

# TORONTO STAFF REPORT

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July 4, 2005

To: Audit Committee  
From: Auditor General  
Subject: Enterprise Case and Occurrence Processing System (eCOPS) Project Review

Purpose:

This report is in response to the request of the Toronto Police Services Board that the Auditor General conduct a review of an internally developed information technology project called Enterprise Case and Occurrence Processing System (eCOPS).

Financial Implications and Impact Statement:

There are no financial implications resulting from the adoption of this report.

Recommendations:

It is recommended that this report be received for information.

Background:

Background information, in relation to the preparation of this report, is contained in detail in the attached report.

Comments:

The former Chief of Police submitted a report dated September 21, 2004, entitled “Enterprise Case and Occurrence Processing System (eCOPS)” to the Toronto Police Services Board for information. This report acknowledged and identified a wide range of concerns relating to the management of an internally developed information technology project called the Enterprise Case and Occurrence Processing System (eCOPS).

As a result of the Toronto Police Services Board’s review of this report, the Board approved the following motion:

“that the foregoing report be forwarded to the City of Toronto – Audit Committee with a request that a review of this matter be considered by the Auditor General on behalf of the Board and that the review, once completed, be forwarded to the Board for consideration.”

The attached report is in response to the motion of the Toronto Police Services Board.

Conclusions:

The attached report contains a number of recommendations in connection with our review of the Enterprise Case and Occurrence Processing System (eCOPS). In addition, included in the report are recommendations relating to previous audit reports issued. This report was forwarded to the June 13, 2005 Toronto Police Services Board meeting.

This report is being forwarded to the City’s Audit Committee for information.

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Jeffrey Griffiths  
Auditor General

Attachment:

Review of the Enterprise Case and Occurrence Processing System (eCOPS) Project –  
Toronto Police Service, April 2005

# **TORONTO** STAFF REPORT

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April 29, 2005

To: Toronto Police Services Board  
From: Auditor General  
Subject: Enterprise Case and Occurrence Processing System (eCOPS) Project Review

Purpose:

This report is in response to the request of the Toronto Police Services Board that the Auditor General conduct a review of an internally developed information technology project called Enterprise Case and Occurrence Processing System (eCOPS).

Financial Implications and Impact Statement:

There are no financial implications resulting from the adoption of this report.

Recommendations:

It is recommended that:

- (1) the recommendations in the attached report be considered by the Toronto Police Services Board;
- (2) the Chief of Police be requested to respond to the Toronto Police Services Board in regard to the implementation of the recommendations; and
- (3) this report be forwarded to the City's Audit Committee for information.

Background:

Background information, in relation to the preparation of this report, is contained in detail in the attached report.

Comments:

The former Chief of Police submitted a report dated September 21, 2004, entitled “Enterprise Case and Occurrence Processing System (eCOPS)” to the Toronto Police Services Board for information. This report acknowledged and identified a wide range of concerns relating to the management of an internally developed information technology project called the Enterprise Case and Occurrence Processing System (eCOPS).

As a result of the Toronto Police Services Board’s review of this report, the Board approved the following motion:

“that the foregoing report be forwarded to the City of Toronto – Audit Committee with a request that a review of this matter be considered by the Auditor General on behalf of the Board and that the review, once completed, be forwarded to the Board for consideration.”

The attached report is in response to the motion of the Toronto Police Services Board.

Conclusions:

The attached report contains a number of recommendations in connection with our review of the Enterprise Case and Occurrence Processing System (eCOPS). In addition, included in the report are recommendations relating to previous audit reports issued. These recommendations, if approved by the Toronto Police Services Board, should be implemented as soon as possible.

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Jeffrey Griffiths  
Auditor General

Attachment:

Review of the Enterprise Case and Occurrence Processing System (eCOPS) Project –  
Toronto Police Service, April 2005

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**Review of the Enterprise Case and Occurrence Processing  
System (eCOPS) Project – Toronto Police Service**

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**April, 2005**

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 **TORONTO** Auditor General

# **Review of the Enterprise Case and Occurrence Processing System (eCOPS) Project – Toronto Police Service**

**Jeffrey Griffiths, C.A., C.F.E.**  
Auditor General  
City of Toronto

**April, 2005**

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## **EXECUTIVE SUMMARY**

The former Chief of Police submitted a report dated September 21, 2004, entitled “Enterprise Case and Occurrence Processing System (eCOPS)” to the Toronto Police Services Board for information. This report acknowledged and identified a wide range of concerns relating to the management of an internally developed information technology project called the Enterprise Case and Occurrence Processing System (eCOPS).

As a result of the Toronto Police Services Board’s review of this report, the Board approved the following motion:

“that the foregoing report be forwarded to the City of Toronto – Audit Committee with a request that a review of this matter be considered by the Auditor General on behalf of the Board and that the review, once completed, be forwarded to the Board for consideration.”

This report is in response to the motion of the Toronto Police Services Board and provides the Board with the following information:

- the origin of the eCOPS project;
- the extent of information examined by the Auditor General’s Office in conducting this review;
- our objective in conducting this review; and
- our conclusions and recommendations.

In particular, the report is further structured to answer the following questions:

- What was the original budget of the eCOPS project?
- What deliverables were promised for this budget?
- What are the actual costs of the eCOPS project?
- What has been delivered for these costs?
- Have the benefits originally quantified been realized?

The conclusion reached in our report in response to these questions, very clearly indicate that the costs incurred on eCOPS are significantly in excess of the approved budget. The original capital budget approved by the Toronto Police Services Board was \$8.8 million. The actual costs incurred are in the range of \$18.5 million. Furthermore, it is apparent that the deliverables originally contemplated in the original business case have not been realized. Consequently, and in this context, the report further addresses the following questions:

- Was the original budget and the identified financial benefits appropriate?
- Why were the costs in excess of budget?
- Were these overexpenditures approved?
- At what point was the Toronto Police Services Board advised of these overexpenditures?
- Was the reporting to the Toronto Police Services Board accurate, timely and complete?
- Were consultants hired in accordance with policies and procedures?
- Did the Toronto Police Service receive value for money in connection with the service provided by the consultants?
- Did the Toronto Police Service follow previous audit recommendations in regard to the selection and hiring of consultants?
- Did the Toronto Police Service follow previous audit recommendations in regard to certain other audit reports?

This report concludes that the eCOPS project lacked an appropriate degree of management oversight. Consultants hired to manage the project were not held accountable for specific deliverables and the project was poorly managed.

The September 21, 2004, report from the Chief of Police contains information similar to the conclusions reached in this report. This current report is a more complete analysis of the issues previously identified and contains information not previously reported.

The objective of the eCOPS project was simply to:

- reduce the number of times information relating to occurrences is input into various systems;
- provide data input at source for police officers; and
- combine all data sources related to occurrences into a single database accessible to all police officers.

The initial budget of \$8.8 million was predicated on the purchase of an off-the-shelf system. It was subsequently determined by staff that an off-the-shelf system would not meet the objectives of the Toronto Police Service. At that point, it was decided that eCOPS should be developed internally. The budget for an internally developed system was not re-evaluated and as a result, no changes to the \$8.8 million budget were made.

eCOPS was an extremely complex information technology project. The development of the majority of other information technology projects at the Toronto Police Service, particularly those which are administrative in nature, have a relatively limited impact. eCOPS, on the other hand, impacts the majority of police officers in the Toronto Police Service and is fundamental to the efficient operation of the Service.

The complexity of the eCOPS project was not recognized by senior management, as well as those involved in the day-to-day management of the project. A number of consultants were managing the project with little direction or supervision by Toronto Police Service staff. In addition, there was limited consulting continuity at the project management level during the development of eCOPS. Three different consultants were responsible for the management of the project during its implementation.

The consultants hired to manage and implement the project were directed on a day-to-day basis by a police officer who had little information technology background. While we recognize the need for user involvement in major technology projects, the appointment of a police officer in such a senior position on the project, was in our view, inappropriate. Police officers should not be assigned responsibility for complex information technology projects for which they have little training or background. In addition, the former Director of Information Technology was not involved on this project to any great extent and as a result, the supervision on the project by someone who had significant information technology expertise was minimal.

The Chief Administrative Officer, as project sponsor, was ultimately responsible for ensuring the successful development of eCOPS within budgetary approvals and within specifically defined deadlines. We have been advised that the reporting to the Chief Administrative Officer of the costs of the project, as well as ongoing progress on the project were inaccurate and, in some cases, misleading. This same information was subsequently provided to the former Chief of Police.

The Chief Administrative Officer expressed concerns in relation to the progress of the project as early as 2001, and as a result, hired an independent external consultant to conduct a “readiness assessment” of eCOPS. While this assessment provided a certain level of assurance that eCOPS was still a viable product from a technology perspective, it did not specifically address the overall management of the project.

The former Chief of Police previously acknowledged many of the issues identified in this report and had taken steps to ensure that concerns identified do not reoccur. In this context, the former Chief of Police:

- initiated an Information Technology Governance Implementation project to review all Information Technology governance issues;

- established an Information Technology Steering Committee to be co-chaired by the Chief Administrative Officer and one of the Deputy Chiefs. This Committee will include all Deputies and meet quarterly to review and prioritize information technology projects;
- hired a new Director of Information Technology Services;
- commenced the hiring process for a Project Management position whose major responsibility will be to establish a project management framework and ensure that all projects are managed in compliance with this framework;
- directed that all previous audit recommendations be implemented immediately; and
- established an infrastructure to include user involvement in the design, development and testing of all information technology systems.

### **Key Themes and Observations**

We have summarized the key themes and observations identified as a result of our review as follows:

- Project Management
- Analysis and Documentation
- Project Budget and Costs
- Financial Benefits / Savings
- Use of Consultants
- Previous Audit Recommendations
- Reporting to the Toronto Police Services Board
- Views of Front-line Police Officers

## **Project Management**

- as indicated previously, the Chief Administrative Officer is directly responsible for the Information Technology Services Unit, and as such, is accountable for the use of funds allocated to the eCOPS project and ensuring that the project team is delivering the specified system in accordance with the schedule agreed;
- the eCOPS project was extremely complex and ambitious. The Toronto Police Service did not exercise an appropriate level of oversight and staff did not possess the technical experience and competence to manage such a project. There was no effective structured management oversight function in place to evaluate the progress of the project, both from a technical perspective as well as from a budgetary perspective. Information provided to senior management was inaccurate in terms of budget, timelines and deliverables;
- senior staff responsible for the day-to-day management of the eCOPS project did not have an appropriate level of skill or experience to manage such a complex technology project. Project Director responsibilities were assigned to a police officer who had neither the technical ability, expertise or experience in managing such a difficult and complex project. Information technology professionals including external consultants were required to report to this officer. In addition, the former Director of Information Technology had minimal involvement in the management of the project.

## **Analysis and Documentation**

- detailed business cases at the outset were incomplete, inaccurate and were based on assumptions, which were not validated. Business cases appeared to be based on a methodology, which is best defined as “guess work and best estimates”;

- the change in direction in regard to the purchase of an off-the-shelf product to one which was developed in-house was contemplated with little regard to the significant financial risks and human resource commitment involved in such an undertaking. We have not been able to locate any documentation supporting or validating the change in direction;
- documentation, including detailed business cases supporting many of the decisions relating to the development of eCOPS was not prepared or is not available. No analysis was conducted to determine whether the existing capital budget developed on the basis of an off-the-shelf acquisition was adequate to build and implement the eCOPS system.

### **Project Budget and Costs**

- the total cost of the eCOPS project is in the range of \$18.5 million. These costs are in excess of the approved budget of \$8.8 million by \$9.7 million or 110 percent;
- the budget of \$8.8 million relating to the development of an in-house product was the same as the budget developed a number of years earlier for an off-the-shelf product. The budget for the in-house development was not validated, reviewed, analysed or revised. It became apparent fairly early on during the implementation of the project that this budget was inadequate;
- while the original capital budget of the eCOPS project was approved by the Toronto Police Services Board, the costs charged to the Toronto Police Service's operating budget were not. The capital budget of \$8.8 million was fully expended by December 31, 2002. All costs subsequent to that time were funded by the operating budget. The Toronto Police Services Board were advised of specific individual consulting expenses and commitments but at no time was there a reporting as to what the operating portion of the eCOPS budget was;

- the total cost to develop the eCOPS project did not include internal staff time. It has been recommended in previous audit reports, at both the City of Toronto and the Toronto Police Service, that all information technology projects should specifically account for staff time. No records were kept by the Toronto Police Service in regard to staff time, so consequently, it is not possible to determine the extent of such time expended on this project. Consequently, if one were to include staff time in relation to the eCOPS project, the total costs of the project would be in excess of \$18.5 million;
- expenditures were inappropriately charged to various liability accounts. These liability accounts were clearly overstated in the accounting records and as such, should have been reversed and accounted for as income for the Toronto Police Service and not used to finance eCOPS expenditures.

### **Financial Benefits / Savings**

- original financial benefits projected from the implementation of eCOPS was a reduction of 150 staff and a corresponding reduction in salary expenses of \$5.25 million (net of estimated annual maintenance costs of \$1.25 million). In May 1999, the projected savings was reduced to 139 staff and \$4.8 million in savings. In November 2002, the projected savings were further reduced to 100 staff and a savings of \$4 million anticipated to be realized in 2004. In 2004, it has been further reported that savings as of December 31, 2004, will be a reduction of staff of 70 and a savings of \$4.1 million;
- the reporting to the Toronto Police Services Board in relation to the savings generated by the staff reductions are misleading. It was reported that “although eCOPS will be able to deliver approximately one half of the anticipated staff reductions, the projected annualized savings has not decreased in relative amount.” It is clear that this statement is less than accurate as it is not possible to generate a similar level of savings with such a significant change in staff reductions. In actual fact, the comparison of savings reported to the Board is based on a comparison of 1999 dollars with savings generated in year



2004 dollars. On a comparative basis, and using 1999 as a base, savings would be in the range of \$2.45 million, which is less than half the amount originally projected;

- the project deliverables contemplated in the original budget of \$8.8 million were not realized. The case management component of the original business case has not been completed. Toronto Police Service staff estimate that additional costs are likely in the range of \$1.5 million. Consequently, the deliverables contained in the original business case of \$8.8 million will likely cost somewhere in the range of \$20 million;
- the eCOPS project was first contemplated in 1996. Most components in the original business case have since been implemented as of the end of 2004, eight years later. While an evaluation and assessment of the eCOPS technology was not a part of this review, an eight-year time frame from inception to completion seems inappropriate, particularly, in the context of how quickly technology becomes obsolete.

### **Use of Consultants**

- consultants were hired from a pre-approved vendors list. Consultants were not held accountable in terms of project deliverables. Specific project deliverables were not defined in sufficient detail to permit the effective management of consulting contracts. In these circumstances, it was not possible to determine whether project objectives were met or if value for money was received;
- we have not been able to locate any performance evaluations relating to the work conducted by the consultants. It appears as if these evaluations were not prepared;
- consultants are hired for skill sets generally not available in-house. Consultants should possess the necessary expertise to develop projects for which they were hired. The Toronto Police Service paid for the attendance of a number of consultants to a training / development course. In addition, these consultants also billed the Toronto Police Service for the hours during which they attended the training course.

## **Previous Audit Recommendations**

- as acknowledged by the former Chief of Police, many recommendations relating to previous audit reports were not addressed. The former Chief of Police was previously advised that recommendations had been implemented. There was no process in place to validate the implementation of audit recommendations.

## **Reporting to the Toronto Police Services Board**

- the Toronto Police Services Board was not provided with complete and accurate information. The former Chief of Police, in his report to the Toronto Police Services Board, dated September 21, 2004, indicated that “it is apparent today that some of the assertions made by the project manager to command – and subsequently reported to the Toronto Police Services Board – oversold the project progress and projected costs to complete the project were underestimated.” For example, in December 2003, in a report to the Toronto Police Services Board, dated November 28, 2003, it was reported that “the total capital and operating budget funds provided for the eCOPS project is \$14.3 million to the end of the project in 2004.” The only specific budget approved by the Toronto Police Services Board that we have been able to locate is the original budget of \$8.8 million;
- in the report to the Toronto Police Services Board, dated September 21, 2004, it was indicated that “quarterly reports to the Board on the future progress of the eCOPS project is appropriate.” However, since September 2004, no further reporting to the Toronto Police Services Board has been made.

## **Views of Front-line Police Officers**

- as part of this review, we requested 175 front-line officers from Divisions 31, 33 and 42 to complete a survey questionnaire concerning the application of eCOPS. The survey results (Appendix 7) indicated a general level satisfaction with the unified search portion of eCOPS by front-line police officers but clearly indicate a lack of confidence in the processing of occurrences. We have collated all the results from this survey including specific comments made by front-line officers and have forwarded these summaries to the Chief of Police for his evaluation and follow-up.

Further details relating to each of the above are contained in the body of the report.

## **Conclusion**

Developing and implementing a major technology project such as eCOPS carried considerable financial risk and potential human resource commitments. These risks were not considered during the planning stages of eCOPS and as such, the many issues which occurred during the implementation process were not anticipated. Such issues were generally not addressed until significant overexpenditures occurred and deadlines had not been met.

We have discussed the issue of internally developed information technology projects with the Executive Director of Information Technology at the City. For a number of years the City has an informal policy of, wherever possible, purchasing commercial off-the-shelf software. The development of major projects in-house is an avenue which the City has avoided, mainly because of the significant financial and potential longer-term risks inherent in such an endeavour.

eCOPS, while specific to the operation of the Toronto Police Service, was developed in isolation from any input or advice which may have been available at the City. There was little communication during the development of eCOPS between the City and the Toronto Police Service. In addition, there has been little coordination or integration with other police services, even though a number of Ontario police services, such as London and Ottawa, have in fact purchased off-the-shelf eCOPS-type technology.

Many of the concerns contained in this report could have been avoided if previous audit recommendations had been implemented. The former Chief of Police in his September 2004 report acknowledges that “the City Auditor (now the Auditor General) made recommendations as a result of his review of this ITS Unit. Information was provided indicating that many of the recommendations were implemented with others pending further review. However, I now know that some of the information was given to me is inaccurate”. In addition, a further audit report was issued by the Auditor General in June 2001, entitled, “Selection and Hiring of Professional and Consulting Service Review.” It is also apparent that many of the recommendations contained in this report were also not addressed.

This report contains a number of recommendations resulting from this review which are attached as Appendix 1 (“Recommendations Resulting From the Review of the Enterprise Case and Occurrence Processing System (eCOPS) Project”, dated April 2005). In addition, the recommendations contained in previous audit reports, entitled “Information Technology Services Unit Review – Toronto Police Service” dated December 2002 (Appendix 2) and “Selection and Hiring of Professional and Consulting Services Review” dated June 19, 2001 (Appendix 3), continue to have relevance and are appended to this report.

As previously indicated, the development of eCOPS provides police officers the capability of immediate access to information and allows officers to input occurrence data immediately into the system. A number of years ago, this technology was considered leading edge, but during its development, a number of vendors have produced an off-the-shelf commercial product. eCOPS will likely require ongoing development and maintenance costs and its useful life needs to be evaluated, particularly in the context of other available and similar eCOPS technology.

In conclusion, it would not be fair to suggest that eCOPS has been a failure. While the costs of the project were over budget and the implementation was significantly delayed, there are ongoing financial benefits. It is anticipated that from December 31 2004, eCOPS will, on an annual basis, contribute approximately \$4.1 million in salary savings to the Toronto Police Service. However, this amount should be treated with a certain degree of caution, as we are not aware of the extent of ongoing maintenance costs or more importantly, the life cycle of the technology.

## **BACKGROUND INFORMATION**

The former Chief of Police submitted a report entitled “Enterprise Case and Occurrence Processing System (eCOPS)”, dated September 21, 2004, to the Toronto Police Services Board for information. This report identified a wide range of concerns relating to the management of an information technology project called Enterprise Case and Occurrence Processing System (eCOPS). The former Chief of Police, in his report, identified the following major issues in relation to the project:

- delays in the implementation of the project;
- significant cost overruns;
- concerns with the hiring of external consultants; and
- concerns that previous audit recommendations had not been implemented.

As a result of the Board’s review of this report, the Toronto Police Services Board approved the following motion:

“that the foregoing report be forwarded to the City of Toronto – Audit Committee with a request that a review of this matter be considered by the Auditor General on behalf of the Board and that the review, once completed, be forwarded to the Board for consideration.”

By-law 457-2002 of the City of Toronto, appointing the Auditor General, requires the Auditor General to prepare an annual audit work plan and that this report be submitted to City Council for information. The Auditor General has the authority to amend the work plan if additional projects of high priority are identified during the year. In this context, the addition of the eCOPS project to the annual work plan has been evaluated in relation to those projects included in the original work plan. In view of the concerns identified by the former Chief of Police, the extent of the funds involved and the potential relevance of recommendations to other information technology projects at the Toronto Police Service, as well as the City itself, it was determined that a review of the eCOPS system should be included in the Auditor General’s 2004 Work Plan.

## **SCOPE OF THE REVIEW**

Our review was conducted in accordance with Government Auditing Standards and included the following:

- discussions with the former Chief of Police;
- discussions with the current Chief of Police;
- discussions with the Chief Administrative Officer;
- interviews with appropriate Toronto Police Service staff with respect to systems development processes and the delivery of information technology services;
- interviews with staff from the Toronto Police Service Professional Standards – Quality Assurance Unit;
- review of various documents and reports in connection with eCOPS;
- discussions with police officers from Divisions 31, 33 and 42;
- review of the Information Technology Services Unit’s policies and procedures;
- review of various other policies and procedures;
- review of the extent of implementation of the recommendations made by the Auditor General in a December 2002 report to the former Chief of Police, entitled “Information Technology Services Unit Review – Toronto Police Service”; and
- review of the extent of the implementation of the recommendations made by the Auditor General in various other reports including the report dated June 19, 2001, entitled “Selection and Hiring of Professional and Consulting Services Review”.

In addition to the above, the Professional Standards - Quality Assurance Unit, at the direction of the former Chief of Police, conducted a preliminary review of the eCOPS project in 2003. While a final report was not issued, we have been provided with a copy of a confidential, undated draft report which was forwarded to the former Chief of Police. We have reviewed the contents of this document and, where appropriate, have incorporated certain of the issues identified in the draft document into our report. In addition, and where appropriate, we have validated the information contained in the draft document.

Further, a confidential draft report dated July 21, 2004, was prepared by the Legal Division of the Toronto Police Service. This report contains a detailed chronology of the eCOPS project. Information contained in the confidential report, where appropriate, has also been incorporated into this report.

The eCOPS project was first presented to the Toronto Police Services Board in June 1996. Consequently, this review covers the period from June 1996 to December 31, 2004.

## AUDIT OBJECTIVES

Our objectives were to determine whether:

- adequate research, analysis and planning were conducted in the justification and development of the project and the potential risk, costs and benefits were adequately assessed;
- the timeline for implementation of the project and the extent that projected benefits and cost savings were realized as stipulated in the approved business case;
- staff was able to appropriately identify and account for staff savings;
- definitions of project deliverables were clear, specific, concrete and measurable against established benchmarks/performance indicators and user acceptance criteria;
- project management staff regularly monitored the progress of deliverables against approved project timelines and budgets and reported the results to senior management so that appropriate and necessary corrective actions could be taken;
- the need for consulting services was appropriately determined, justified and documented and procured in accordance with by-laws, policies and procedures;
- consulting contracts were effectively managed, contract deliverables were achieved and “value for money” was obtained;
- consultants’ expenditures were accurately reported and payments were made in accordance with the terms of the contract; and
- appropriate accountability and reporting mechanisms were established.



## **DEVELOPMENT AND IMPLEMENTATION OF MAJOR INFORMATION TECHNOLOGY PROJECTS**

The eCOPS project was an extremely large and complex information technology project and represented a fundamental change to the way occurrences were recorded and accounted for by the Toronto Police Service.

Developing and implementing a major information technology project carries considerable financial risk. Such projects can be complex, costly and time consuming involving the efforts of many staff and, in the case of eCOPS, the assistance of a significant number of external consultants. Many information technology projects cost more and take longer to complete than originally planned, and others are abandoned altogether when concerns mount regarding cost overruns or system malfunctions. Surveys (conducted by the California State Auditor) of large companies and federal agencies revealed that only one quarter of all large scale systems development projects are completed on time and within budget, and almost 30 percent are abandoned because they cannot meet requirements, all of which result in lost taxpayers dollars.

Other police organizations (for example, San Jose, California) have experienced problems in connection with technology similar to eCOPS. Nevertheless, many of the problems identified in this report are a result of an ineffective project management framework, which in our view, were avoidable.

## **ORIGIN OF THE eCOPS PROJECT**

The Occurrence Re-engineering project, subsequently renamed Enterprise Case and Occurrence Processing System (eCOPS), was initially presented to the Toronto Police Services Board in June 1996 as a Capital Budget initiative. In March 1997, the Toronto Police Services Board approved the project and the former Metropolitan Council approved the capital budget for this project as part of the 1997 – 2001 Capital program. The budget for the eCOPS project at that time was \$8.8 million. The \$8.8 million was intended to purchase an off-the-shelf system.

At the same time, the former Metropolitan Municipality of Toronto and its second-tier municipalities were undergoing amalgamation to form a new City of Toronto in 1998. As a result of the amalgamation, the City put the eCOPS project on hold pending a review as part of an independent technology review of emergency services technology in the new City. Following this review, the City approved the eCOPS project in late 1998.

The objectives of the eCOPS project were:

- to re-engineer the method of handling occurrences throughout the Service;
- to develop and implement a new Records Management System that would support this new process; and
- roll out Mobile Data Work Stations Service-wide.

## **ORIGINAL eCOPS BUDGET AND BUSINESS CASE – AN OFF-THE-SHELF SOLUTION**

A summarized budget for the eCOPS project was submitted to the Toronto Police Services Board for approval in March 1997. At that time, it was assumed that a commercial off-the-shelf product could be purchased and installed for an amount of \$8.8 million. The composition of the budget was as follows:

Hardware	\$3,200,000
Software	2,300,000
Consulting	<u>3,300,000</u>
	<u>\$8,800,000</u>

It was also reported to the Toronto Police Services Board at various times that, “the new system will require additional maintenance and support at an annual cost of \$1.25 million. However, as a result of significant efficiency improvements, salary savings of \$6.5 million are estimated for a net operating impact of \$5.27 million (*sic*) in savings commencing in the year 2000.” It was also reported that the full implementation of eCOPS would result in the reduction of 150 positions (\$6.5 million). Further, it was reported that “the project has a three year implementation schedule.”

In May 1999, the Toronto Police Services Board was advised that the reduction of 150 staff required amendment. The amendment reduced the original 150 staff to 139. The amendment resulted in adjusted annual salary savings, net of maintenance costs, of \$4.8 million.

The cost savings attributable to the eCOPS project were critical to the business case supporting the project. In spite of this, we have not been able to locate any detailed analysis supporting the original budget nor have we been able to locate detailed analysis and information supporting the reduction in staff.

## **CHANGE IN DIRECTION – THE DEVELOPMENT OF eCOPS IN-HOUSE**

As indicated, the initial plan in connection with eCOPS was to purchase a commercial off-the-shelf product. It was on this basis that the original budget of \$8.8 million was predicated.

The review of an off-the-shelf product was originally contemplated in consultation with other police services in Ontario. A partnership with these police organizations was formalized in response to Justice Archie Campbell's report relating to the Paul Bernardo Investigation.

The partnership, known as the Common Police Environment Group (CPEG) issued a request for proposal in search of a standard record management solution. However, it was determined by Toronto Police project staff that the response did not satisfy the business requirements of the Toronto Police Service and would not achieve the business case of the project. While this may well have been the case, we were not able to locate any documentation supporting this decision.

In addition, we understand that the Toronto Police Service undertook a technology search throughout North America, the purpose of which was to review various Records Management Systems. In most cases, it was reported by staff that the larger police services opted to develop their own system rather than purchase a commercially available product solution. Although record management products were successful within smaller police services, the larger police services found that they were lacking in functionality or had major deficiencies in relation to a large concurrent user environment. As a result of the above, the Toronto Police Service made a decision to build the system in-house.

The decision to build the system in-house was an extremely important one with significant human resource and financial implications to the Service. Nevertheless, we have not been able to locate any detailed documentation supporting or justifying this decision.

## **CHANGE IN DIRECTION – NO CHANGE IN THE BUSINESS PLAN OR BUDGET**

The original budget for an off-the-shelf product was estimated in 1996 to be in the range of \$8.8 million. This budget was not analysed nor revised to take into account the fact that the project was to be developed internally. In addition, no consideration was given to an increase in the budget, particularly as the original budget was based on information which was almost three years old.

In a confidential report to the Toronto Police Services Board, dated September 7, 2004, the former Chief of Police stated that:

“I am informed by the CAO that no analysis was conducted to determine whether this existing capital budget was sufficient to build and implement a system. Similarly, no analysis of the total operating expenses required to complete the project was recorded. Given the complexity of this undertaking, these analyses should have been conducted. At the time, the Toronto Police Services Board was not informed of the total budget to build a system. As a result, there is no benchmark original budget against which to compare the costs to date.

The Chief Administrative Officer – will implement a policy directing that where there is significant change in a project plan and/or budget, a report will be submitted to the Board for approval outlining any changes to the original and revising budget, deliverables, etc.”

The Toronto Police Services Board was informed of the Toronto Police Service’s decision to custom build the system in-house in May 1999. We understand that “an executive brief” was presented to the Command and the Toronto Police Services Board in November 1999, with a projected capital budget of \$8.8 million and a three-year timeline for system delivery.

The only documentation that we have been able to locate in connection with the revised budget is a summarized analysis of the original and reallocated budgets which was provided to the Toronto Police Services Board on December 11, 2002, in a report entitled “Update on the Occurrence Re-engineering Project”. The 2002 budget was essentially a reallocation of the original \$8.8 million budget, as follows:

	<u>Original Budget</u>	<u>Reallocated Budget</u>
Hardware	3,200,000	From Life Cycle
Software	2,300,000	600,000
Consulting	<u>3,300,000</u>	<u>8,200,000</u>
	<u>\$8,800,000</u>	<u>\$8,800,000</u>

The reference to “from life cycle”, to the best of our knowledge, relates to the fact that hardware costs would be funded from a separate equipment acquisition budget. We have not been able to determine the extent of the costs directly attributable to the eCOPS project.

The original budget of \$8.8 million was not re-evaluated in detail by Toronto Police Service staff. The change in direction from an off-the-shelf product to one that was developed internally should have necessitated the development of a new business case, a revised budget and likely, significant budgetary increases. However, this was not done.

## **ACTUAL PROJECT COSTS SIGNIFICANTLY IN EXCESS OF APPROVED BUDGET**

The amounts contained in this section of the report have been extracted from the accounting records at the Toronto Police Service, as well as from various reports prepared by the Toronto Police Service staff.

An analysis of costs up to December 31, 2003, were prepared by the Professional Standards - Quality Assurance Unit of the Toronto Police Service, which conducted a preliminary independent review of the project in early 2004. The costs contained in this report include those costs identified by the Professional Standards – Quality Assurance Unit up to December 31, 2003. In addition, the costs for the year ended December 31, 2004, were developed by staff from the Auditor General’s Office.

Consequently, the analysis of costs are provided in two separate sections as follows:

- Costs to December 31, 2003; and
- Costs for the Year Ended December 31, 2004.

The actual costs for eCOPS were funded from both the Capital and Operating Budgets. Specific details of these costs are as follows:

(1) Capital Budget – Costs to December 31, 2003

The capital budget approved by the Toronto Police Services Board, was approximately \$8.8 million. Based on information available, it appears as if this budget was expended by the end of 2002. In fact, an additional amount of \$2,321,000 had been expended by this time, making the total amount expended on eCOPS \$11,121,000. No costs were expended in 2003. Details of these costs are attached as Appendix 4 (Total eCOPS Expenses 1999 – 2003 Capital Budget).

The overexpenditures of \$2,321,000 (the difference between the \$11,121,000 and the \$8,800,000) were not approved by the Toronto Police Services Board and were funded as follows:

Toronto Police Service technology related liability account	\$617,000	
Toronto Police Service unclaimed wages liability account	<u>202,000</u>	819,000
Staff vacancies (gapping)		1,000,000
Y2K Capital budget		<u>12,000</u>
		1,831,000
Budget Allocation for Mobile Work Stations		<u>490,000</u>
		<u>\$2,321,000</u>

The funding of \$819,000 from the Toronto Police Service liability accounts is inappropriate and should have been disclosed to the Toronto Police Services Board. The \$617,000 was funded from an information technology related liability account, while the \$202,000 was funded from an “unclaimed wages” liability account. These liability accounts, which were operating accounts, were originally overstated and consequently, not required. These accounts should have been added back to the Toronto Police Service’s operating surplus for the year in question.

The costs relating to the Mobile Work Stations, while a part of the overall eCOPS project, were budgeted for and funded from a separate account. The reallocation of these expenditures appears appropriate. The Mobile Work Station project is not a part of this review.

(2) Capital Budget – Costs for the Year Ended December 31, 2004

Based on our review, it appears as if no further costs were charged to the capital budget in 2004.



(3) Operating Budget – Costs to December 31, 2003

As far as we can ascertain, the original business case of \$8.8 million was intended to be the full cost of the eCOPS project. The first indication to the Toronto Police Services Board that operating funds would be required for the project was in a report dated October 25, 2000, to the Toronto Police Services Board. This report alluded to this issue as follows:

“While mentoring of ITS staff by IBM specialists has taken place, ITS continues to have difficulty attracting and retaining permanent staff due to market conditions and the TPS salary structures. Six staff has resigned in the last three months. As a result of these resignations and our continuing inability to attract skilled technical staff, we will be spending salary funds (gapping) in addition to the capital budget allocated to this project.”

The report is silent on the amount of the operating funds required. Consequently, the Toronto Police Services Board was not advised of the extent of the operating funds required to finance the eCOPS project.

The total operating costs charged to the eCOPS project to December 31, 2003, is approximately \$6 million (Appendix 5 – Total eCOPS Expenses – 2000 - 2003 Operating Budget). Included in the \$6 million is an amount of \$200,000, which has been charged to a liability account.

(4) Operating Budget – Costs for the Year Ended December 31, 2004

Appendix 5 is an analysis of eCOPS operating costs up until December 31, 2003. This was the latest information compiled by staff from the Professional Standards - Quality Assurance Unit. We have also reviewed additional costs incurred on eCOPS in 2004. Based on the information available, additional consulting costs in the range of \$1,417,100 have been incurred (Appendix 6).

(5) Other Additional Costs

There are certain other costs identified by the Professional Standards – Quality Assurance Unit which may be eCOPS related but have been charged to other accounts. There is some disagreement with the Information Technology Division concerning the extent to which these costs are eCOPS related.

These costs include the following:

Memory upgrade relating to eCOPS, SAP, Lotus Notes	\$1,350,000
Certain eCOPS software	<u>30,000</u>
	<u>\$1,380,000</u>

We have discussed these costs with the Chief Administrative Officer, as well as the recently appointed Information Technology Director. Based on our analysis, we have concluded that the following additional amounts should have been charged to the eCOPS budget. These amounts are estimates and from an overall budget perspective, are not particularly significant in the context of the total funds expended.

Memory upgrade – 1/3 of total costs	\$450,000
Certain eCOPS software	<u>30,000</u>
	<u>\$480,000</u>

## ACTUAL COSTS OF THE eCOPS PROJECT

The only costs specifically approved by the Toronto Police Services Board were those relating to the Capital Budget. Until recently, there has not been an acknowledgement or a communication to the Toronto Police Services Board in connection with the total costs relating to the eCOPS project. The information provided to the Toronto Police Services Board in prior years was incomplete and inaccurate.

It has been extremely difficult to determine the exact costs of the eCOPS project due to the possibility that eCOPS related costs may have been charged to other accounts at the Toronto Police Service. Without an analysis of each and every account at the Toronto Police Service, it is not possible to determine that all eCOPS expenditures have been appropriately accounted for. In any event, whatever the final costs are, there is no question that the actual costs incurred are significantly in excess of the budget originally approved by the Toronto Police Services Board.

Based on our analysis, the total costs related to eCOPS up to December 31, 2004 are as follows:

Capital Budget – Costs to December 31, 2003	\$11,121,000
Less Costs Relating to Mobile Work Stations	<u>(490,000)</u>
	\$10,631,000
Capital Budget – Costs for the Year Ended December 31, 2004	–
Operating Budget – Costs to December 31, 2003	6,000,000
Operating Budget – Costs for the Year Ended December 31, 2004	1,417,100
Other Additional Costs	<u>480,000</u>
	<u>\$18,528,100</u>

In summary, costs in excess of the original budget of \$8.8 million are in the range of \$9.7 million or 110 percent.

## **COMPLETE PROJECT COSTS NOT ACCOUNTED FOR – INTERNAL SALARY COSTS EXCLUDED**

The total eCOPS costs of \$18,528,100 are further understated by the extent of internal salary costs, which should have been charged to the eCOPS budget. Internal salary costs were not budgeted or accounted for in the eCOPS project.

As far back as 1992, the then Metropolitan Auditor recommended to the former Chief of Police that “the budgetary approval process for system development provide for full costing and that project costs should include internal as well as external costs.” Further, the Auditor General, in his review of the Toronto Police Metropolis Project recommended that any “cost/benefit analysis performed in support of projects should include both external as well as internal costs”. In addition, in a report to the City of Toronto’s Audit Committee, dated April 4, 2003, entitled “SAP Financial and Human Resources/Payroll Information Systems – Post Implementation Review”, it was recommended that:

“The Chief Administrative Officer amend the City policy relating to the preparation of detailed business cases supporting all major capital projects. The amended policy include the requirement that projected internal staff costs, relating to those staff with significant involvement in capital projects, be identified and accounted for in all business cases. Such information be provided even if staff costs are not charged to the capital project.”

Detailed records of police staff time spent on the eCOPS project were not maintained. Consequently, it is not possible to determine how much in additional costs over and above the \$18,528,100 was expended on eCOPS.

## **FINANCIAL BENEFITS PROJECTED FROM THE IMPLEMENTATION OF eCOPS**

Since the inception of eCOPS, the extent of the realization of projected salary savings has changed a number of times. As early as 1996, it was reported that:

“This project has significant operating impacts. The new system will require additional maintenance and support at an annual cost of \$1.25 million. However, as a result of significant efficiency improvements, salary savings of \$6.5 million are estimated, for a net operating impact of \$5.27 million (*sic*) in savings, commencing in the year 2000.”

Also in 1996, it was reported that:

“The Occurrence Reengineering Report (Min. No. 351/96 (H)) outlines that there are two main deliverables, one being a staff reduction of 150 civilian members with an annualized savings of \$5.25 million dollars (operational budget impacts have already been deducted) and providing the necessary tools to provide efficiencies through the Service’s Strategic Crime Management initiatives.”

Three years later, in May 1999, it was reported to the Toronto Police Services Board that:

“the approved business case projected that approximately 139 clerical positions would no longer be required, resulting in annual salary savings of an estimated \$4.8 million. There is no indication in this report as to why the level of staff reduction was amended from 150 to 139.”

A further reduction to the projected staff complement was reported to the Toronto Police Services Board in November 2002. It was reported at that time that:

“the Implementation of eCOPS in 2004 is expected to displace over 100 civilian staff (on a phased basis) by the end of 2004/early 2005. The 2003 approved budget included staffing savings of \$1 million, related to eCOPS. This amount is maintained in the base for 2004. It is expected that once all the staff is displaced, the annualized savings will be in excess of \$4 million.”

However, it has recently been reported to the Toronto Police Services Board that the project up to December 31, 2004, has only been able to realize a staff reduction of 70. Based on the reduction of 70 staff, it is estimated that the annualized savings will now be \$4.1 million.

At the present time, as a result of eCOPS, staff reductions is less than 50 percent of the reductions contemplated in the original business case. It is apparent that the original business case outlining the potential savings from the new technology was significantly oversold. As indicated previously, the original business case contained minimal analysis in regard to these potential staff reductions.

With a cost of approximately \$18.5 million, the recovery of the Toronto Police Service's investment in the eCOPS project will not occur until the end of 2009. This, however, does not take into account ongoing maintenance costs or the fact that the \$18.5 million was expended over a period of time. There is also the possibility that eCOPS may be obsolete by that time.

## **HIRING AND MANAGING OF CONSULTANTS**

### **Implementation of Audit Recommendations**

In June 2001, the Auditor General issued a report, entitled “Selection and Hiring of Professional Consulting Services Review.”

The following issues were identified in the July 2001 report:

- in some cases, internal administrative controls to ensure that consulting and professional service contracts are awarded and extended in compliance with corporate purchasing policies and procedures have been by-passed;
- sole source procurement often did not meet the criteria set forth in the City’s guidelines. In many cases, sole sourcing was justified as “continuing prior work” and “previous work relationship”. Generally, there is no documented evidence to demonstrate that the sole source consultant is the only, or best, firm to provide the service at the best price for the City;
- in many cases, justification for the hiring of consultants is not documented. Formal business cases or justification analyses have not been prepared which, in general terms, should include the benefits and costs of hiring a consultant. There is no evidence to indicate that alternatives were considered, such as the use of City staff in whole or in part;
- invoices submitted by consultants often provide insufficient information to allow staff responsible for invoice approval to determine whether the service has been rendered or that the amount invoiced is reasonable and legitimate;

- project scope and deliverables are often not defined in sufficient detail to permit the effective management of consulting contracts and to ensure that the project objective has been, or is being met;
- the City, in certain areas, has put itself at significant risk due to its reliance on various consulting organizations. The termination of certain services provided by consultants at the present time would have significant impact on the ability of the City to continue its day-to-day operations. In these cases, there is no long-term plan to replace the knowledge of those consultants, who are critical to the operation of the City, with City staff; and
- consultants are often required because of insufficient staff resources or an absence in the skills necessary to complete certain work. Opportunities for cost savings exist where departments can identify a long-term need for these skills or resources.

The July 2001 report contained 17 recommendations, one of which was that:

“in view of the fact that the recommendations contained in this report may be relevant to the City’s Agencies, Boards and Commissions, the General Manager of each of these entities be required to report to their respective Boards by August 31, 2001 on such recommendations and their applicability in relation to their operations. In addition, the respective Boards be requested to forward such reports to the City Audit Committee.”

In response to the above recommendation, the former Chief of Police issued a report entitled “Impact of the City of Toronto’s Policy on Professional and Consulting Services on the Toronto Police Service”, dated March 6, 2002.



The conclusion to this report indicated that:

“The Toronto Police Service has an established and extensive procurement process, which requires involvement and support from senior members of the Service. As requested by City of Toronto Council, we have reviewed our current policies, procedures and guidelines and compared the new City of Toronto policy regarding the Hiring and Selection of Consultants. Our analysis concludes that our practices provide the same level of detail as presented by the new City policy.”

While we do not disagree that the policies and procedures in relation to the hiring and management of consultants at the Toronto Police Service are appropriate, the issue in connection with the eCOPS project is that these policies and procedures were, in many cases, not followed.

For example, in November 1999, the Toronto Police Service entered into a contractual agreement with IBM Canada. The contract stated that IBM Canada would provide a dedicated full-time project manager and other specialists to work with the Toronto Police Service project manager and other consultants hired by the Service for the period from October 1999 to March 2000, with an estimated cost of \$1.53 million. After the contract expired in March 2000, the Service continued to engage IBM Canada to develop eCOPS without a formal signed contract. Instead, purchase orders were used to procure services required based on hours worked by the various consultants. An amount in excess of \$8 million was billed by IBM to the Toronto Police Service.

The Auditor General’s recommendations contained in the report dated June 19, 2001, should be reviewed in detail by all staff responsible for hiring consultants. Recommendations contained in this report should be followed.

## **Hiring of Consultants**

IBM Canada was recommended as manager of the project due to their familiarity with the Toronto Police Service's installed technical and applications development architectures. IBM had previously been involved in the development of the Toronto Police Service's Criminal Information Processing System (CIPS) project. Consequently, the hiring of IBM as project manager was not the subject of a competitive tender process.

We have not reviewed the specific hiring process for other consultants but have been advised that their selection was through a competitive process. However, these consultants were procured through purchase orders without any specific contract. The purchase orders did not specify deliverables, completion date, performance measurement indicators and remedies available to the Toronto Police Service in case of non-completion of deliverables.

## **SECURITY AND PRIVACY**

We have been advised that the current eCOPS system has been the subject of an evaluation in terms of its security. This evaluation, however, appeared to be fairly limited with little documentation supporting the evaluation. In addition, it appears as if little consideration has been given to an assessment of privacy concerns. Both of these requirements should be an ongoing part of any system development and not an adjunct subsequent to implementation. It is significantly more cost effective to incorporate security and privacy requirements during the development phase of any information technology project rather than add it on at the end. It is possible, therefore, that once both of these concerns are addressed, further costs may be required.

In regard to Privacy issues, the Auditor General in a report dated April 4, 2003, entitled “SAP Financial and Human Resources/Payroll Information Systems – Post Implementation Review” recommended that:

“the Chief Administrative Officer, in consultation with other City Commissioners, ensure that the implementation of new information systems are not initiated until Privacy Assessment Impact evaluations are completed. The requirement for a Privacy Impact Assessment be mandatory in all business cases supporting systems development where personal information is involved and the costs relating thereto be an integral part of the project implementation costs.”

This recommendation has relevance, not just for the eCOPS project but for all information technology projects at the Toronto Police Service.

## **INITIATIVES INTRODUCED BY THE FORMER CHIEF OF POLICE TO ADDRESS PROBLEMS IDENTIFIED**

The former Chief of Police reported to the Toronto Police Services Board that he had initiated a number of improvements to the development process of information technology projects. Included in these improvements are the following:

- an Information Technology Steering Committee has been established which will be co-chaired by the Chief Administrative Officer and one of the Deputy Chiefs. The Information Technology Steering Committee, which will include all Deputies, will meet on a quarterly basis to review and prioritize information technology projects based on requirements and resources;
- an infrastructure has been established to include user involvement in the design, development and testing of all the systems;
- a new Director, Information Technology Services Unit, was hired in August 2004;
- initiated an Information Technology Governance Implementation project to review Information Technology governance issues;
- commenced the hiring process for a Project Management position; and
- directed that audit recommendations be implemented.

While certain of these initiatives have addressed a number of the recommendations contained in previous audit reports, it is important that the balance of these recommendations are re-evaluated and implemented. A third-party validation regarding the implementation of the recommendations should also be considered.

## **SURVEY OF FRONT-LINE OFFICERS**

As part of our review, we conducted a general survey of 175 front-line police officers from Divisions 31, 33 and 42. The survey questions, including the results, are included as Appendix 7 of this report. The survey indicated that police officers generally are satisfied with the unified search component of eCOPS but clearly have significant concerns with the occurrence reporting application of eCOPS.

Certain front-line police officers provided written comments to our surveys. Many of the comments centred around similar concerns, such as:

“eCOPS is slow and repetitive”

“Not user friendly”

“Entering data could be more user friendly”

“Problems with data being run – while completing occurrences on the road – dead zones”

“Large dead zones. Having to shut down and start up again. Very Slow”

We have provided all of these comments to the Chief of Police for his review, evaluation and follow-up. It is important that each one of the above concerns is addressed appropriately by the Chief of Police.

## **INFORMATION TECHNOLOGY INTEGRATION**

The existence of a partnership with other police services, known as the Common Police Environment Group (CPEG), was a resource established in response to the Paul Bernardo inquiry under Justice Archie Campbell. One of the objectives of CPEG was the development of an integrated and seamless information technology resource common to all police services. In certain areas such as ViCLAS (Violent Crime Linkage Analysis System) and the Major Case Management System, this objective has been realized. However, in the case of eCOPS-type technology, many individual police services have different and incompatible systems. Consequently, in our view, there is a need to establish a process whereby such coordinated information technology development can take place.

The initiation of a process to ensure that all information technology development throughout Ontario is coordinated is a significant undertaking. Nevertheless, such a process would have significant advantages in terms of a more effective, efficient and less costly technology infrastructure. In this context, it is suggested that the Chief of Police report to the Toronto Police Services Board on the potential of initiating such a process.

**RECOMMENDATIONS RESULTING FROM THE REVIEW OF THE ENTERPRISE  
CASE AND OCCURRENCE PROCESSING SYSTEM (eCOPS) PROJECT –  
DATED APRIL 2005**

1. In order to establish clear authority and responsibility for the management of all information technology projects, the Chief of Police ensure that uniform and consistent guidelines for the development of all information technology projects are clearly articulated. The uniform and consistent guidelines should, at a minimum, include the following requirements:
  - information technology projects be staffed and managed by experienced and proficient information technology professionals;
  - budgets (including staff time) should be complete, detailed and based on verifiable assumptions. Budgets for major projects should be reviewed and approved by an independent third party such as the Professional Standards – Quality Assurance Unit;
  - all expenditures be systematically tracked throughout the projects life cycle. Such expenditures should be reviewed and approved by an independent third party;
  - a baseline project schedule with detailed attainable should be developed. Milestones should be reported on a regular basis and be subject to verification by an independent third party; and
  - users be included in the development of all functional requirements.

2. The Chief of Police ensure that future information technology projects include details on all potential development options, including the possibilities of outsourcing such activities.
3. The Chief of Police ensure the reporting to the Toronto Police Services Board is accurate and timely. Original budgets for all large scale technology projects should be approved by the Toronto Police Services Board. Any costs projected to be in excess of original budgets should be reported to the Toronto Police Services Board for approval on a timely basis and all such approval requests include a justification analysis.
4. The Chief of Police, by September 2005, report to the Toronto Police Services Board on the status of the implementation of recommendations contained in the Auditor General's report, entitled "Information Technology Service Unit Review – Toronto Police Service", December 2002, and the Auditor General's report entitled "Selection and Hiring of Professional and Consulting Service Review", dated June 19, 2001.
5. The Chief of Police give consideration to the development of a process where responses to individual audit recommendations are validated by an independent third party.
6. The Chief of Police and the City's Deputy City Manager and Chief Financial Officer develop an ongoing protocol and working relationship in order to ensure that:
  - technology developments do not occur in isolation from each other;
  - technology developments are in accordance with the long term objectives of both organizations; and
  - the purchase of any computer hardware and software is co-ordinated.



7. The Chief of Police ensure that the implementation of new information systems are not initiated until Privacy Assessment Impact evaluations are completed. The requirement for a Privacy Impact Assessment be mandatory in all business cases supporting systems development where personal information is involved and the costs relating thereto be an integral part of the project implementation costs.
  
8. The Chief Administrative Officer report periodically to the Chief of Police on major information technology projects and related information technology priorities. The reporting process should include at a minimum for each project:
  - a detailed description of the project;
  - progress to date;
  - budget and milestones;
  - return on investment; and
  - any related performance measures.

Consideration be given to providing this information to the Toronto Police Services Board.

9. The Chief of Police be requested to review and report on the course of action required to ensure that all major information technology systems developed by police services throughout Canada are developed on a coordinated and integrated basis.
  
10. The Chief of Police be required to report to the Toronto Services Board for its September 2005 meeting in connection with the implementation of all audit recommendations.
  
11. The Police Services Board forward this report to the City's Audit Committee for information purposes.

**RECOMMENDATIONS RESULTING FROM THE AUDIT REPORT, ENTITLED:  
INFORMATION TECHNOLOGY SERVICES UNIT REVIEW –  
TORONTO POLICE SERVICE, DATED DECEMBER 2002**

1. In order to assist the information Technology Steering Committee to carry out its mandate the Director, Information Technology Services Unit should:
  - (a) review the size and composition of the committee relative to its mandate;
  - (b) provide committee members with an information technology delivery plan, that includes information on on-going work and projects, upcoming projects, technology life cycles, and other information considered meaningful to the effective operation of the committee;
  - (c) develop criteria to facilitate information technology decisions, including enhancements to existing systems and new projects;
  - (d) develop an investment decision making process for information technology solutions or projects that requires the Steering Committee to consider short and long term impacts, cross unit impacts, business justification, benefits to be realized, strategic contribution, and compliance with the Service's technology architecture and direction.
  
2. To establish accountability for IT projects and enhancements, mechanisms be developed to enable the measurement of benefits to be realized and deliverables to be achieved, and the business user be required to report to the Steering committee on the actual benefits achieved and explain, when applicable, shortcomings in realizing previously defined benefits.

3. The Information Technology Steering Committee meet on a regular basis (at least quarterly) and report to the Chief and Senior Command Service on a regular basis on the status of IT projects and enhancements.
  
4. In developing and updating the Information Technology Strategic Plan any assumptions, on which such a plan is based, should be clearly stated to allow management the opportunity to validate such assumptions before approving the plan.

**RECOMMENDATIONS RESULTING FROM THE AUDIT REPORT, ENTITLED:  
SELECTION AND HIRING OF PROFESSIONAL AND CONSULTING SERVICES  
REVIEW, DATED JUNE 19, 2001**

1. All future reporting of consulting expenditures be based on actual expenditures incurred and not on the value of contracts awarded unless specifically requested by Council. In order to ensure that such reporting is accurate, all consulting costs reported to Council be reconciled to the City's financial information system by each Department. The Chief Administrative Officer be required to communicate to senior staff the recommended reporting requirement.
2. The Chief Financial Officer and Treasurer advise all departmental staff of the specific reporting requirements for consulting expenditures. In addition, the Chief Financial Officer and Treasurer emphasize the importance of the need to accurately analyse all consulting related invoices in order to ensure that such expenditures are recorded accurately in the financial information system. Departmental staff be required to review such accounts on a regular basis and make appropriate and timely accounting adjustments, where necessary.
3. The Chief Administrative Officer be required to add to the "Policy for the Selection and Hiring of Professional and Consulting Services" the following, "A justification analysis is required prior to the engagement of a consultant which outlines in general terms the costs and benefits of using a consultant, including reasons why the consulting study can not be conducted by internal staff, either in whole or in part."

4. The Chief Administrative Officer to report back on the dollar threshold above which departments are required to prepare detailed business cases prior to the hiring of consulting resources. Consideration be given to the development of a formalized template and/or checklist in order to assist staff in the development of a standard business case. The business case should be approved by each Commissioner and should be filed in the department for future management review and subsequent audit.
5. The Chief Administrative Officer take immediate steps to ensure that the engagement of all consulting services is made in accordance with the City's purchasing policies. Consultants not be engaged until the appropriate approvals have been obtained and a duly authorized purchase order is processed and recorded on the financial management information system.
6. The Chief Administrative Officer require the Commissioners to provide the appropriate information on existing consulting contracts so that purchase orders can be processed by the Purchasing Agent. The Purchasing Agent take the necessary steps to record such purchase orders on the financial information system. Any payments processed in excess of original contract amounts be identified and explanations obtained for such occurrences. The need to process such purchase orders in the future will not be required if proper procedures are followed.
7. The Chief Administrative Officer advise all Commissioners that in making sole source procurement decisions, clear justification, target completion date of the project, duration of the consulting engagement and estimated contract value be documented, properly authorized and, as required by City policy, be submitted to the Chief Administrative Officer and to the Purchasing Agent for issuance of a purchase order or contract. Where the justification does not meet the City criteria for sole sourcing, such contracts be subject to a competitive tender process in accordance with the City's purchasing policies.

8. The Commissioners take the necessary action to ensure that staff assigned to project management duties, especially where consultants are hired, have an appropriate combination of training and experience in project management and knowledge in the subject of the assignment, especially in the areas of developing clear and measurable deliverables, milestones and performance evaluation criteria.
9. The Chief Financial Officer and Treasurer advise staff that request for proposal documents should not contain information relating to the actual project budget.
10. The Commissioners be required to re-evaluate the administrative internal controls in their departments in order to ensure that invoices submitted by consultants are reviewed for reasonableness, proper supporting documentation and verified to the terms of the contract prior to authorization for payment. The review should also ensure that individuals approving invoices are in a position to assess whether the service has been rendered. In regard to reimbursable out of pocket expenses, consideration be given to including all such expenditures as part of the original contract price.
11. The Commissioners take the necessary steps to ensure that:
  - (a) measurable standards and acceptance criteria are included in contracts executed with consultants;
  - (b) regular, properly documented, meetings are held with consultants to ensure that the consultant is meeting contractual obligations and performing as required; and
  - (c) upon completion of a project, the consultant's performance is documented and made available for review to relevant City staff, including the Purchasing Agent, when considering consultants for new projects.

12. The Chief Administrative Officer, in consultation with the City's Commissioners, identify areas where departments have skill shortages or insufficient staff resulting in the consistent and extensive long-term use of consultants and:
  - (a) present the appropriate business cases justifying meeting long-term operational demands by increasing staffing levels, such increases to be financed by the transfer of funds from consulting budgets to salaries and wages budgets;
  - (b) where possible, ensure sufficient City staff are trained in skills required frequently and on a long-term basis, thus reducing the City's reliance on consultants to perform such duties; and
  - (c) ensure that the continuous operation of critical management information systems is not dependant upon a single individual consultant.
13. The Chief Administrative Officer communicate to and remind each Commissioner of the policy relating to the hiring of former employees, either directly or indirectly, as consultants for a specified period of time after they participated in the employee separation program of the City.
14. The Chief Administrative Officer review the practice whereby individual consultants are required to contract with consulting firms for providing their services to the City rather than being engaged directly as individuals.
15. In view of the fact that the recommendations contained in this report may be relevant to the City's Agencies, Boards and Commissions, the General Manager of each of these entities be required to report to their respective Boards by August 31, 2001 on such recommendations and their applicability in relation to their operations. In addition, the respective Boards be requested to forward such reports to the City Audit Committee.

16. The Chief Administrative Officer be required to add to the “Policy for the Selection and Hiring of Professional Consulting Services” specific details relating to the consequences of non-compliance with the policy. The amendment to the policy be reported to the Administration Committee by August 31, 2001.
  
17. The Chief Administrative Officer be required to report to the next meeting of the Administration Committee on the plans and timetable relating to the implementation of recommendations contained in this report.



APPENDIX 4

**TOTAL eCOPS EXPENSES 1999 - 2003  
CAPITAL BUDGET**

<b>CONSULTANT</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>TOTAL</b>
Allstream/Montage				345,863		345,863
CCOL EMSL			17,595			17,595
Choreo System	2,383					2,383
Constellation	3,090	69,186				72,276
Desktop Mapping Tech	2,894					2,894
Digi Map Data Services	3,894	6,928				10,822
DMR			36,443			36,443
DMTI Spatial		1,681	5,060	110,944		117,685
EDS Systemhouse	72,636	7,064				79,700
Future Shop		16,224				16,224
IBM	1,287,627	3,117,962	1,834,715	474,630		6,714,934
Icesoft		20,424				20,424
IMR	13,807	6,668				20,475
Interactive	28,890	195,168	189,510	181,383		594,951
KL System	20,809					20,809
LGS	80,756					80,756
Loox Computer			51,355			51,355
Lotus Development	177,068	207				177,275
Learning Tree Int'l	5,025					5,025
Metex	44,425	60,934				105,359
Next Innovation			6,527	20,345		26,872
Pentleton	139,935	239,889	236,900	230,921		847,645
Powerdigm		219,564	90,971			310,535
Precision Search		72,282				72,282
Preston Ltd	6,273					6,273
Questec Services	12,809					12,809
Rational Software		56,200				56,200
RCM	16,481	288,033	403,935	466,394		1,174,843
Softchoice Corp				3,234		3,234
Conference/Workshops	38,463	13,852	4,429			56,744
Unican	4,253					4,253
Unisys	40,714	21,798				62,512
Various	3,901	-1,697	9,897			12,101
Vector	109,985	150,156				260,141
Videoscope Ltd		4,779				4,779
York Regional Police	10,000					10,000
GST Rebates	-49,979	-172,807	-80,224			-303,010
Other				9,381		9,381
<b>Total</b>	<b>2,076,139</b>	<b>4,394,495</b>	<b>2,807,113</b>	<b>1,843,095</b>	<b>-</b>	<b>11,120,842</b>

**APPENDIX 5**

**TOTAL eCOPS EXPENSES 2000 - 2003  
OPERATING BUDGET**

<b>CONSULTANT</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>TOTAL</b>
Allstream/Montage	185,634	440,267	308,674	396,294	1,330,869
Bus. Transform		4,280			4,280
Comp. Horizons		26,905			26,905
EDS Systemhouse	20,463				20,463
Fujitsu			254,237	569,091	823,328
IBM	74,215	23,731	716,368	818,343	1,632,657
Interactive				235,921	235,921
LGS	12,197				12,197
Pentleton				225,732	225,732
Powerdigm	226,561	205,712			432,273
RCM	98,303	213,085	437,783		749,171
Unisys	74,286			356,632	430,918
Vector	82,938				82,938
<b>Total</b>	<b>747,597</b>	<b>913,980</b>	<b>1,717,062</b>	<b>2,693,013</b>	<b>6,007,652</b>

**APPENDIX 6****TOTAL eCOPS EXPENSES –  
YEAR ENDING DECEMBER 31, 2004**

<b>CONSULTANT</b>	<b>2004</b>
RCM	286,900
Allstream Services	264,500
Interactive Computer Software	138,600
IBM	430,300
Fujitsu	296,800
<b>Total</b>	<b>1,417,100</b>

**APPENDIX 7**

**eCOPS SURVEY RESULTS –  
POLICE DIVISIONS 31, 33 and 42**

		Unified Search			eCOPS Occurrences			Total # of Responses
		YES	NO	Blank	YES	NO	Blank	
1	This application has really made a positive difference.	134	39	2	56	112	7	175
2	This application has reduced my manual effort.	128	44	3	34	131	10	175
3	eCOPS has had a positive impact on my ability to perform my duty.	86	43	45	45	123	8	175
4	I am satisfied with the training I received for this application.	103	57	15	79	92	4	175
5	I am satisfied with the technical support associated with this application.	111	47	16	83	83	10	175
6	I am satisfied with the system functionality.	100	68	7	33	138	4	175
7	I am satisfied with the ease of use.	122	44	9	43	127	5	175
8	I am satisfied with the flexibility of the system.	119	49	7	59	108	8	175
9	I am satisfied with the quality of the data from this application.	117	50	8	77	89	9	175
10	I am satisfied with the presentation of the data from this application.	122	44	9	66	103	6	175
11	I am satisfied with the volume of data from this application.	120	46	9	73	92	10	175
12	Because of this application, usable information makes my job easier.	125	39	12	55	102	17	175
13	Because of eCOPS, usable information is more accurate.	82	47	46	72	87	16	175
14	Because of eCOPS, usable information is more timely.	82	49	44	66	97	12	175
15	This application could be improved. If yes, please explain below.	77	43	55	111	21	43	175