

Report to / Rapport au:

**OTTAWA POLICE SERVICES BOARD
LA COMMISSION DE SERVICES POLICIERS D'OTTAWA**

25 April 2016 / 25 avril 2016

Submitted by / Soumis par:

Chief of Police, Ottawa Police Service / Chef de police, Service de police d'Ottawa

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**SUBJECT: INFORMATION MANAGEMENT / INFORMATION TECHNOLOGY
(IM/IT) ROADMAP AND IMPLEMENTATION APPROACH**

OBJET:

REPORT RECOMMENDATIONS

That the Ottawa Police Services Board approve:

- 1. The Information Management / Information Technology Roadmap.**
- 2. The selection through request for proposals of a Prime Contractor to implement the Roadmap.**
- 3. The award of a contract to Gartner Consulting to support the implementation of the Roadmap, for an amount not to exceed \$4,450,000 excluding taxes over the period 2016 to 2021.**

RECOMMANDATIONS DU RAPPORT

Version française

BACKGROUND / EXECUTIVE SUMMARY

Information technology (IT) is an essential tool for policing. Properly applied, these tools will help the Ottawa Police Service (OPS) meet the goals set out in its Business Plan

and support the organization-wide transformation work that is proceeding under the Service Initiative (SI) Program, in an efficient and cost effective manner. Enhancing officer safety, reducing the administrative burden on front line personnel – both sworn and civilian - and providing increasingly improved service to the public are also benefits to be achieved.

Information management (IM) is also critical to the success of OPS. Policing in 2016 relies upon complex, often decentralized and rapidly growing amounts of data, both for its operational and business functions. Effective police organizations must manage the timely input, reconciliation and flow of that data to perform critical analysis and even predict the likelihood of certain occurrences. Analytics are becoming the lifeblood of modern policing and are the expected way to deliver timely accurate information to members and meet community service needs.

To this end, an Information Management and Information Technology Roadmap has been developed for OPS to enable service improvements and transform operations by leveraging technology and information. The result will be improved responsiveness and service to the public, enhanced officer safety and a sustainable policing model featuring a reduction to crime and disorder issues, reducing crime related victimization, increasing public safety and the production of crime trends to support predictive policing. The roadmap was developed in conjunction with IBM and consists of over 20 critical initiatives that will introduce new capabilities to OPS in the areas of evidence based decision making, front line mobility, workforce scheduling, asset management, enterprise wide content and information sharing, stakeholder interaction management and more. The comprehensive Roadmap document is on file with the Board's Executive Director.

The Roadmap will yield financial benefits estimated to be \$8.1 million that will be used to offset the majority of operating costs for the new IM/IT environment, estimated to be \$9.8 million. The project will also generate non-financial benefits valued at \$13.6 million. This translates into 250,000 freed-up hours of sworn officer time and 75,000 hours of civilian time. The Roadmap is a \$41.3 million, 6 year project to be funded through a pay-as-you-go program which began in 2015. The City Treasurer is providing advice on how to smooth pay-as-you-go contributions and operating costs for the new IM/IT environment over the coming 6 year period to help with tax rate planning. The RFP process for the Roadmap was developed in conjunction with City of Ottawa procurement staff.

Implementing the Roadmap will enable OPS to boost productivity and leverage technical advances readily available in the marketplace and in use by leading police organizations; and keep OPS on the leading edge of police capabilities. The scope of the Roadmap is ambitious yet vital to meeting the needs of OPS and the community it serves. It is crucial that Ottawa Police Services take a coordinated and centralized approach to the execution of these initiatives to maximize efficiency and value.

Accordingly OPS is seeking an accomplished prime contractor as its partner to undertake the implementation of this project, one who demonstrates the experience and capabilities required to execute the Roadmap. The proponent will be sought through an RFP exercise that will commence immediately with results expected for approval by the Board in September or October.

The OPS is also requesting permission from the Board to retain Gartner Consulting to provide program support for the duration of the Roadmap implementation to help ensure the product being delivered meets expectations. Gartner is an independent information technology research and advisory company with proven experience in supporting the delivery of complex IM/IT projects. They will support our team during selection of the prime contractor, conduct program monitoring and quality assurance and undertake organizational change management as each application is implemented.

The remainder of this report describes the IM/IT Roadmap in more detail, sets out the estimated benefits to be achieved and outlines the approach to funding the 6 year project. The rationale for a general contractor approach to implementation and the need to retain Gartner Consulting for this project is also discussed.

DISCUSSION

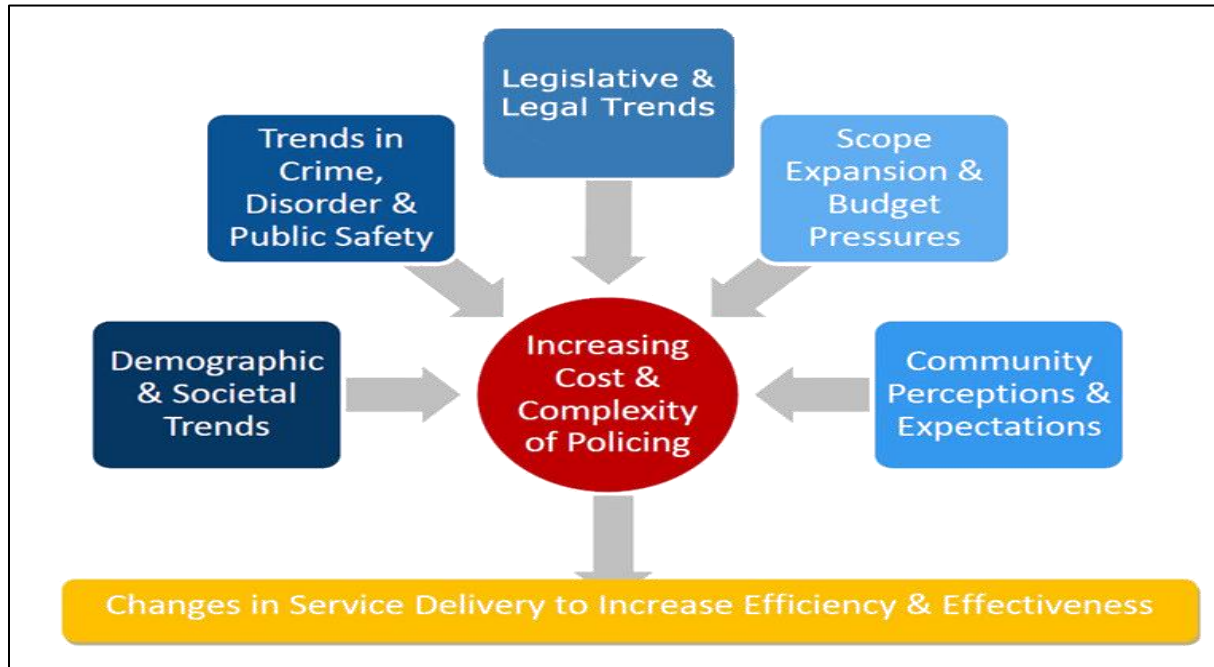
Policing Context

Policing across Canada continues to evolve into a highly sophisticated, resource intensive, and extremely complex profession in a dynamic environment. Various trends and changes have contributed to this environment including growing communities, aging populations, changing demographics, and increases in demands for service. Police services are also being faced with changes in crime types and legislative and regulatory requirements that police services must comply with when investigating these crimes, in addition to an increase in interactions with individuals with mental health issues and the ever-present threat of terrorism. This threat to Canada's national security was recently highlighted by attacks in Montreal and Ottawa in 2014, as well as several thwarted attacks in recent years. (See Figure 1.)

Policing is also facing a data deluge. The volume of data is growing exponentially: 90% of data was created within the last 2 years. Data is more difficult to analyze without advanced tools: 80% of data is now unstructured and comes in the form of e-mails, voice, video and photographs.

Figure 1

Trends and Pressures Influencing Policing



Developing the Strategy

To develop an integrated strategy for the future IBM was retained in Q1 2014. They sized up the organization and found that:

- Information was siloed and dispersed throughout the organization
- Current technology did not support and facilitate accurate data
- IT disaster recovery plan not developed or implemented
- Front line officers not equipped with real time information to enable predictive police
- Enterprise data on work, time management, assets, maintenance, skills was incomplete, missing or not readily available or shared.

IBM reviewed business needs including the OPS Business Plan, the Chief's Operational Priorities, Directorate Operational Plans and the Strategic Initiative. They proposed an IM/IT Roadmap based on four key principles to meet those needs and create the transformative environment needed by OPS:

- Data / information should be captured once and used often
- Transcription and transposition activities should be eliminated / reduced
- Decision support
- Self serve.

The Need for Reinvestment

The last significant investment in the OPS IM/IT environment occurred upon amalgamation in the 1995 to 2000 era when Ottawa-Carleton Regional Police Service (the name for OPS at the time) undertook a significant IT project. With financial support from the Province as part of the amalgamation initiative, a common IT environment was introduced featuring up to date operational tools and systems at a cost of under \$15 million.

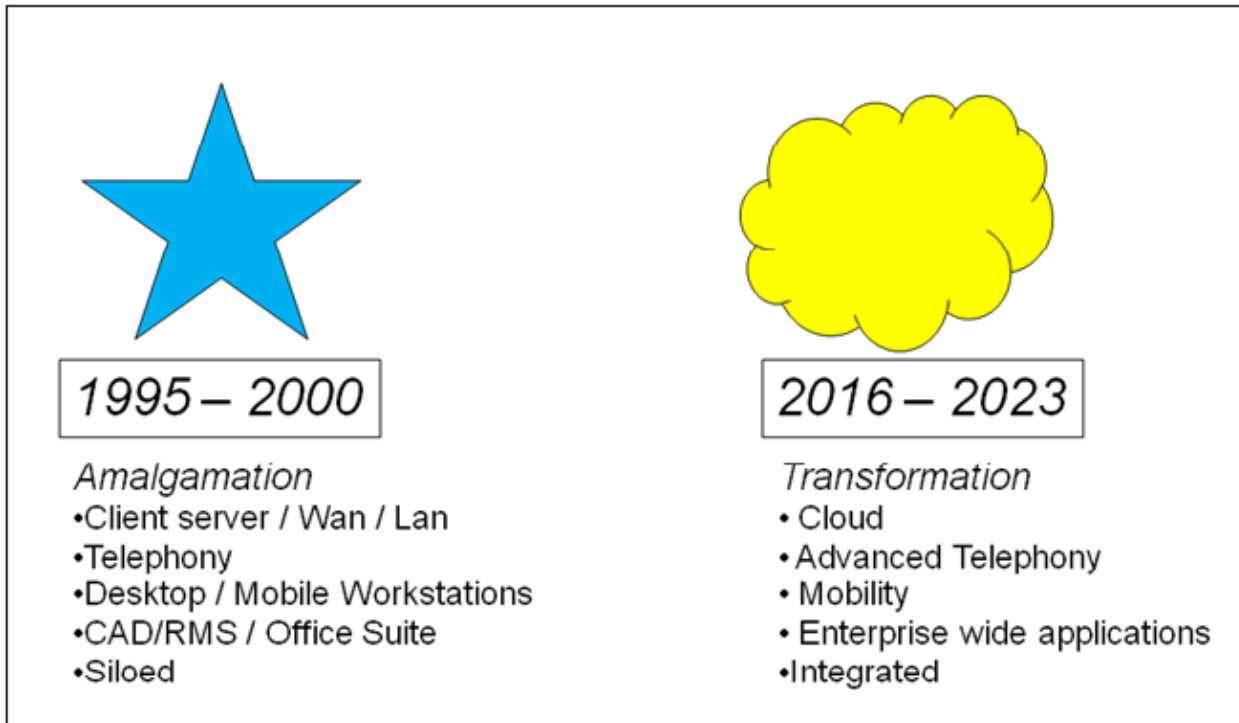
Financial provisions have been built into the OPS operating and capital budgets to ensure that this environment has been ever-greened and refreshed. However it has been 16 years since the last major IT investment and significant advances have occurred that have produced game-changing approaches to how information management and information technology can be used in policing and public safety.

The new environment proposed in the Roadmap will be a significantly different one, estimated to cost \$41.3 million, characterized by integrated data and applications and featuring:

- Cloud services and storage
- Advanced telephony
- Mobility
- Enterprise-wide applications (see Figure 2).

Figure 2

Features of the Old and New IM/IT Environments



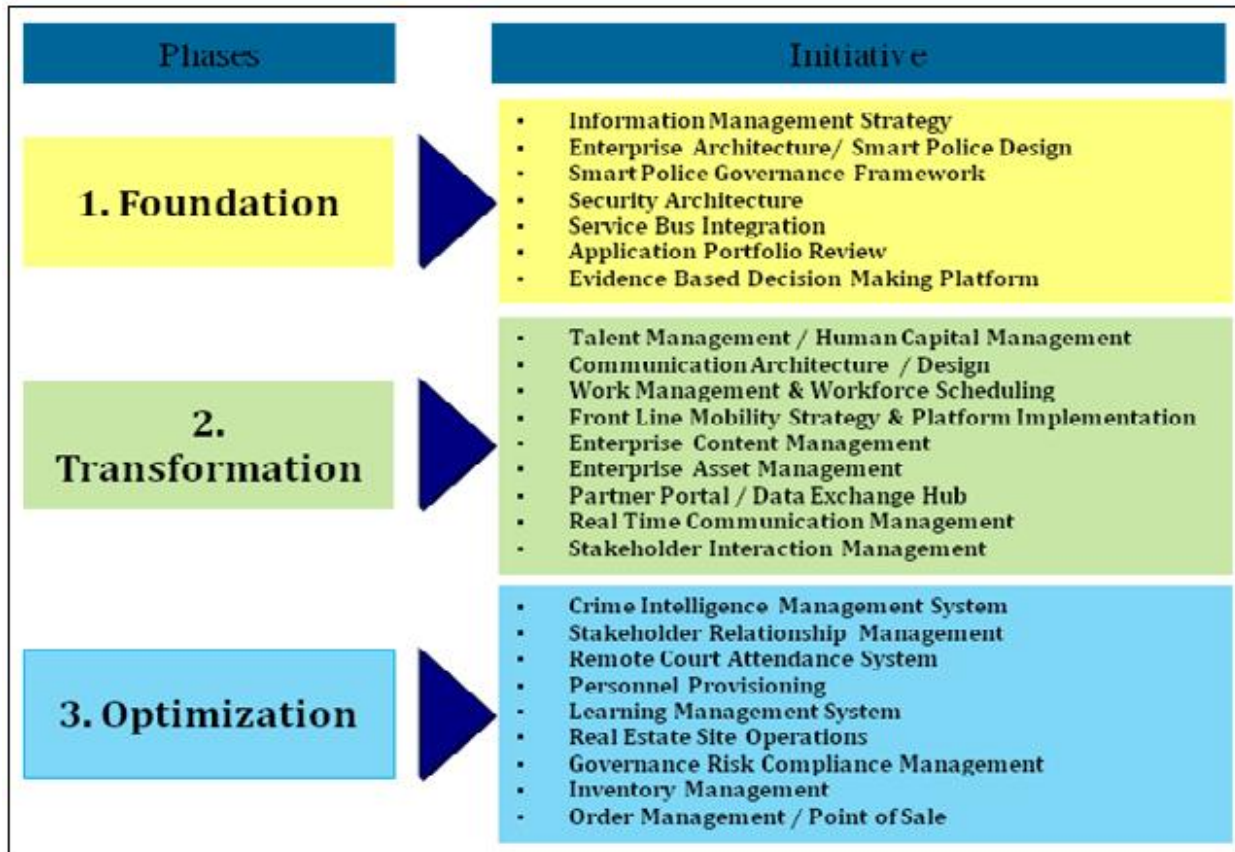
The IM/IT Roadmap

Information Management and Information Technology Roadmap has been developed for OPS to enable service improvements and transform operations by leveraging technology and information. The result will be improved responsiveness and service to the public, enhanced officer safety and a sustainable policing model featuring a reduction to crime and disorder issues, reducing crime related victimization, increasing public safety and the production of crime trends to support predictive policing.

The Roadmap is comprised of 25 elements that together will create the integrated environment needed to support OPS' transformation. They are divided into three groupings – Foundation, Transformation and Optimization – and generally will be implemented in that order over the next 6 years. Some overlap will occur between the phases. (See Figure 3).

Figure 3

The Elements of the IM/IT Roadmap



Ottawa Police Services' execution of the Information Technology roadmap will provide vital, advanced capabilities in the following areas, amongst others:

- Crime intelligence – replacing an aging system in use by the Criminal Investigation Directorate and ensuring that information and insight persist once the old system is retired;
- Evidence based decision making – implementing the technology required to enhance Ottawa Police Services' business intelligence capabilities to support operational performance and police operations;
- Information management – developing a service-wide strategy and the practices that will govern the value, uses, processes and responsibilities for managing information;

- Front line mobility – implementing a mobility solution that provides access to core policing applications to members in the field, facilitating bidirectional information flow;
- Inventory management – implementing a solution to manage, in real-time, space occupied by detainees, evidence and equipment;
- Asset management – implementing a solution for the tracking, managing and maintaining of Ottawa Police Services' equipment, such as cars, radios and Alcotest units, over its lifecycle, from acquisition to disposal;
- Learning management – implementing a solution to manage learning and training based on roles;
- Real estate management – implementing a solution to manage occupancy and support a flexible workspace where the use of facilities is optimized, based on dynamic allocation and hoteling approaches;
- Partner Data Exchange – designing and implementing a solution that supports standard information exchanges between Ottawa Police Services and its partners;
- Workforce scheduling – implementing a solution to manage schedules, shift assignments and timesheet reporting.

These capabilities will enable and support critical transformation efforts at Ottawa Police Services, namely the Service Initiative as well as the Facilities Strategic Plan. In addition, these capabilities will drive efficiencies in service delivery, leading to improved effectiveness and long term cost savings.

Not executing on the Information Technology Roadmap would materially inhibit the Ottawa Police Services' strategic goals. This would significantly reduce agility as well as engender delays and additional costs to Ottawa Police Services, not only because of the lack of integration between initiatives but also because of the need for standalone administrative and procurement activities for each initiative. Not approving the Information Technology Roadmap would cause existing information gaps to persist, limit access to and use of critical data that must be available to meet its mandate and constrain Ottawa Police Services' ability to implement advanced policing capabilities and keep pace with the law enforcement Information Technology curve.

The Information Technology Roadmap will deliver foundational, evolutive and transformational Information Technology initiatives that will contribute to promoting proactive policing, reducing crime rates, enabling information sharing and contributing to increased efficiency.

Prime Contractor

OPS lacks the internal capacity needed to implement a project of this scale, duration and complexity. It requires an experienced partner to procure the elements of the Roadmap and successfully implement them.

A range of partner models were assessed resulting in the recommendation of a Prime Contractor approach. It will help OPS achieve 4 important project objectives:

1. Maximizes the potential for benefit realization for OPS
2. Enables OPS to be at the leading edge of policing solutions
3. Permits the partner to propose operational and / or strategic improvements that result in efficiencies and cost savings
4. Meets evolving business requirements and demands.

The request for proposal process to select the Prime Contractor was developed in conjunction with City procurement. It will commence immediately following Board approval. The results will be presented to the Board in September or October for decision.

Program Support

Staff is recommending that Gartner Consulting be retained to provide program support to OPS during the Roadmap implementation. Their role will be to help ensure we get the products we contract for as valued, and achieve the expected benefits.

They will play a key role in three phases of the Roadmap: vendor selection, program monitoring and quality assurance, and organizational change management. They will also play a role in managing the risks of the project, as describe below. They will remain engaged with OPS for the duration of the Roadmap project.

The cost for their services is \$4,450,000 for a six year period beginning in Q2 2016, not including taxes. Staff is recommending that the contract for program support be sole sourced to Gartner which is a leader in this field, has extensive experience with OPS

and has carried out work of this nature with other police and protective services agencies.

CONSULTATION

The sourcing and procurement strategy for the Information Technology Roadmap was developed in close collaboration with City of Ottawa procurement.

Extensive consultation was conducted within OPS, including the Service Initiative and Facilities Strategic Roadmap stakeholders, Information Technology representatives, Senior Officers and frontline personnel, both for the design of the Roadmap and for its related sourcing strategy.

RISK MANAGEMENT IMPLICATIONS

Risks associated with the Information Technology Roadmap fall in three main categories:

1. Project Risks – risks related to Information Technology projects

These risks the inability to achieve anticipated benefits, schedule delays and budget overruns. Unaddressed, these risks are likely to occur with a potentially medium impact.

The plan is to mitigate such risks by closely monitoring benefits realization related to contract/budget commitment, transparent schedule as well as budget management, and having mechanisms in place to correct issues through proactive plan adjustment or terminating the program quickly to limit unfruitful investments. Furthermore, the program will be contracted incrementally, allowing for additional controls and re-adjustments or calibration as priorities and the business context changes. A risk-reward framework will also be proposed to incent the prime contractor to achieve expected benefits, on budget and on schedule. The IT Roadmap management plan assumes structured, regular involvement from key stakeholders and decision-makers to ensure timely actions to avoid problems and manage risks.

2. Sourcing Risks – risks related to large sourcing initiatives of this type

These risks include misalignment of interests between Ottawa Police Services and the prime contractor as well as the erosion of a competitive environment due to long-term commitments. Unaddressed, these risks have a fairly high likelihood of occurrence, with a potentially low to medium impact.

The risk mitigation approach in this case includes using a risk-reward framework as well as strategically constructed exit clauses. Also, the likelihood of these risks is greatly reduced by taking an approach where the Information Technology Roadmap is divided in manageable bundles, which will be defined, competed and contracted for individually, over time. In addition, the governance model noted in the previous risk area brings effective controls to downstream changes and will be key in mitigating unavoidable uncertainties linked to this sourcing. Lastly, it is important to note that the sourcing strategy and contract approach has been developed in collaboration with City Procurement to ensure alignment with City sourcing practices and standards.

3. Opportunity Risks – missed opportunities related to electing not to execute the Information Technology Roadmap:

One of the main risks in this area consists of decreasing service capability and efficiency, as the analytics capability of Ottawa Police Services will be unable to keep pace with available, growing data and needs. In addition, given that the Information Technology Roadmap initiatives are necessary to the evolution of Ottawa Police Services, not launching a program for the concerted delivery of these initiatives will increase overall timelines, costs and complexities related to contracting, integration and execution of the initiatives. This could delay and jeopardize Ottawa Police Services' business transformation initiatives.

The proposed risk mitigation strategy is to proceed with the execution of the Information Technology Roadmap without delay.

Project failures are rarely single-sided. It will be imperative that both the selected proponent and Ottawa Police Service possess the necessary program and project management skills, deploy the necessary efforts and pay close attention to early warning indicators in order to manage to a positive outcome. The current plan calls for strong governance to oversee the program's execution, providing continuous monitoring and a framework to address issues.

FINANCIAL IMPLICATIONS

Capital Costs and Pay-as-you-go Strategy

The estimated capital cost of the Roadmap is \$41.3 million over 6 years. The “Transformation” applications make up the lion’s share of the project and are expected to cost \$25.8 million. (See Table 1.) These estimates were developed as part of the IBM analysis and have been shown in the year originally forecast for commencement. The project will actually begin late in 2016 and in future updates, when data from the Prime Contractor becomes available, this table will be adjusted accordingly. For budgeting purposes, the \$41.3 million figure will be used to create a capital estimate for the IM/IT Roadmap which will be included in the 2017 draft operating and capital budget,

The capital costs of the Roadmap will be funded primarily by a pay-as-you-go strategy, along with the re-direction of any existing planned IM/IT capital spending. The pay-as-you-go strategy was initiated in the 2015 budget with a start-up contribution at a level of \$1.4 million. It was increased by \$1.8 million in the 2016 budget and now totals \$3.2 million. Future increases of \$1.8 million annually are planned for the 2017 to 2019 period, when it will reach a level of \$8.6 million. This strategy was reviewed with the City Treasurer and will be updated once project costs are known, with the goal of smoothing out the contribution increases.

Table 1

Roadmap Capital Costs and Pay-As-You-Go Funding

(\$ million)

Year	Capital Costs				Pay-As-You-Go Increase
	Foundation	Transformation	Optimization	Total	
2015	4.4			4.4	1.4
2016	4.1	4.6		8.7	1.8
2017		6.8		6.8	1.8
2018		8.8	0.7	9.5	1.8
2019		4.6	4.2	8.8	1.8
2020		1.0	2.1	3.1	-
Total	8.5	25.8	7.0	41.3	8.6

Operating Costs and Benefits

The expanded infrastructure and functionality of the Roadmap will add roughly \$9.8 million of operating costs to the OPS budget. Most of this cost - \$8.1 million - will be offset by financial benefits realized through the implementation of the new tools over the 6 years of the project. The remainder of \$1.7 million will be gradually added to the operating budget over 2016 to 2020. (See Table 2)

The Roadmap is expected to generate two types of benefits: financial benefits of \$8.1 million that can be used to help offset costs and budget pressures, and non-financial benefits of \$13.6 million which can be used to enhance service levels. Financial benefits primarily arise from the introduction of new ways of doing work in civilian areas of OPS which are very labour intensive, resulting in fewer positions. Non-financial benefits are created when new ways of doing work free-up time for both sworn officers and civilians, which can be channelled into new or better service offerings. This translates into 250,000 freed-up hours of sworn officer time and 75,000 hours of civilian time. Table 2 sets out these estimates by year.

Table 2

Roadmap Operating Costs and Benefits

(\$ million)

	Operating Costs	Operating Budget Increase	Financial Benefits	Non-Financial Benefits	
2015					
2016	0.5	0.4	0.1		
2017	3.1	0.8	2.3	3.9	
2018	2.8	0.3	2.5	3.2	
2019	1.4	0.2	1.2	3.4	
2020	2.0	-	2.0	3.1	
Total	9.8	1.7	8.1	13.6	

SUPPORTING DOCUMENTATION

The comprehensive IM/IT Roadmap document is on file with the Board's Executive Director.

CONCLUSION

OPS has developed a comprehensive Information Management/ Information Technology Roadmap that will be acquired and implemented following City of Ottawa procurement guidelines and good practices. This initiative is required to equip Ottawa Police Services with the necessary capabilities to continue to meet the needs of citizens and improve service delivery in an increasingly digital world.