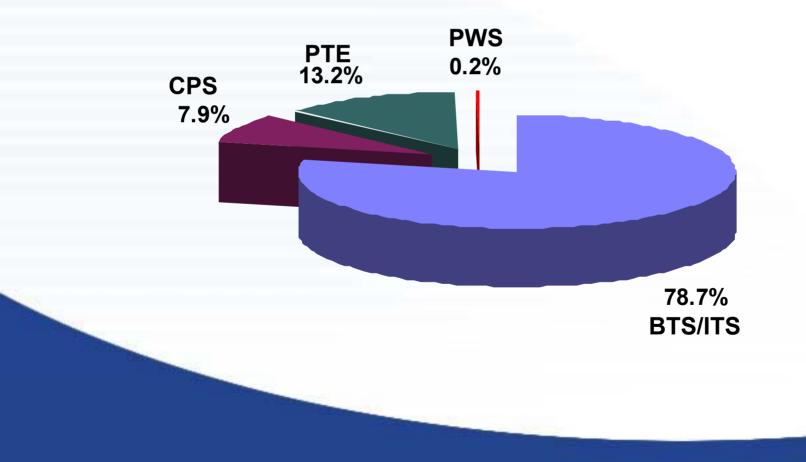
Transit Services is the largest ITS Branch client, using technology extensively to manage transit planning and operations.





ITS Branch: Capital Spending (2001-2007)

Excluding "transition" projects, the majority of capital spending funds expansion, upgrading, and lifecycle replacement of the City's voice and data network infrastructure (e.g., servers, telecommunications, desktop and laptop computers).



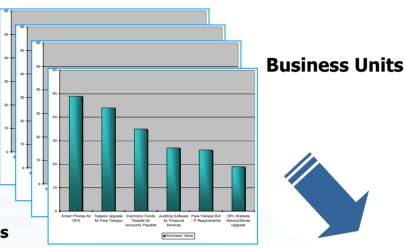


Business Value of IT

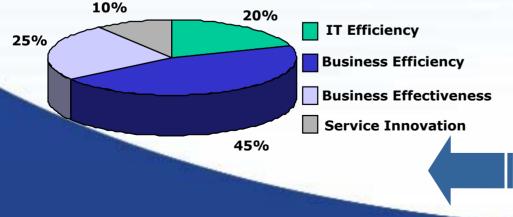
What is the right amount we should be spending and where?

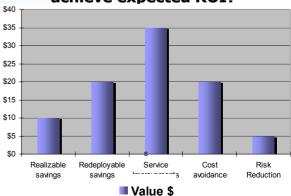


Monitor allocation of IT investment against achievement of specific City strategic objectives Assess IT "spend" against industry benchmarks



Monitor/Report on planned savings, service improvements (i.e., business "value") through project life cycle. Basis for benefit "harvesting". Did we achieve expected ROI?







Business Value of IT

Between 2005 and 2007, 23 client IT project proposals identified....

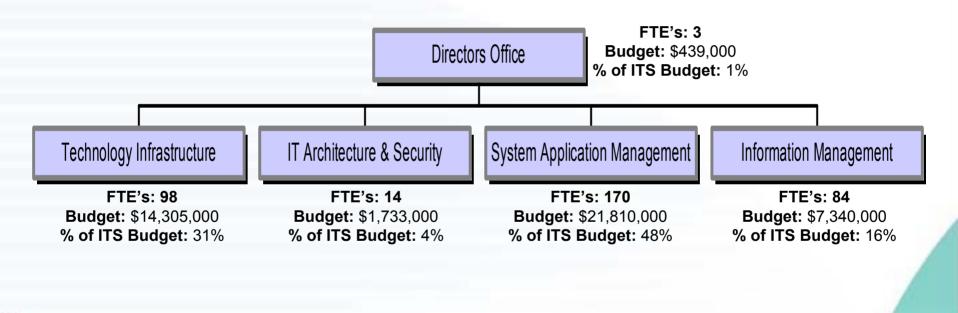
- Realizable Cost Savings of \$2.8m
- Re-deployable Cost Savings of **\$1.6m**
- Avoided **\$0.8m** of future costs
- Additional annual revenues of \$0.1m

Examples:

- Automated Fuel Management System Annual savings \$500K
- Securities Tracking Annual savings \$100K
- Vehicle Stores (Barcoding) Annual savings \$300K

Program Areas – Information Technology Services (ITS)

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2008 Budget as Provisionally Approved

Department: Branch:

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Business Transformation Services Information Technology

Provisionally Approved Operating Resource Requirement

	200	6		2007		2	008
	Actual	Budget	Unaudited Actual	Budget	Actual vs. Budget	Provisionally Approved	Approved vs. Budget
By Program	\$000	\$000	\$000	\$000	\$000	\$000	\$000
Director's Office	372	411	431	428	(3)	439	11
Technology Infrastructure	13,373	13,644	13,803	13,841	38	14,305	464
IT Architecture & Security	1,534	1,745	1,408	1,684	276	1,733	49
System Application Management	20,750	19,778	20,117	20,046	(71)	21,810	1,764
Information Management	6,603	6,975	6,788	7,035	247	7,340	305
Total Expenditures	42,632	42,553	42,547	43,034	487	45,627	2,593
Client Recoveries	(819)	(728)	(1,485)	(835)	650	(885)	(50)
Productivity Improvements	-	-	-	-	-	(520)	(520)
Water & Sewer Cost Allocation	(2,582)	(2,582)	(2,582)	(2,582)	-	(2,637)	(55)
Net Expenditures	39,231	39,243	38,480	39,617	1,137	41,585	1,968
Revenues							
Federal / Provincial	-	-	-	-	-	-	-
City Reserves	-	-	-	-	-	-	-
General/Fees/Charges	(62)	(54)	(52)	(57)	(5)	(58)	(1)
Total Revenues	(62)	(54)	(52)	(57)	(5)	(58)	(1)
Net Requirement	39,169	39,189	38,428	39,560	1,132	41,527	1,967
By Expenditure Type							
Compensation and Benefits	27,921	29,031	29,202	29,404	202	30,864	1,460
Materials and Services	14,586	13,373	13,232	13,480	248	14,610	1,130
Transfers/Grants/Financial Charges	-	-	-	-	-	-	-
Fleet Costs	25	80	-	81	81	84	3
Program Facility Costs	-		-	-	-	-	-
Other Internal Costs	100	69	113	69	(44)	69	-
Total Expenditures	42,632	42,553	42,547	43,034	487	45,627	2,593
Full Time Equivalents	363.00	363.00	363.00	363.00	-	369.00	6.00

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Selected Performance Results

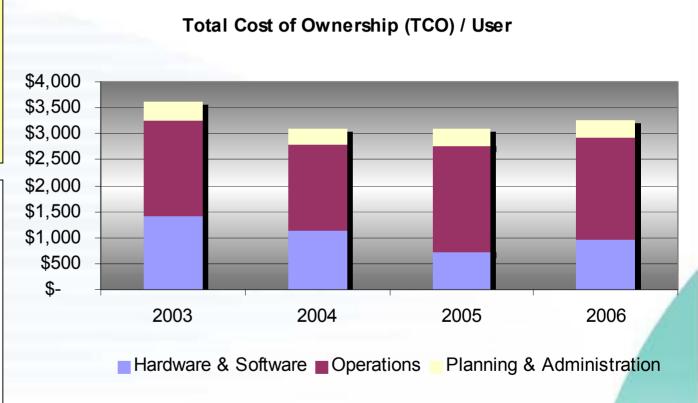


Performance Results

IT delivers our services 30% cheaper than peer organizations

Industry Standard for TCO chart of accounts and IT metrics to facilitate comparisons and clear communication of performance

Cost to maintain and support the Client's desktop computer/laptop, printer, the desktop and business applications that run on it, data centers and local network access.

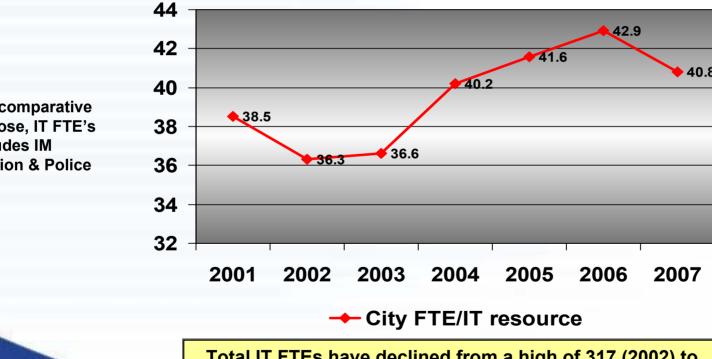




Performance Results

City IT staff support more clients than average

Industry average (Gartner): 20:1 City of Ottawa average: 41:1

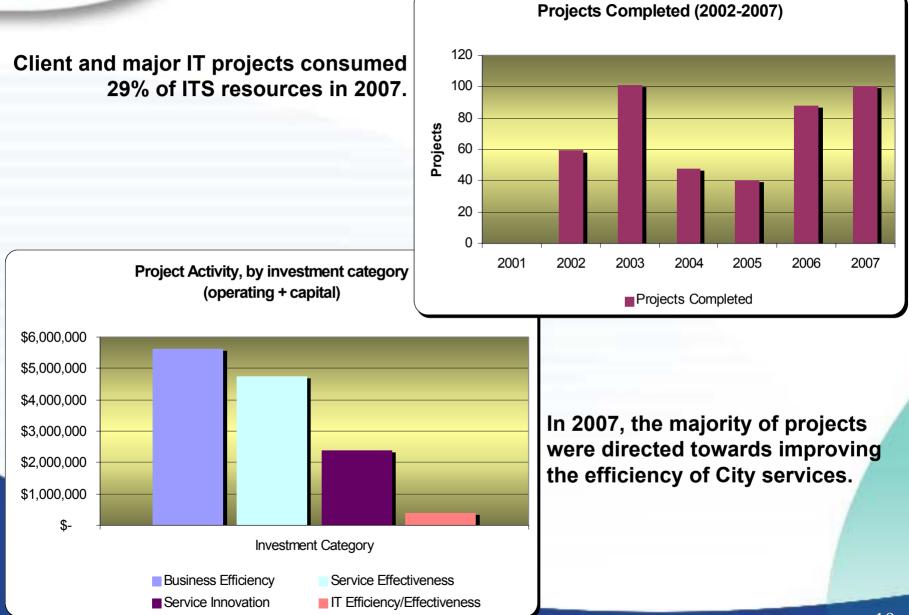


Total IT FTEs have declined from a high of 317 (2002) to current level of 280 (2007) raising the level of City staff supported by each FTE as overall City staff levels increase..

*For comparative purpose, IT FTE's excludes IM **Division & Police**

ITS Branch: Project Spending

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ITS Performance Reporting

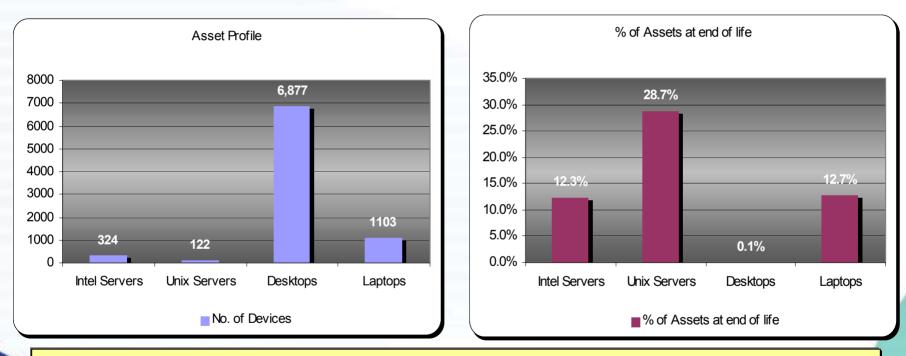
Monthly/Quarterly/Annually

- Benchmarks: OMBI, FIR, TCO, Staffing and Spending– Industry & Municipal comparators,
- Resource Allocations
- Service Levels: Staffing Ratios, Service Desk Call Response
- User Accounts: Network Users, Enterprise Application Users
- Plan Tracking: Operational and Strategic Initiatives
- Technology Penetration: Technology devices/City staff
- Efficiency: Staffing Ratios/User, Spending Ratios/Total City spend
- Security: Virus detection, Spyware, Website hits, Internet activity
- Project management: Dashboard, Business Process/Function/Client
- Business Value of IT: IT technology business initiatives and return on investment
- Best Practices



Infrastructure Lifecycle

Replacing/consolidating servers will be the lifecycle priority for 2008-2010



Our Target: replace assets before reaching "End of Life"

Our desktops are on target (i.e., replaced every 5 years). Other assets are behind target.

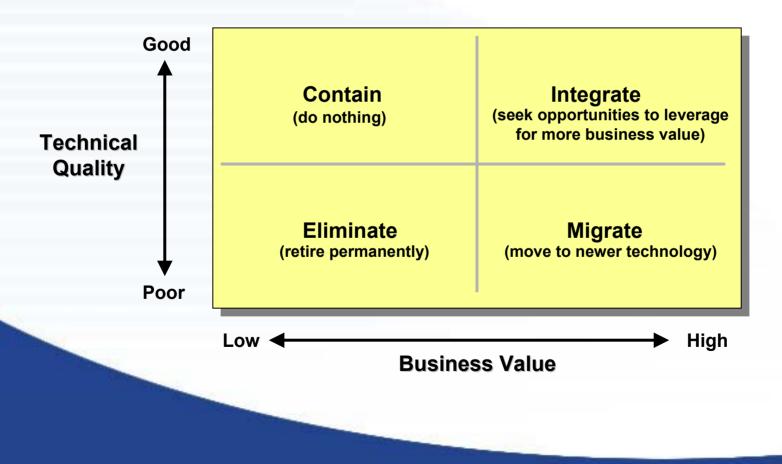
"End of Life" means vendor support is no longer available, or parts are unavailable for repair/maintenance.



Performance Results

Business Applications

Reducing the number of applications that provide little value to the business will result in fewer applications to support, and lower maintenance costs.





Business Value of IT is hard to measure with current model:

Information technology exists to make other branches of the city more effective and more efficient.

Value creation should be measurable; the accountability for such value creation must exist within the branch exploiting the technology.

ITS must be accountable for a proper implementation at the best cost.

Only by understanding these two halves of the ROI (Return on Investment) calculation, can you measure whether money spent by ITS is being effectively and efficiently applied.

Under the current accountability model, it is only possible to compare to other municipalities which is a poor substitute for assessing the performance of the ITS organization.



IT doing good job of identifying and managing value

Within the limitations outlined above, the ITS group is doing an excellent job of ensuring that it is looking for value when it manages the portfolio of projects which the city could implement.

ITS is also applying appropriate standards and judgment to the life cycle management of technology.

This could be improved by stronger involvement of senior city management in the demand that value be identified before a project be considered and the inevitable tradeoffs when reducing a wish list of projects down to a realistic mandate for the city as a whole.



Efficiency Opportunities

What: Existing applications should be reviewed with an eye to rationalizing and reducing the number from the existing 440.

What: Grasp any opportunity to replace custom-built software with off-theshelf software.

Why: By eliminating the need to support technologies which do not create value or to consolidate several applications into one (especially if that one is SAP), resources can be freed up from support tasks to implement new technologies (or expand the use of existing ones) thus creating greater value for the city and the public.

How: Conduct the review with the same ruthless unacceptance of waste and demand for savings that was used for the SAP implementation project which was so well run.



IT Resource Levels and Managing Demand

Based on the information provided, it is not apparent that any staff cuts should be undertaken.

The ITS group is looking at the right areas to reduce resource usages within their area of responsibility.

Reducing resources used to support "lights on" activities is a best practice which is well understood by city ITS management. This has, no doubt, been a key reason why ITS FTEs do not grow in line with overall FTE growth at the city.

It should be possible to shift staffing to the implementation of new technologies from the support of old technologies/applications that should be eliminated.

It is not clear to me the value of having the IM/records function within IT. While this is not my area of expertise, I am concerned with any function which would take the attention of yourself and your staff away from your primary mission of making the city more effective and efficient through the use of technology. This function is just one more user community that would use such technology.

Ottawa

Performance Results

Information Management

The City is "transforming" the way it manages information and business records, moving from a predominantly paper-based system to an electronic one.

Metric	2006	2007
Paper Records (estimate)	66,000,000	75,000,000
Paper Records Managed/FTE	1,269,231	1,442,307
Electronic Records (official business records)	0	70,000
Electronic Records Managed/FTE	0	833.3

City IM staff support more clients than average

Industry average:150:1City of Ottawa average:230:1

A 2005 survey of clients rated records management service as:

"Excellent"	67%
"Good"	26%"



Third Party Challenger Comments: Scott Proctor, on Information Management division

- 1. City of Ottawa IM program is suitable for an organization of its size, while the allocation of financial and human resources to this program is slightly less than is typical. In other words, most organizations of comparable size having a similar definition of a record and a similarly ambitious plan for the support of operational programs, allocate a slightly greater number of people and a slightly larger percentage of the overall budget to their IM Division.
- 2. By adopting a comprehensive definition of its role, the City of Ottawa IM Division is ahead of most comparable IM organizations.
- 3. By implementing a series of self-evaluation techniques (e.g., GoC IM Capacity Check), the City of Ottawa IM Division is ahead of most comparable IM organizations

Third Party Challenger Comments: Scott Proctor, on Information Management division

4. Organizations that do not have sound IM programs expose themselves to risk and productivity loss.

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- 5. The City of Ottawa has indicated its intention to review the offsite storage contract with its current provider. This efficiency is likely available to most organizations that obtain offsite storage services.
- 6. The City of Ottawa organizational chart shows the IM Division reporting in parallel with 3 IT business units to the CIO. This is increasingly typical of other large organizations.
- 7. Relative to similar IM organizations, a 4% provisional budget increase for the coming City of Ottawa year is low.



ITS Savings Opportunities 2008-2010

Target:	2008	2009	2010	Total
ranget.	\$520,000	\$380,000	\$0	\$900,000

Planned Efficiencies:

Description	2008	2009	2010	Total
Re-negotiate data circuit contract with Telecom Ottawa	\$90,000			\$90,000
Re-negotiate business line contract with Bell Canada.	\$100,000			\$100,000
Renew/retire legacy applications	\$100,000			\$100,000
Optimize SAP application releases	\$150,000			\$150,000
Offsite Records Storage	\$50,000			\$50,000
Change connectivity for debit machines from business lines to IP.	\$30,000			\$30,000
VoIP (Voice over Internet Protocol) implementation		\$20,000	\$280,000	\$300,000
Discontinue Legacy Application Maintenance/ Support Agreements			\$80,000	\$80,000
TOTAL	\$520,000	\$20,000	\$360,000	\$880,000



ITS Savings Opportunities 2008-2010

ITS Efficiencies Under Review:

Description	Opportunity
Server Virtualization/Blade Computing	Reduce lifecycle capital expenditures, improve energy efficiency/footprint and server management costs
Data Centre Consolidation	Reduce data centre footprint and associated costs (floor space, heating/cooling, electricity)
Thin Client Computing, Application Streaming, Virtualization	Reduce lifecycle capital expenditures and future management and support costs
Hardware Maintenance contract review	Reduce annual operating costs associated with maintenance and support of network/server hardware
Training Service Delivery via Alternate Service Delivery	Increase productivity and value of training investment (future cost avoidance)
Cell Phone RFP	Reduce annual operating costs associated with cell phone usage
MIKE phone contract review	Reduce annual operating costs associated with MIKE phone usage
Telecom Invoice Assessment	Reduce annual operating costs associated with telephone line charges
Off-Site Records Storage contract review	Reduce annual operating costs associated with off-site storage of official business records
Document Output Device Rationalization	Replace aging printers, faxes, copiers with multi-function printers – reduce maintenance costs
IT Service Management (ITSM)	Improve overall efficiency (and quality) of IT operations



Challenges/Risk factors

- We keep pace with growth and demand by making the most of what we have
- We have to be prudent and balance between maintaining our existing infrastructure and investing in new technology
- We deliver good IT value to the organization as compared with our peers
- We are ready to deliver more value to the City



Q&A LRFP Discussion

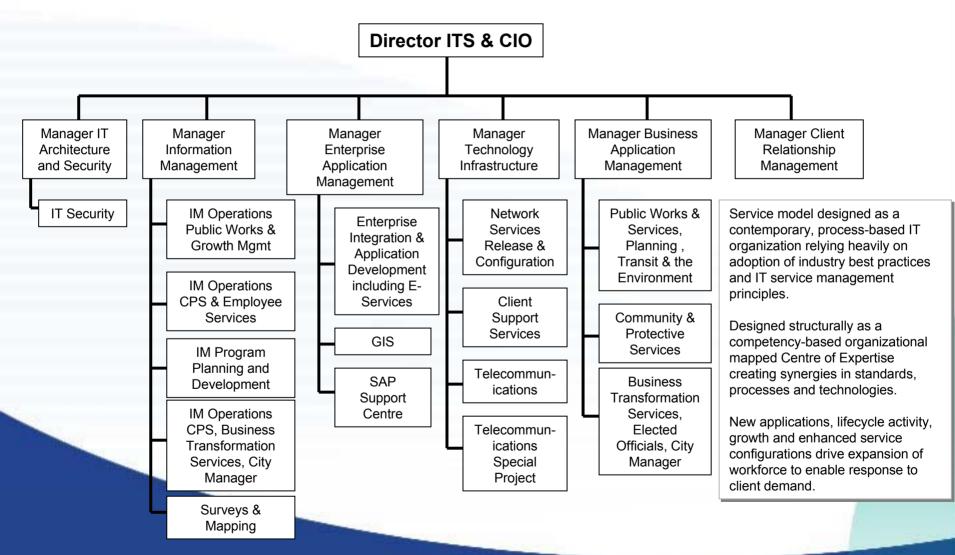


Appendices

- 1. Branch Structure
- 2. Service/Program Area Detail
- 3. Historical Spending
- 4. Best Practices
- 5. Performance Measurement

ITS Branch Organization

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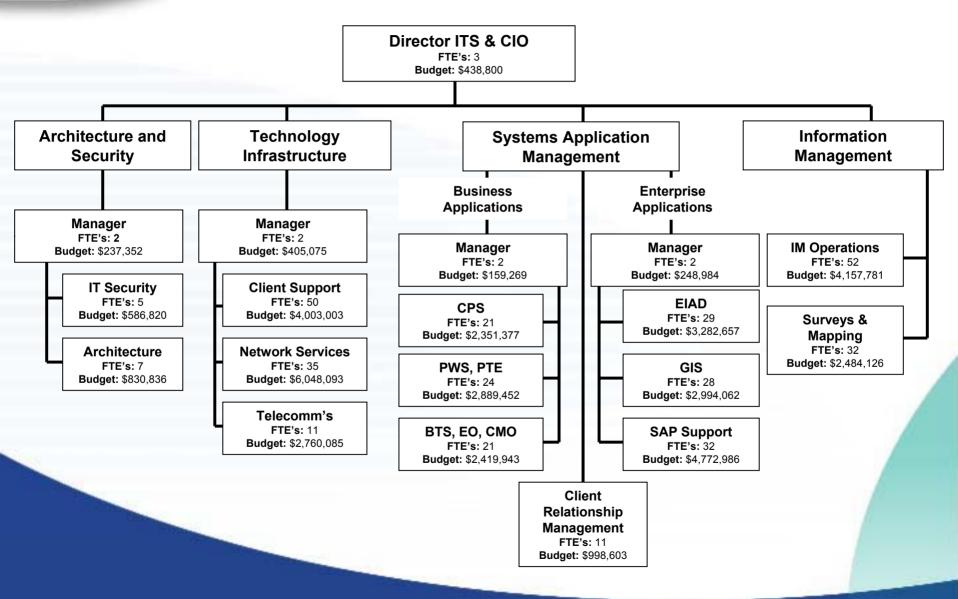




Service/Program Area Detail

Program Areas

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Technology Infrastructure

Description

- Operates, supports and is responsible for the lifecycle management of the City's computer and telephone network including end user devices (desktops, laptops) and associated systems such as voicemail, e-mail and office productivity tools.
- Supports, maintains and operates computer data centers providing centralized services such as batch printing and tape backup
- Provides a single point of contact for the resolution of end user problems and service requests
 related to computer and telephone networks and associated systems such as voicemail, e-mail
 and office productivity tools.

Legislated requirements, if any

• N/A

Council directions, if any

• N/A



IT Architecture & Security

Description

Provides ITS branch strategic and operational planning leadership and support, including

 Enterprise architecture management; IT governance, project prioritization and portfolio management; performance measurement and benchmarking; reporting, monitoring and tracking of project activities and resource efforts; vendor contract and relationship management; and IT policy development and coordination.

Provides IT Security services, including

 Security policy development and compliance; threat and risk assessments for IM/IT projects; business resumption planning and contingency planning; protection, detection and response to breaches of IM/IT security; and forensic investigation and provision of information in support of audits.

Legislated requirements, if any

• N/A

Council directions, if any

N/A



System Application Management

Description

- Corporate-wide application management, involving third-party application integration and support, such as GIS and SAP; in-house application development, integration and support; application training; change management/version control management; E-business; electronic document management; business intelligence/data warehousing; and Intranet/Internet support and administration.
- Department-wide application management, involving third-party application integration and support; in-house application development; integration and management; data and database management; two radio networks; extensive security systems for Transit services; and maintenance of automated transit station systems.
- Client Relationship management services, which involves the business/project intake; service negotiation and monitoring; management consulting; tactical IT priority setting; issue-resolution management and dispute resolution.
- Developing, assessing and delivering computer hardware and software training to end-users.

Legislated requirements, if any

• N/A

Council directions, if any

• *N/A*



Information Management

Description

- Provide policies, procedures and support to ensure effective and efficient management of the City's records with a view to ensure protection of public's rights and City's accountability;
- Provides framework and resources to support management corporate records in all formats throughout their lifecycle to support effective decision-making, protect and enforce legal and other rights and obligations including the right to access and privacy under MFIPPA;
- Provides local record offices, software support and land information (surveys) support to clients corporate-wide through capture, harmonized classification, storage, protection, retrieval and disposition of client records and information holdings (both electronic and physical).
- Provides information analysis and project management support for client's information management requirements
- Provide professional survey advise, consultation and legal surveys information on the definition of legal boundaries to the City, other agencies and public, for acquisition/disposal of real property and for real property rights determinations
- Custodian of survey records, legal documents and title records;

Legislated requirements, if any

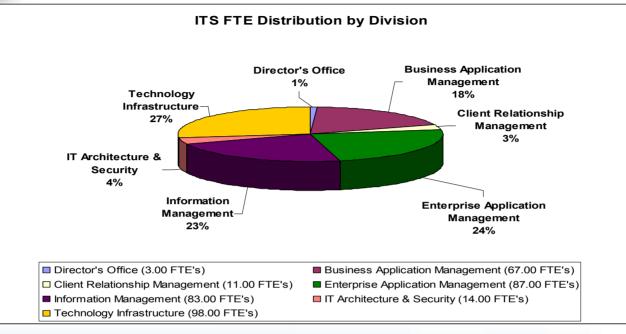
- Operational management of the City's records is governed by over 157 pieces of legislation.
- Corporate management of information is governed by the Municipal Act and the Municipal Freedom of Information and Protection of Privacy Act and Ontario Evidence Act.

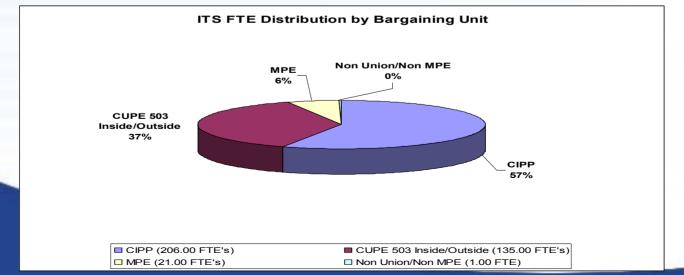
Council directions, if any

 Council approval of Records Retention and Disposition By-law passed each year in accordance with the Municipal Act.

ITS Staffing Distribution 2007

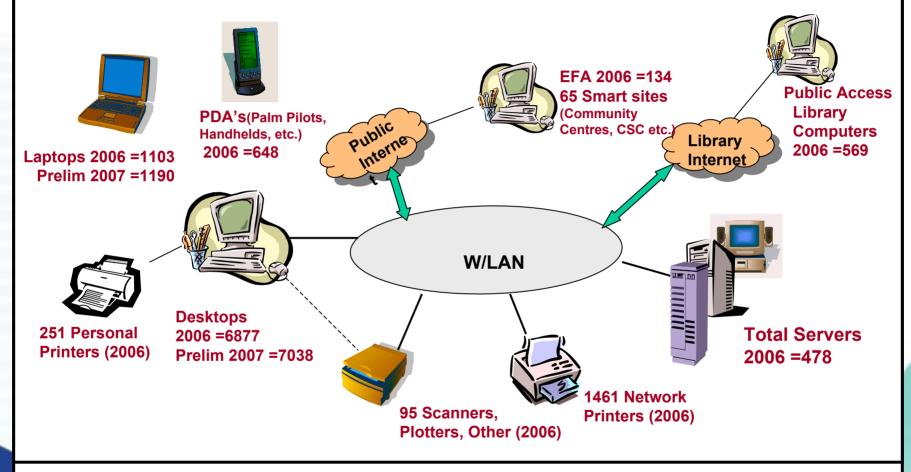
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Client Server Asset Infrastructure

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Network Activity

User accounts: 2006 =9,098, 2007 = 9280 E-mail messages: 2006 =75.4 mil, 2007 = 80.0 mil.



Historical Branch Spending



Historical Branch Spending 2001-2008

Major fluctuations

2001-2003

- Amalgamation projects and related support
- IT Retention Program (ITTRA) implemented to attract/retain IT staff

2004

- Universal Program Review (UPR) resulted in significant reductions in FTE's (54) and associated services, elimination of ITTRA program, staff training and purchased services (\$4,836,000).
- Significant budget pressures (\$2,030,000) were approved, including network infrastructure expansion, data communications, and transit services software.
- Other pressures included hardware/software lifecycle, new maintenance costs for data communication infrastructure, impacts of Provincial downloading on client departments, and increase offsite storage costs for Records.



Historical Branch Spending 2001-2008

2004 (con't)

 Through Branch efficiencies, ITS was able to absorb \$1,114,000 of additional pressures, including telecommunications consolidation, additional off-site storage costs and supplies, some salary harmonization and several unfunded positions, additional increases in licensing and service agreement costs, and inflationary costs associated with procurement of goods and services.

2005

• Hiring and discretionary spending freeze resulted in significant yearend surplus (10%); project spending deferred until 2006.

2007

• Hiring and spending freeze resulted in year end surplus (3%) and deferral of various initiatives, including: VOIP planning & implementation, piloting and planning new technologies, and lifecycle replacement of older, inefficient technologies



Branch Efficiencies History

Year	Amount	Comment on efficiency		
2001-2004	\$2,670,000	Transition Program; ITS realized saving through completion of specific restructuring, consolidation of hardware software, and elimination of duplicate administrative functions.		
2004	\$4,836,000	Universal Program Review reduced FTE by 25 with associated internal service reductions.		
2004	\$800,000	Corporate Reorganization. Consolidation of hardware and software, expanded use of self-serve web reducing call centre staffing. Reduced FTE by 25.		
2005	\$115,200	Budget		
2006	\$638,563	Reduced FTE by 5: Council directed budget cuts.		
Total	\$9,059,763			



ITS Generates Efficiencies that are shared by the Corporation

Description	Opportunity			
Consolidation of records offices.	Reduced storage and space requirements for business records. Estimated savings in floor space and associated costs: \$70,000			
Computer Monitors – changed standard to LCD	Reduced power consumption and heat emissions. Estimated annual savings \$30,000.			
Pager standards and contracts	Reduced operating expenses associated with the use of pagers by City staff. Estimated annual savings \$10,000			
IBS Project (2001-2004)	Generated annual efficiencies of \$8m			
Other IT-enabled client projects (2005- 2007), yielding realizable business efficiencies	Generated \$2.8m in efficiencies (estimated)			
Computer processors – changed standard to dual core	Reduced power consumption.			



Awards & Recognition

Government in Technology (GTEC)

- Showcase Municipality (2001 and 2007)
- Finalist: Distinction Awards eDemocracy Pilot (2005)

Municipal Information Systems Association

- Excellence in Municipal Systems Award 2005 (MAP/GIS)
- Special Recognition 2005: Annual MISA IT Security Conference



Best Practices Peer Review (2006)

- Peer review by Local Industry leaders representing private, public and educational sectors and OCRI President and CEO resulted in 10 best practices that they used in their business
- The City of Ottawa currently 8 of 10, including:
 - Service Management model for IT processes
 - Agile and flexible processes to respond to client needs
 - Total Cost of Ownership
 - Infrastructure and Application rationalization
 - Leverage existing applications/systems
 - Performance measurement and reporting on business value delivered by IT
 - Improve operational processes through ITIL
 - Innovative procurement models
- Areas requiring investigation include
 - Customer satisfaction surveys and report cards
 - **Push technologies for PC &device management**



Performance Measurement Framework

Information Management

Activities	2005	2006	2007	2008	2009	2010
1. Audit (Physical)	Ongoing					
2. Operation/ Project Evaluations	Ongoing					
3. City Comparisons	Start			Ongoing		
4. Customer Survey	Completed					Planned
5. Service Quality		Plan	Completed		Ongoing	
6. ROI Study			Completed		Ongoing	
7. Audit (Electronic)			Plan	Completed	Ongoing	
8. IM Capacity Check (G of C)				Plan	Completed	



IT Performance Measures

New Measures under development

- Network Availability and Utilization
- Service Desk and site support productivity
- Trouble resolution analysis and measurement
- Asset Management
- Customer Satisfaction



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22 February 2008