June 12, 2001

To: Toronto Police Services Board

From: City Auditor

Subject: Six-month Air Support Unit Pilot Project – Toronto Police Services

Purpose:

To report on Audit Services’ evaluation of the six-month helicopter pilot project.

Financial Implications and Impact Statement:

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

Recommendations:

It is recommended that:

(1) this report be considered by the Chief of Police and the Toronto Police Services Board;

(2) this report be forwarded to the City’s Policy and Finance Committee for consideration;

(3) prior to a decision being made on the establishment of an Air Support Unit for the Toronto Police Service the issues identified in this report be considered. Such issues to include:

- a review of less expensive options;

- development of performance indicators and annual reporting of such indicators to the Toronto Police Services Board; and

- the development of a plan for optimal integration of the Air Support Unit with other police operations, including the development or revision of operating policies, procedures and protocol, as well as the necessary training of appropriate police officers and support units.
Background:

In considering the Toronto Police Service 2000 operating budget, Toronto City Council approved a six-month Air Support Unit pilot project for the Toronto Police Service, subject to a number of conditions being met. One of the conditions stipulated was that the City Auditor conduct an evaluation of the pilot project using an evaluation plan and methodology agreed to by the Toronto Police Service.

On May 1, 2000, the Toronto Police Services Board approved the establishment of the pilot project on the terms and conditions approved by City Council. An evaluation plan was developed by my office and approved by the Board on June 29, 2000.

City Council approved the pilot project on the condition that it would have no impact on the 2000 operating or capital budgets of the Toronto Police Service or the City of Toronto. A contract for the pilot project was approved by the Board and awarded to Canadian Helicopters Limited in June 2000. This contract provided for a turnkey lease package that included two Bell Jet Ranger 206B3 helicopters, pilots, fuel, maintenance and other related expenses. The cost of the project was $1.038 million, not including the cost of one sergeant and four police constables who were redeployed from other areas of the Toronto Police Service. The Toronto Police Service has advised that as at March 1, 2001, $809,771 (which includes a provincial grant) has been received and that balance of $228,229 will be received by the end of March 2001.

Comments:

The Toronto Police Service Air Support Unit pilot project commenced operations on August 1, 2000 and made its last flight on January 31, 2001. During this time, it was in the air approximately eight hours per day, six days per week and attended 789 calls.

Our evaluation was conducted based on what would be the Air Support Unit’s normal mode of operations. Accordingly, we did not attempt to control the use of the helicopter in terms of what areas it patrolled or what calls it responded to.

The overall objectives of our evaluation were twofold:

- to perform an independent analysis of the benefits of helicopters in supporting police activities and, more specifically, during the six-month pilot project in Toronto; and

- to provide the Chief of Police, the Toronto Police Services Board and Toronto City Council with the necessary information to assist them in making an informed decision regarding the establishment of a permanent helicopter air support unit.

The evaluation essentially examines whether the helicopter improved the efficiency and effectiveness of police operations and whether it had a deterrent effect on rates of crime in the City. We also determined the views of Toronto residents and members of the Toronto Police Service with respect to the use of helicopters in police operations.
Our evaluation methods included:
- the review of various studies and evaluations pertaining to police helicopters;
- the review of all event logs received from the Air Support Unit;
- interviews with police ground officers involved in calls where the helicopter intervened;
- an independent public opinion poll conducted by Environics Research Group;
- focus group meetings with police flight observers;
- focus group meetings with police officers assigned to other units and civilian members of the Toronto Police Service (Police Dog Services and Communications Centre);
- a survey of Toronto Police Service members at large;
- the review and analysis of citizen comments received during the pilot project; and
- the review and analysis of information compiled during the pilot project.

Conclusions:

During the pilot project, the police helicopter demonstrated the ability to respond more quickly to calls and provided an aerial perspective that assisted operations with deployment decisions. The helicopter was effective in increasing the likelihood of apprehensions when supporting police ground officers, particularly at calls related to residential break and enters, crowd scenes, vandalism and stolen vehicles. It also helped diffuse potentially dangerous situations and police ground officers indicated they experienced an increased feeling of safety when the helicopter was present at an event. The helicopter was efficient in conducting search and rescue operations. However, there was no evidence to suggest, based on the six-month pilot project, that the helicopter was effective in regard to deterring high speed vehicle pursuits.

Based on an independent public opinion poll commissioned by Audit Services and conducted by Environics Research Group Limited, 87 percent of Toronto residents are supportive of the use of a police helicopter. In addition, even when residents were advised that the annual cost of the helicopter service would likely be in the range of $3 million, the majority of residents (68 percent) maintained their support for the use of a helicopter by the Toronto Police Service.

Our survey of police officers indicated an overwhelming level of support (96 percent) for the use of a helicopter in police operations.
Police helicopters do not make arrests. They act as a support tool that can enhance the effectiveness of police activities at particular events. The benefits the helicopter provides come at a relatively high cost, as the helicopter and the on board auxiliary equipment are expensive tools. It is important to appreciate that the helicopter is of little value without the on board auxiliary equipment.

Based on the contract in effect during the pilot project, an air support unit would cost the City approximately $2.1 million on an annual basis, not including the cost of police personnel (four police flight observers and a sergeant), which would add another $500 thousand to the ongoing cost of the program. The actual annual cost of an air support unit would only be known following a competitive bidding process.

The helicopter, by virtue of its speed, aerial perspective, thermal imaging and searchlight capabilities can support operations in a manner that police ground officers on foot, in cruisers or on bicycles, cannot. Nonetheless, some would argue that it may be preferable to hire additional police officers in a community policing capacity than invest in a helicopter. This, of course, is a decision to be made by the Toronto Police Services Board and City Council. The cost of a helicopter unit is equivalent to the cost of hiring approximately 25 additional police officers.

The benefits of the helicopter, in terms of officer time saved, increased apprehensions and enhanced officer safety are extremely difficult to quantify. Although we have attempted to estimate police ground officer time saved by the helicopter, this exercise is speculative, since we can not estimate the savings with any degree of accuracy and completeness.

Further, the assumptions supporting the estimates were provided by police ground officers, again based on an educated guess, which could not be independently verified. Time saved related to increased apprehensions is even more difficult to estimate and the value attributed to enhanced officer safety, impossible to quantify. While other studies have attempted to quantify the cost or benefits the helicopter provides at specific types of calls, no study has prepared a full cost-benefit analysis.

During the six months of the pilot project, the helicopter attended 789 out of 125,085 high priority calls (0.6 percent) serviced by police during that time. It would, therefore, be overly optimistic to conclude that one helicopter operating approximately eight hours per day, six days per week would have any sustainable impact on the level of crime. Even if focus patrols were effective in reducing crime in a particular area of the City, it would be difficult to determine, with any degree of certainty, if one helicopter could have any sustainable deterrent effect on rates of crime in the City as a whole. In fact, the City of Toronto did not appear to experience any crime deterrent benefits by using a helicopter to support police operations during the pilot project.

We can conclude from our evaluation that the helicopter did make a positive contribution at many of the calls it attended. However, it was not possible to determine if the benefits provided by the helicopter outweighed its cost. Prior to a final decision on whether a permanent air support unit should be established, other less expensive options, such as procuring the services of one helicopter instead of two, using a less expensive helicopter, considering the use of a fixed-
wing aircraft, and exploring the possibility of sharing helicopters with other jurisdictions in the GTA, warrant further consideration by the Toronto Police Service. These options may reduce the cost of an air support unit and help bridge the gap between the cost and any dollar value placed on the benefits that the helicopter provides.

The limitations of the helicopter and its equipment must also be recognized and protocols developed and/or revised to properly integrate an air support unit into daily police operations. In this regard, the provision of training to police flight observers, as well as to support units, is a necessity.

The issue of helicopter noise, which is a significant concern to a certain segment of the public, must also be given proper attention.

The Calgary and Region of York Police Services have obtained a helicopter through private donations. While the initial capital cost of the helicopter can be financed by private funds, there continues to be regular maintenance, fuel and other operational costs including pilot salaries that are ongoing and must be funded through the annual operating budget. Eventually, further funding would have to be found to replace the helicopter. These cost factors, as well as the issue and implications of private funding impacting public policy decisions, should be considered if this avenue is to be pursued.

Is the value added by helicopter patrols worth the cost? Value in this regard is subjective, and can vary depending on the perspective of an individual or group. The Toronto Police Services Board must consider the need for a helicopter in terms of the value of the benefits it provides to the Toronto Police Service’s operations and in comparison to other policing needs and initiatives. City Council, on the other hand, must assess the need and value added by the police helicopter relative to competing priorities in the City.

The helicopter has demonstrated that it can effectively assist and add value to police ground units at specific calls. It can be argued that the cost of the helicopter, at approximately $2 to $3 million, is marginal relative to the Toronto Police Service 2000 operating budget of over $557 million. However, in absolute dollars, the cost of the helicopter is a significant expenditure that must be considered in the context of competing priorities within both the City and the Toronto Police Service and at a time when continued funding for some programs is being carefully scrutinised.

A copy of the complete evaluation report with detailed analysis and results of the helicopter pilot project is attached.

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Attachment

Air Support - Six Month Pilot Project
The Evaluation of the Air Support Unit Pilot Project

Toronto Police Service

Audit Services

March 2001
The Evaluation of the Air Support Unit Pilot Project

Toronto Police Service

Jeffrey Griffiths, C.A.
City Auditor

Toronto Audit Services
9th Floor, Metro Hall, Toronto Ontario Canada  M5V 3C6

March 2001
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Executive Summary

Toronto City Council, during its 2000 operating budget deliberations, approved a six-month pilot project for an air support unit in the Toronto Police Service. In approving this project, Council requested the City Auditor to conduct an independent evaluation of the air support unit.

This report contains various observations and conclusions which could be used to support a wide range of opinions in regard to the use of a helicopter to support police operations. It is important that these observations and conclusions not be taken out of context to support individual positions but rather, the report be viewed in its entirety.

The main objectives of this evaluation were:

- to provide the Chief of Police, the Toronto Police Services Board and City Council with the necessary information to assist them in making an informed decision regarding the establishment of a permanent helicopter air support unit in the City of Toronto; and

- to perform an independent analysis of the benefits of helicopters in policing activities in general and, more specifically, in Toronto.

The Toronto Police Service prepared a business case for an Air Service Unit in July 1998. In this business case, the proposed mission statement for the Air Service Unit was “to increase both public and officer safety by providing swift response to life threatening incidents and crimes in progress.”

The business case, and a more recent report (March 2000) from the Mayor’s office, outlined various benefits that could be expected from the use of a helicopter in day to day police operations. These benefits were reported to include:
- enhanced operational decision making and the facilitation of ground units to be more economically, effectively and safely deployed at large disturbances, public events, crime scenes;
- reduced crime (commercial and residential break and enters, auto thefts) in high crime areas;
- enhanced apprehension of criminals;
- increased recovery of stolen property (especially vehicles);
- enhanced public safety by assisting other emergency services;
- enhanced officer safety;
- the provision of control, observation and support services during vehicle pursuits;
- conduct of searches for missing persons and suspects;
- the provision of rapid response to calls;
- assistance in drug detection and eradication; and
- the provision of video footage as evidence.

Our evaluation procedures included:

- a review of various studies and evaluations pertaining to police helicopters;
- the review of all event logs received from the Air Support Unit;
- interviews with certain police ground officers who were assisted by the helicopter;
- an independent public opinion poll commissioned by Audit Services and conducted by Environics Research Group;
- focus group meetings with police flight observers;
- focus group meetings with police officers assigned to other units and civilian members of the Toronto Police Service (Police Dog Services and Communications Centre);
- a survey of Toronto Police Service members at large;
- the review and analysis of citizen comments received during the pilot project; and
- the review and analysis of all information compiled during the pilot project.
The Toronto Police Service Air Support Unit pilot project operated from August 1, 2000 to January 31, 2001. During that time the helicopter was in the air, on average, eight hours per day, six days per week. In total, it logged 1,088 hours of flight time and attended 789 calls during the pilot project.

Based on an independent public opinion poll commissioned by Audit Services and conducted by Environics Research Group Limited, 87 percent of Toronto residents are supportive of the use of a police helicopter. In addition, even when residents were advised that the annual cost of the helicopter service would likely be in the range of $3 million, the majority of residents (68 percent) maintained their support for the use of a helicopter in police operations.

Our survey of police officers indicated an overwhelming level of support (96 percent) for the use of a helicopter in police operations.

Based on our evaluation of the operations of the helicopter during the six-month pilot project, our conclusions are as follows:

- The benefits provided by a police helicopter are a direct result of its unique aerial perspective. The helicopter, in most circumstances, is particularly effective in searches for both missing persons and suspects. The helicopter is unhampered by terrain, can bypass ground obstacles and saves time, particularly in the conduct of searches. However, due to the building density, its search capabilities in the downtown core is limited.

- Due to its speed, the helicopter is more likely to be first on the scene than a ground unit. The advance arrival of the helicopter allows it to visually “clear” the area prior to the police ground units’ arrival. Depending on the circumstances, it can also cancel ground units thus saving officer time.

- The helicopter is more effective on a general patrol as opposed to being used on an “as needed” standby basis.
The use of the helicopter increased the likelihood of apprehensions by police ground units for certain types of crime, in particular, residential break and enter, robberies, vandalism and stolen vehicles.

The helicopter is viewed by certain residents as noisy, intrusive and too expensive. Noise is an inevitable consequence of helicopter activities, especially at low altitudes. When a helicopter is involved in an occurrence, the helicopter is more effective at lower rather than high altitudes. As a result, the helicopter is noisiest when it is most effective.

Contrary to public perception, the usefulness of the helicopter during the six-month pilot project was limited in relation to vehicle pursuits. The helicopter supported 2 out of 76 vehicle pursuits that occurred during the pilot project. Neither of these pursuits was a high-speed chase. The likelihood of the helicopter being able to respond to a high-speed chase was, at best, remote, since it effectively had to be at the right place at the right time. We were advised by one of the Police Communications dispatchers that vehicle “pursuits on average are very quick and if they are more than two minutes long, then it is very unusual.” This short time frame would limit the effectiveness of a helicopter to respond to a vehicle pursuit. While the helicopter did not participate in a high speed vehicle pursuit, its surveillance capabilities may in a number of instances have prevented the need to initiate such a pursuit.

The Toronto Police Service received 125,085 high priority calls during the period of the pilot project. The majority (77 percent) of calls attended by the helicopter were high priority calls. However, these calls accounted for only 0.5 percent of all high priority calls received by the Toronto Police Service during the six-month pilot project. Consequently, any differences from a pre and post comparison of crime data for the City of Toronto cannot, in our view, be attributed exclusively to the helicopter. Other variables, such as demographics, a general downward trend in criminal activity and the health of the economy can all affect crime rates. During the pilot project the City did not appear to experience any crime deterrent benefits.
The cost of the six-month pilot project was $1.038 million, which was funded by private donations, as well as a provincial grant. A turnkey lease contract provided 1,000 hours of flight time and included two Bell Jet Ranger 206 B3 helicopters, pilots, maintenance and fuel. The cost did not include the salaries of police personnel (one sergeant and four police constables) directly involved in the project, who were re-deployed from other areas of the Toronto Police Service.

Based on the contract in effect during the pilot project, the annual cost of an air support unit is estimated to be in the range of $2 to $3 million. The final costs would be dependent on various factors, such as:

- the number of helicopters required;
- the type of helicopter required;
- the hours of operation; and
- the operational model decided upon (shared resources, fixed wing, etc.).

Placing a dollar value on the benefits attributed to the use of a helicopter to compare against its cost is extremely difficult and, in many cases, subjective. Benefits such as enhanced public and police officer safety cannot be quantified in dollars.

We have not conducted an analysis of the relative costs to purchase a helicopter compared to the costs to lease. Such a comparison would only be possible subsequent to responses received from a request for proposal process.

In the event that an ongoing air support unit is established for the City of Toronto, this report suggests alternatives that could potentially reduce the cost of an air support unit without significantly compromising its benefits.

In summary, a police helicopter can enhance officer and public safety, increase the apprehension of offenders, locate lost people, and patrol large areas of the City. However, in the view of certain residents, a police helicopter is noisy, intrusive, frightening and expensive.
Background

The City of Toronto

During its six-month pilot project, the City of Toronto Police Service’s helicopter operated in an area which covered 632 square kilometres on the north shore of Lake Ontario, extending 40 kilometres from east to west and 16 kilometres inland. The City of Toronto has a population of approximately 2.5 million people and is comprised of residential, commercial and industrial districts, as well as numerous parks, streams, ravines, rivers, four major highways and 40 kilometres of waterfront.

The City of Toronto borders Durham Region to the east, York Region to the north and Peel Region to the west. These regions plus Halton Region, together with the City of Toronto, constitute the area known as the Greater Toronto Area (GTA). The total population of the GTA is close to five million. Police helicopters operate in both Durham Region and York Region.

Toronto is a relatively safe city when compared to other large urban centres in North America. Information contained in the Toronto Police Service’s publication, “2000 Environmental Scan” dated May 2000, states that “over the past 10 years crime has decreased 18.9 percent, with a 23.7 percent drop in property crimes, offset by a 5.7 percent increase in violent crime. Crime has consistently decreased since 1993, which is consistent with the national crime trends, as well as findings from victimization surveys.”

Table 1.1 ranks the crime rates for major cities across North America, by specific crime and where applicable, identifies jurisdictions where helicopters support police operations. Despite being the largest city in Canada, Toronto’s crime rates for homicide, robbery and break and enter crimes are lower than those of most other major cities in Canada.
Table 1.1: Crime Rates Per 100,000 People for Major North American Cities

<table>
<thead>
<tr>
<th>City</th>
<th>Population</th>
<th>Homicide</th>
<th>Rank</th>
<th>Robbery</th>
<th>Rank</th>
<th>Break-In</th>
<th>Rank</th>
<th>Helicopters Owned or Leased</th>
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<td>105</td>
<td>30</td>
<td>1 216</td>
<td>22</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Toronto, ON</strong></td>
<td><strong>4 410 269</strong></td>
<td><strong>1.3</strong></td>
<td><strong>30</strong></td>
<td><strong>133</strong></td>
<td><strong>27</strong></td>
<td><strong>823</strong></td>
<td><strong>30</strong></td>
<td>Yes</td>
</tr>
</tbody>
</table>

Source: Toronto Board of Trade 1998/99 A Profile of Toronto and the Greater Toronto Area

(1) The information relating to Toronto refers to the Greater Toronto Area. Two helicopters are currently in operation in the Greater Toronto Area (Durham and York Region).

Note: The Canadian figures above are based on Census Metropolitan Area assigned by Statistics Canada and are comparable to the U.S. Metropolitan Statistical Area. In Canada “Homicide” includes first and second-degree murder, manslaughter and infanticide; in the United States it includes murder and non-negligent manslaughter. For the purposes of comparison, burglaries in the United States have been included under the term “Break-in.” It should be noted that in the U.S. cities, break-in includes burglary and commercial break-ins, while in Canadian cities it includes both residential and commercial break and enters.
The Toronto Police Service

The Toronto Police Service is comprised of 17 police divisions and has over 5,000 sworn police officers. It is the largest police service in Canada and the sixth largest in North America. In the year 2000, the Toronto Police Service responded to 761,544 calls for service.

The Toronto Police Service’s 2000 net operating budget was $557.3 million, of which approximately 90 percent was for salaries and benefits.

The Six-Month Air Support Unit Pilot Project

Over the past 13 years, the Toronto Police Service has from time to time considered the operational requirements for a helicopter. In 1997, the Toronto Police Services Board commissioned Kathryn Asbury, Ph.D., of Research Management Consultants Inc., to examine the strategic usefulness of a helicopter for the Toronto Police Service. A report entitled “The Use of Helicopters in Municipal Law Enforcement” was presented to the Toronto Police Service Board on December 12, 1997. The Chair of the Toronto Police Services Board recommended at the same meeting that “in order for the Board to reconsider its decision on the purchase of helicopters, the Chief of Police provide a business plan to the Board.” In response to this request, the Chief of Police presented a business case for the Air Services Unit for the Board’s consideration on July 15, 1998. At that time, the Toronto Police Services Board approved in principle the establishment of a six-month Air Service pilot project provided it be funded by public and corporate sponsors.

An Independent Evaluation

In considering the Toronto Police Service 2000 operating budget, Toronto City Council approved the six-month air support unit pilot project for the Toronto Police Service, subject to a number of conditions. One of the conditions was that the City Auditor conduct an evaluation of the pilot project using an evaluation plan and methods agreed to by the Toronto Police Service.
The Toronto Police Services Board approved the establishment of the pilot project on the terms and conditions approved by Toronto City Council on May 1, 2000. An evaluation plan was developed by the City Auditor and was approved by the Toronto Police Services Board on June 29, 2000. The pilot project became operational on August 1, 2000 and ended on January 31, 2001.

The City Auditor is independent from both the management of the City of Toronto, as well as the Toronto Police Service. By virtue of this independence, this evaluation was independent of all key stakeholders.

**Evaluation Objectives**

The overall objectives of the evaluation are twofold:

- to perform an independent analysis of the benefits of helicopters in policing activities in general and, more specifically, in Toronto; and

- to provide the Chief of Police, the Toronto Police Services Board and Toronto City Council with the necessary information to assist them in making an informed decision regarding the establishment of a permanent helicopter air support unit.

The evaluation addresses the following questions:

- Are the outcomes of calls different when the helicopter is involved?
- Are officers able to finalize calls more quickly because the helicopter was at the scene?
- Does the helicopter contribute to officer safety?
- To what types of calls does the helicopter best contribute?
- Is the helicopter instrumental in crime deterrence?
- What is the public perception of the use of a helicopter in policing?
- Is the use of a helicopter by the Toronto Police Service worth the cost?
**Evaluation Methods**

Our evaluation of the Air Support Unit was designed to be an assessment of the normal operations of the helicopter. In this regard, we did not impose controls on the use of the helicopter in terms of what areas it patrolled, what calls it responded to or at what times it was in the air, as might be the case with an experimental study.

A results-based approach was used in conducting this evaluation. Benefits were measured in terms of outcomes and impacts that specifically result from the involvement of the helicopter on a call or at an event. Information, such as the number of calls attended or first on the scene, is of interest. However, our focus is on what value, if any, the helicopter directly added to the event it attended.

In developing the evaluation methods, City Audit Services consulted with Kathryn Asbury, Ph.D. of Research Management Consultants Inc. to review and provide advice on the proposed evaluation methods for the pilot project. As mentioned earlier, Kathryn Asbury prepared the initial research report for the Toronto Police Services Board. In addition, she completed the 1999 evaluation of the Halton, Hamilton-Wentworth, Peel Police Services shared helicopter pilot project.

Prior to the Toronto pilot project becoming operational, the Director of Audit Services met with and participated in a helicopter flight with members of the Durham Regional Police Service Air Support Unit to gain a perspective on their operations and identify any issues of which Audit Services should be aware of in conducting its evaluation.

A detailed evaluation plan was developed and included the following:

- establishing a process to capture, consider and respond to comments from the public, including enquiries and complaints;
- a review of police helicopter research studies and evaluations;
- a survey of police jurisdictions that operate helicopters. Our survey focused on specific experiences, concerns and issues in relation to police helicopters;

- a survey of police jurisdictions which at one time operated helicopters but no longer do so. Our survey focussed on the reasons why the helicopter service was discontinued;

- a survey of police jurisdictions that do not operate and have never operated a helicopter service to determine the reasons why a helicopter service had not been formed;

- using the services of Environics Research Group Limited to conduct an independent public opinion poll of a representative sample of Toronto residents;

- a systematic review of each event log provided by the Toronto Police Service’s Air Support Unit in order to select a sample of event logs to evaluate the impact of the helicopter;

- interviews with ground police officers to determine the nature, extent and impact that the helicopter made in regard to selected events;

- focus group meetings with police flight observers who monitored and directed the response to events from the helicopter;

- focus group meetings with other police units (e.g., the Police Dog Services Unit, Communications Centre dispatchers) to determine how well the Air Support Unit was integrated into overall police operations;

- an independent survey of Toronto police officers from six separate police divisions;

- discussions with Senior Police Command officers;

- the analysis of other information compiled during the pilot project; and

- a review of various sites on the Internet, including the U.S. based Association of Airborne Law Enforcement and the Toronto web site entitled “Stop the Choppers”.

In the course of performing this evaluation, we worked with members of the Toronto Police Service Air Support Unit who provided information as required. Documentation provided to us was reviewed for reasonableness and where clarification was required, additional information was requested.

The City Auditor and two of the senior audit staff involved in the evaluation also participated in separate individual “fly alongs” with the Air Support Unit, to review first hand the operational capabilities of the helicopter and its equipment. In addition, we reviewed video footage of certain events attended by the Air Support Unit.

During the pilot project, we also met with the president of the Toronto Police Association to obtain the Association’s perspective on the Air Support Unit and, to identify any issues or concerns with respect to the use of helicopters by the Toronto Police Service.

An experimental study was recently conducted in London, Ontario by Paul C. Whitehead, Ph.D., Professor of Sociology at the University of Western Ontario. A report was prepared and issued in January 2001 entitled “The Eye in the Sky: Evaluation of Police Helicopter Patrols – The London Police Service Helicopter Research Project.”

In conducting our evaluation, we consulted with Professor Whitehead, Ph.D. and also attended his presentation of the report to the London Police Services.

A summary of the key aspects of Professor Whitehead’s study is included in the section of our report entitled “Other Studies and Evaluations.”

In addition, we attended a public forum sponsored by a Toronto organization called “Stop the Choppers”. The purpose of the forum was to initiate a public discussion on how the police helicopter service will affect the residents of Toronto.
Other Studies and Evaluations

Various studies and evaluations have been conducted throughout North America over the years in an effort to determine the impact of helicopters on law enforcement. Much of the research conducted on police helicopters is American and dates back to the late 1960s and 1970s. These studies focused on the impact of the helicopter on specific types of crime, as well as the operational benefits that it provides to law enforcement agencies. A summary of the more significant studies, as well as a synopsis of the results of other police service evaluations on helicopter use, are provided below.

Other Studies

Police air support units throughout North America have existed in some form or another since the 1920s. These units initially made use of fixed-wing aircraft. As helicopters entered the market, they were incorporated into the existing fleets. The early benefits provided by air support units were, essentially, in the area of traffic management, particularly in terms of the aerial perspective provided by the unit. As technology developed, it enabled the various air support units to make use of onboard auxiliary equipment and expanded the unit’s capabilities to a far wider range of activities.

One of the earlier studies, which served as a precedent for much of the work that followed, was commissioned by National Aeronautics and Space Administration (NASA) and conducted by the Jet Propulsion Laboratory’s Space Technology Applications Office. This study, which was conducted in 1969 in collaboration with the Los Angeles Police Department, found that helicopters are “most effective in preventing robberies and auto theft.” In other words, the Jet Propulsion Laboratory’s study concluded that the operation of an air support unit deterred specific types of crime. The study also concluded that “helicopters increased the effectiveness of police operations, specifically in relation to increasing rates of apprehension.”
A recent independent research project of police helicopter patrols was conducted in London, Ontario by Paul C. Whitehead, Ph.D., Professor of Sociology at the University of Western Ontario. The Ontario Ministry of the Solicitor General and Correctional Services and the National Search and Rescue Secretariat, as well as the private sector funded this Canadian study, which took place between July 1999 and June 2000. This research project included a critical review of the literature on previous studies performed in this area.

The full text of Professor Whitehead’s study, which was released in January 2001, (updated March 2001) is available on the Canadian Police Research Centre Internet site at www.cprc.org.

The two main objectives of the London, Ontario study were to evaluate:

- whether helicopter patrols have a deterrent effect on the incidence of certain types of crimes; and
- whether a helicopter increases the operational effectiveness and efficiency of a police service.

Professor Whitehead assessed the deterrent effect of helicopter patrols on crime using a pre-test-post-test design for five matched comparison areas. This work compared the frequency of crime occurrences per 10,000 population of specific crimes in the three-month period prior to the use of helicopters to the three-month period that had helicopter patrols. There was also a year-over-year comparison design for one area for which no comparison community was available.

Professor Whitehead concluded the following:

“Results from the London Police Service Helicopter Research Project do not support the hypothesis that police helicopter patrols have a suppression effect on rates of crime. Helicopter patrols do not displace crime to other areas and neither do they have a spillover effect to nearby areas.”
“The operational benefits of helicopter policing stem directly from the unique dimensions that it provides: aerial perspective, speed and mobility and the ability to light an area. It facilitates many types of searches, saves time, adds to citizen and officer safety and increases apprehensions.”

Professor Whitehead’s study and the Jet Propulsion Laboratory’s study were each conducted by independent evaluators who were able to impose controls on the study (i.e., they controlled the use of the helicopter) to maintain an appropriate level of scientific rigor. While both of these studies concluded that a helicopter enhanced the operational effectiveness of policing, they arrived at different conclusions with respect to its effect on crime deterrence. Our comments on operational effectiveness and crime deterrence in relation to the Toronto Police Service helicopter pilot project are included in the section of our report entitled “Findings and Observations.”

**Other Evaluations**

Three separate evaluations on the benefits of helicopters in police operations have recently been conducted in Ontario. The police services of Durham and York Regions conducted separate evaluations of a joint pilot project, while the Halton, Hamilton-Wentworth and Peel Regions prepared a combined evaluation on a joint pilot project.

The police services of Durham and York Regions established a joint air support unit for a six-month trial period commencing in June 1999. During this time, the use of the helicopter alternated between the two regions. The evaluation of this joint pilot project was not conducted by an independent third party. Rather, each police service performed an evaluation of the impact and benefits of the helicopter on their respective operations. Separate evaluation reports were produced by each police service.
The Durham Regional Police Service Air Support Unit attended 680 calls during the 13 weeks in which the helicopter was available to the region. During that time the helicopter was in the air for approximately 400 hours. The York Regional Police Service Air Support Unit attended 389 calls and was in the air for 329 hours for its 13 weeks of operation.

Both the Durham and York Regional Police Services claimed a decrease in break and enter crimes, as well as savings in police ground officer time while the helicopter supported their operations. Durham Region also attributed a decrease in the number of vehicle pursuits and stolen vehicles to the helicopter, while York Region reported success in drug related missions. The helicopter was used across each respective region, and its impact was measured based on a comparison of 1998 data when there was no helicopter to the 1999 data set when the helicopter was present for a 13 week time period. No control areas were used for comparison purposes and the evaluations did not acknowledge or consider other variables that may have contributed to the reduced number of specific crimes that were attributed to the helicopter. For example, there is no acknowledgement that crime trends on a year to year basis have been declining throughout Canada (Canadian Centre for Justice Statistics). As a result, it is likely that there would have been a downward trend in criminal activity even if the helicopter wasn’t operational. In addition, the reduction in vehicle pursuits may also have been due to changes in policies relating to vehicle pursuits which have become more restrictive over the past year or so.

The general public in both Durham and York Region, according to the evaluations, expressed a high level of support for the continuation of the Air Support Unit.

The police services in the Halton, Hamilton-Wentworth and Peel Regions also conducted a pilot project that shared a helicopter among the three regions from July to December 1999. Each region had use of the helicopter for two nights per week, giving each region 12 hours of flight time each week, on a rotating basis. The evaluation of this shared pilot project was conducted by Kathryn Asbury of Research Management Consultants, an independent management consulting firm, that was retained after the pilot project had ended. Research Management Consultants concluded that the helicopter was a valuable operational tool that contributed to a broad range of
calls by providing rapid response to priority calls and increasing the likelihood of observing suspects leaving a crime scene.

Halton, Hamilton-Wentworth and Peel Regional Police Services set targets for the reduction of specific crimes. These targets were to be achieved as a result of having a police helicopter. Research Management Consultants concluded that limitations in the design of the helicopter project, as well as in the data collected made it impossible for them to determine whether the targets were met. In essence, the conclusions reached in this report were that the helicopter was an effective tool in assisting police operations, but that there was no definitive means of measuring whether or not the helicopter deterred crime.
The Experience of Other Jurisdictions

Six police agencies in Canada own or operate helicopters to support their police operations. These agencies are the Calgary Police Service, the Ontario Provincial Police, the Royal Canadian Mounted Police, the Durham Regional Police Service, the York Regional Police Service and the Sûreté du Québec. On an as needed basis, several municipal police services (Vancouver and Montreal) make use of the helicopters of provincial, federal police agencies and the military.

Helicopters have been operational for over 50 years in the United States. Based on an article in “Helicopters Magazine” issued in 1997, there are reportedly 325 American police agencies using a total of 450 helicopters. In addition, there are 43 police organizations in England and Wales who have direct or indirect access to air support helicopter units.

Many law enforcement agencies in North America use helicopters and fixed-wing planes to support police operations. Table 1.2 provides information relating to the seven largest police services in North America and offers a summary of the number of helicopters that each police service owns or leases to support their respective operations.

Table 1.2: Seven Largest Police Services In North America

<table>
<thead>
<tr>
<th>Rank</th>
<th>City</th>
<th>Number of Police Officers</th>
<th>Number of Helicopters Owned or Leased</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>New York</td>
<td>47,460</td>
<td>6</td>
</tr>
<tr>
<td>2</td>
<td>Chicago</td>
<td>17,087</td>
<td>None</td>
</tr>
<tr>
<td>3</td>
<td>Los Angeles</td>
<td>12,441</td>
<td>16</td>
</tr>
<tr>
<td>4</td>
<td>Philadelphia</td>
<td>7,736</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>Houston</td>
<td>7,427</td>
<td>9</td>
</tr>
<tr>
<td>6</td>
<td>Toronto</td>
<td>5,149</td>
<td>None</td>
</tr>
<tr>
<td>7</td>
<td>Detroit</td>
<td>4,630</td>
<td>4</td>
</tr>
</tbody>
</table>

Source: Toronto Police Service and other police jurisdictions.
In order to gain a perspective on the experience of other police jurisdictions in relation to their use of helicopters, our review included a survey of 27 jurisdictions throughout North America. In addition, we contacted the police service in New Scotland Yard, London, UK.

We received responses from 23 jurisdictions, which included 16 U.S. jurisdictions, six Canadian cities and one European city. The cities contacted included those with a helicopter unit, those without and those that had, at one time, operated a helicopter but for various reasons had discontinued their use. Information for each city is listed in Table 2.1:

Table 2.1: Survey of Helicopter Use by Police Services

<table>
<thead>
<tr>
<th>Police Service</th>
<th>Police Officers</th>
<th>Population</th>
<th>Square Kilometres</th>
<th>Number of Helicopters Leased or Owned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albuquerque, New Mexico</td>
<td>930</td>
<td>570,000</td>
<td>3,109</td>
<td>2</td>
</tr>
<tr>
<td>Baltimore, Maryland</td>
<td>3,200</td>
<td>750,000</td>
<td>207</td>
<td>None</td>
</tr>
<tr>
<td>Broward County, Fort Lauderdale</td>
<td>4,000</td>
<td>1,400,000</td>
<td>3,329</td>
<td>4</td>
</tr>
<tr>
<td>Calgary, Alberta</td>
<td>1,200</td>
<td>850,000</td>
<td>280</td>
<td>1</td>
</tr>
<tr>
<td>Chicago, Illinois</td>
<td>17,087</td>
<td>3,005,000</td>
<td>600</td>
<td>None</td>
</tr>
<tr>
<td>Dallas, Texas</td>
<td>2,900</td>
<td>1,000,000</td>
<td>907</td>
<td>4</td>
</tr>
<tr>
<td>Detroit, Michigan</td>
<td>4,630</td>
<td>1,000,000</td>
<td>Not provided</td>
<td>4</td>
</tr>
<tr>
<td>Durham Region, Ontario</td>
<td>700</td>
<td>460,000</td>
<td>1,200</td>
<td>1</td>
</tr>
<tr>
<td>Edmonton, Alberta</td>
<td>1,100</td>
<td>648,000</td>
<td>700</td>
<td>None</td>
</tr>
<tr>
<td>Fort Worth, Texas</td>
<td>1,202</td>
<td>550,000</td>
<td>Not provided</td>
<td>2</td>
</tr>
<tr>
<td>Houston, Texas</td>
<td>7,427</td>
<td>1,232,000</td>
<td>1,166</td>
<td>9</td>
</tr>
<tr>
<td>King County, Seattle, Washington</td>
<td>1,100</td>
<td>1,500,000</td>
<td>6,477</td>
<td>4</td>
</tr>
<tr>
<td>Los Angeles, California</td>
<td>12,441</td>
<td>3,498,137</td>
<td>1,244</td>
<td>16</td>
</tr>
<tr>
<td>Mesa, Arizona</td>
<td>800</td>
<td>422,000</td>
<td>316</td>
<td>2</td>
</tr>
<tr>
<td>New Scotland Yard, London, UK</td>
<td>2,600</td>
<td>8,000,000</td>
<td>Not provided</td>
<td>3</td>
</tr>
<tr>
<td>New York, New York</td>
<td>47,460</td>
<td>8,000,000</td>
<td>Not provided</td>
<td>6</td>
</tr>
<tr>
<td>Ottawa, Ontario</td>
<td>1,038</td>
<td>822,000</td>
<td>2,757</td>
<td>None</td>
</tr>
<tr>
<td>Philadelphia, Pennsylvania</td>
<td>7,736</td>
<td>1,528,000</td>
<td>Not provided</td>
<td>2</td>
</tr>
<tr>
<td>Phoenix, Arizona</td>
<td>3,000</td>
<td>1,300,000</td>
<td>1,295</td>
<td>9</td>
</tr>
<tr>
<td>Pittsburgh, Pennsylvania</td>
<td>Not provided</td>
<td>350,000</td>
<td>145</td>
<td>None</td>
</tr>
<tr>
<td>San Diego, California</td>
<td>2,064</td>
<td>2,150,000</td>
<td>1,036</td>
<td>3</td>
</tr>
<tr>
<td>Vancouver, British Columbia</td>
<td>Not provided</td>
<td>1,884,000</td>
<td>Not provided</td>
<td>None</td>
</tr>
<tr>
<td>York Region, Ontario</td>
<td>900</td>
<td>750,000</td>
<td>1741</td>
<td>1</td>
</tr>
</tbody>
</table>
In an attempt to maintain an independent perspective, our contacts with other North American cities were initially directed to City managers and the internal audit community. Except for the City of Detroit, we were not able to obtain any significant information relating to the use of police helicopters from these sources. Consequently, the vast majority of information we have been able to obtain is derived from discussions with senior police officers from the respective air support units.

Of the jurisdictions contacted, the cities of Pittsburgh, Baltimore, Chicago, Edmonton, Vancouver and Ottawa do not operate their own helicopter for law enforcement purposes. With the exception of Pittsburgh, all of these jurisdictions are in the process of exploring the use of some form of air support, including fixed-wing, for their police services.

The City of Pittsburgh indicated to us that the City’s demographics and the cost of helicopter patrols do not warrant the purchase of a helicopter. Instead, as in the case of certain other American police services, they use the helicopters of the state or county on an as-needed basis.

The Baltimore Police Department, operated four to five helicopters from 1970 to 1996. In 1996, Baltimore privatized the helicopter operations by entering into a turnkey lease agreement with a commercial operator. The Baltimore Police Department experienced a fatal accident in both 1997 and 1998, at which point the helicopter operation was discontinued. Legal action regarding these accidents is still pending. At the time of our survey the Baltimore Police Department was preparing a business case to reintroduce its helicopter operations.

Chicago, which is comparable in size and population to the City of Toronto, covers 600 square kilometres and has a population of approximately three million residents. The Chicago Police Service operated helicopters from 1968 to 1979. In 1971, a forced landing occurred that resulted in some property damage and personal injury. As a result, after 1971 the helicopter was used on a “stand by” basis for surveillance activities, search flights, photo missions and nighttime illumination of crime scenes. A decision was made in 1979 to disband the air support unit as it was not deemed to be cost effective. However, the Chicago Police Service has recently prepared a preliminary report outlining the operational benefits of police helicopters, in an attempt to
reintroduce their use in the City. At the present time a decision has not been made as to whether to proceed. On an as needed basis, Chicago currently uses the services of its fire department helicopters.

The Detroit Police Department operates four helicopters. Three of the four helicopters were essentially grounded from early June to late September, 2000. An independent review of the flight status of the helicopters recently conducted by the City of Detroit Auditor’s office concluded that inadequate management of the Air Support Unit’s mechanical maintenance function contributed significantly to the grounding of the helicopters. We are not aware as to the operational impacts of the Auditor’s report, as this report has only been recently issued.

In Canada, the City of Calgary, and the Regional Municipalities of Durham and York use helicopters in police work. In Calgary, the initial capital cost of the helicopter was financed by private donations. In York Region, a citizen donated the helicopter to the region. The property tax base finances the operating costs of these helicopters. The Durham Regional Police Service currently leases its helicopter. The cost of the lease and the operating costs of the helicopter are financed by the property tax base.

The Edmonton Police Service is in the process of raising private funds in an effort to purchase a fully equipped helicopter at a capital cost of approximately $1.95 million. We understand that both Montreal and Vancouver use the services of private or other police agency helicopters on an as needed basis.

Although the evaluation of the Halton, Hamilton-Wentworth and Peel Regions shared helicopter pilot project was relatively positive, none of these regions have made the decision to proceed with the formation of an air support unit, generally because of the significant costs involved.

The City of Ottawa has recently approved the procurement of a fixed-wing aircraft as a front-line investigational tool. In a report to the Executive Director of the Ottawa-Carleton Regional Police Services Board, dated November 30, 2000, the Chief of Police indicated that a fixed-wing aircraft “can undertake 80 percent of helicopter missions at 30 percent of the cost.”
Many of the jurisdiction we surveyed have operated helicopters for a significant number of years. For example, the Los Angeles Police Department’s airborne law enforcement program began with one helicopter in 1956. This helicopter was assigned primarily for traffic patrol of the City’s freeway system. In 2001, The Los Angeles Police Department operates with a fleet of 16 helicopters. In 1948, the City of New York became the first police service to operate a helicopter. It currently has a fleet of six helicopters and is responsible for patrolling the City’s five boroughs and the surrounding waters.

Key highlights from our survey of jurisdictions, as well as discussions with senior police officers at these jurisdictions, are summarized below:

1. The benefits from a helicopter unit include increased operational effectiveness, increased search capability, rapid response to calls, increased officer safety, deterrence of crime, traffic monitoring, reduction of vehicle pursuits and fire detection.

2. All North American police services surveyed use helicopters on a general patrol basis, while New Scotland Yard in England use their helicopters on a standby (as needed) basis, to reduce operating costs.

3. The cost to acquire and operate a helicopter is significant. Ongoing operations, including maintenance must be adequately funded.

4. Ground based police officers have a significantly increased sense of security when the helicopter is operating overhead.

5. The need to integrate the operation of the helicopter with the deployment of officers on the ground is of paramount importance. The importance of providing integrated training to observers, pilots and police ground officers is crucial in the success of any air support unit.
6. The importance of safety in the operation of the helicopter and the need for experienced pilots were emphasized.

7. Certain jurisdictions operated with police officer pilots while others operated with civilian pilots.

8. Helicopter noise is a concern for certain citizens.

Based on information provided by Kathryn Asbury in her 1997 report “The Use of Helicopters in Municipal Law Enforcement” many of the police aviation units in the U.S. were initiated in the early 1970s with surplus military aircraft (e.g., Albuquerque, New Mexico). Also, in certain instances the financing of helicopter acquisitions has been provided through federal grants and from the proceeds of crime.

We have not conducted cost comparisons in relation to the air support units operated in various jurisdictions due to the significant number of differences between jurisdictions, such as:

- the number of helicopters operated;
- the type of helicopters operated;
- the hours of operation of the air support unit; and
- the method of acquisition of the helicopter – leased, purchased or donated.

In summary, our review of jurisdictions throughout North America indicate that the police services of those cities who operate a helicopter view them as being effective and efficient in many different aspects of police operations. There is also the recognition that a helicopter unit is costly both in terms of the original acquisition, as well as its normal operating costs. The method of operation in the majority of cases is on a general patrol basis and not on a standby (as needed) basis. A majority of those jurisdictions that do not operate a helicopter are currently considering the introduction of such a unit.
The helicopters for the six-month pilot project were leased through Canadian Helicopters Limited and included the cost of the civilian pilots. Each flight team consisted of one police flight observer and a civilian pilot. The Air Support Unit operated out of the Toronto Island Airport.

One sergeant and four police constables staffed the Toronto Police Service Air Support Unit. Each of these officers had considerable police experience, and was re-deployed from other areas of the Toronto Police Service. The sergeant and three of the four constables are also licensed fixed-wing and/or helicopter pilots.

The sergeant was responsible for the management of the Air Support Unit, the deployment of the helicopter, maintaining operational statistics and responding to citizen inquiries. In addition, during the pilot project, the sergeant was the main liaison with City Audit Services.

The four police constables, who operated as in-flight police observers, monitored radio calls, decided which calls to attend, operated all on board auxiliary equipment and communicated with the Toronto Police Service Communications Centre dispatchers on the ground. When attending a crime scene or a potential crime scene, the police flight observers communicated with police ground officers and Communications Centre dispatchers. When not in the air, the police flight observers documented information related to each flight.
The Helicopters and Auxiliary Equipment

The Air Support Unit utilized two Bell Jet Ranger 206 B3 helicopters. This particular helicopter can accommodate four people, is capable of flying at a speed of 195 kilometres per hour and has a maximum patrol time of approximately two hours.

The helicopters were equipped with auxiliary equipment that included the following:

- a surveillance camera and monitor
- VCR recorder
- searchlight
- thermal imager (infrared)
- public address system
- emergency floatation kit (on one helicopter only).

Each helicopter also had wireless transmission capability which provided a “downlink” to police divisions throughout the City and the Toronto Police Service Communications Centre. The purpose of the downlink was to provide simultaneous video images to designated receiver stations on the ground.

The surveillance camera had the capacity to zoom in on objects on the ground at various altitudes. This facility enabled the helicopter to observe activity on the ground from an altitude of up to 2,000 feet. The VCR recorder operated continuously throughout each flight and provided, where necessary, evidence relating to various occurrences.

A 30 million – candlepower searchlight was attached to the underside of each helicopter. The searchlight was controllable through 360 degrees and had the capacity to light up significant ground areas.
The thermal imager (infrared) provided the police flight observer with the ability to locate objects by displaying heat images. This equipment is used primarily in searches for missing persons or suspects since it can differentiate temperature variations between persons and the surroundings. This technology is also useful in detecting drug laboratories due to the high temperature generated in the cultivation of drugs.

**The Cost**

A request for proposal was issued through the City of Toronto Finance Department on behalf of the Toronto Police Service. Of the 22 firms that were invited to submit proposals, two responded: Canadian Helicopters Limited of Toronto and National Helicopters of Kleinburg, Ontario.

The cost of the six-month pilot project was $1.038 million. This cost was based on a contract awarded to Canadian Helicopters Limited for a turnkey lease package which consisted of two fully equipped Bell Jet Ranger helicopters, and included the cost of civilian pilots, fuel, maintenance and other related expenses. The contract provided for 1,000 hours of flight time during the pilot project. The cost of the helicopters was approximately $1,000 per hour.

The $1.038 million cost of the pilot project did not include the cost of police personnel assigned to the Air Support Unit. The cost of these police officers, which were re-deployed from other areas of the service, was approximately $200,000 for the six-month period of the pilot project. The full cost of the Air Support Unit pilot project for the six-month period was therefore in the range of $1,238,000.

One of the conditions stipulated by City Council in approving the helicopter pilot project was that the cost of the project have no impact on the 2000 operating or capital budgets of the Toronto Police Service or the City of Toronto. In other words, the full cost of the pilot project would have to be financed through private and public sponsorship. In a report to the Toronto Police Services Board dated June 1, 2000, the Chief of Police advised that the public fundraising campaign combined with a $250,000 provincial grant resulted in commitments that exceeded the
$1.038 million required for the project. The City of Toronto Finance Department has advised that as of March 31, 2001, $809,771 (which includes the provincial grant) has been received, and that the outstanding donations of $228,229 are expected within the next number of months.

The Expected Benefits of the Air Support Unit

The benefits frequently cited by other jurisdictions and in various studies on the use of helicopters in police operations can be broadly summarized into three main categories. Specifically, helicopters in police operations are purported to:

- increase operational efficiency and effectiveness;
- enhance public and officer safety; and
- reduce or deter rates of crime.

The Toronto Police Service prepared a business case for an Air Service Unit in July 1998. The proposed mission statement for the Air Service Unit presented in that business case was:

“To increase both public and officer safety by providing swift response to life threatening incidents and crimes in progress.”

The business case and a report, dated March 27, 2000, from the Mayor’s Office, outlined various benefits that could be expected from the use of police helicopter patrols. These benefits included the ability to:

- enhance operational decision making and assist police ground units to be more economically, effectively and safely deployed at large disturbances, public events, crime scenes;
- respond rapidly to calls;
- conduct more efficient searches for missing persons and suspects;
- increase the likelihood of apprehending criminals;
- control, observe and provide support during vehicle pursuits;
- enhance public safety by assisting other emergency services;
- enhance officer safety;
- reduce crime (break and enters, auto thefts) in high crime areas;
- assist in drug detection and eradication;
- increase the recovery of stolen property (especially vehicles);
- assist with traffic management; and
- provide video footage as evidence.

In conducting our evaluation, we assessed whether the expected benefits noted above were achieved. It is important, however, in reviewing this report that many of the benefits ascribed to helicopters effectiveness evaluation are, for the most part, subjective. For example, the determination as to whether police officer’s safety has been enhanced is difficult to measure but is reported as a significant benefit by the majority of ground officers supported by the helicopter.
Summary of Air Support Unit Operations

Although two helicopters were available, only one helicopter was in the air at any given time. The statistical information and analysis presented in our report reflects the costs, number of occurrences and outcomes of the operations for both helicopters. The results, however, are presented as though there was only one helicopter.

The police flight observers of the Air Support Unit maintained event logs during the pilot project. These event logs captured information, such as the event date, the start of each flight, response time of each flight, the area patrolled, altitude on the scene, the extent of time on the scene, details regarding the use of the infrared and searchlight equipment, number of arrests made at the event and also provided a summarized description of the event. The log also identified the police flight observer and the badge numbers of the police ground officers involved and whether the assistance of the helicopter was considered “vital” from the police flight observers’ point of view.

At our request, these event logs were forwarded to our office on a regular basis. A sample of these logs were reviewed by us and formed the basis of the analysis that is presented in the “Findings and Observations” section of this report.

Operational Statistics

Operational statistics, on the Air Support Unit, are summarized in Table 4.1. This information was provided by the Air Support Unit.

During the six-month pilot project, the helicopter was unable to fly on 11 days due to inclement weather. On an additional 21 days, the helicopter only flew for part of its planned hours of operation. As one would expect, adverse weather conditions impacted the helicopter operation more often during the months of December and January. In fact, in December, there were a total of 12 days in which the helicopter did not fly or only flew for part of the day.
Table 4.1: Summary of Helicopter Operation (August 1, 2000 to January 31, 2001)

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planned Days of Operation</td>
<td>158</td>
</tr>
<tr>
<td>Actual Full Days of Operation</td>
<td>126</td>
</tr>
<tr>
<td>Actual Partial Days of Operation</td>
<td>21</td>
</tr>
<tr>
<td>Non-Operational Due to Inclement Weather</td>
<td>11</td>
</tr>
<tr>
<td>Hours Flown</td>
<td>1,088</td>
</tr>
<tr>
<td>Average Hours Flown Per Day of Operation</td>
<td>8</td>
</tr>
<tr>
<td>Calls Attended</td>
<td>789</td>
</tr>
<tr>
<td>Event Logs Received by Audit Services</td>
<td>722</td>
</tr>
<tr>
<td>Calls First on Scene</td>
<td>223</td>
</tr>
<tr>
<td>Average Response Time to a Call (Minutes)</td>
<td>3.9</td>
</tr>
<tr>
<td>Average Time on a Call (Minutes)</td>
<td>23.0</td>
</tr>
<tr>
<td>Average Number of Calls Per Day</td>
<td>6.0</td>
</tr>
<tr>
<td>Calls Attended Per One Hour of Flying Time</td>
<td>0.75</td>
</tr>
<tr>
<td>Thermal Imaging (Infrared) Used</td>
<td>721</td>
</tr>
<tr>
<td>Search Light Used</td>
<td>311</td>
</tr>
<tr>
<td>Events Attended Where Apprehensions Occurred</td>
<td>110</td>
</tr>
<tr>
<td>Persons Apprehended at Calls Attended by the Helicopter</td>
<td>155</td>
</tr>
<tr>
<td>Helicopter Considered Vital to Outcome of Event</td>
<td>455</td>
</tr>
</tbody>
</table>

As indicated above, on average, the helicopter attended a total of six calls during eight hours per day that it was in the air. The average time spent on a call was approximately 23 minutes. Each police flight observer was in the air for approximately four hours during a 10-hour shift. The remainder of the time was used to complete the event logs and for training.

The Air Support Unit reported that apprehensions occurred at 110 of the 789 events attended by the helicopter and that a total of 155 apprehensions were made at these events. The Air Support Unit did not identify which of these arrests were directly attributable to the helicopter. We addressed this particular issue in our evaluation by interviewing the police ground officers involved at a selected sample of these events in order to obtain their perspective on what impact the helicopter had in terms of contributing to the apprehensions. Our interviews also elicited information in relation to the value the helicopter provided to the event. The results of these interviews are provided in the “Findings and Observations” section of this report.
There were no statistics maintained by the Air Support Unit or the Communications Centre to determine the number of times when the helicopter was required as a support to various crime scenes, but was not available. In conducting our survey of a number of police ground officers, we were advised, however, that there were several instances when the helicopter was required, but was not available. The reasons cited included situations when the need was outside the operational hours of the helicopter, instances when the helicopter could not get clearance to fly in restricted air space, instances when the weather did not allow flying and times when the helicopter required refuelling.

**Deployment of Helicopters During Pilot Project**

The Toronto Police Service Air Support Unit pilot project operated from August 1, 2000 to January 31, 2001. During that time, the helicopter was in the air eight hours per day, six days per week. The Air Support Unit operated on a general patrol basis and not on a stand by basis during the pilot project. While on general patrol, the helicopter flew at an altitude of 1,500 to 2,000 feet, dropping down if necessary to an altitude of 800 to 1,000 feet when attending to a call.

Figure 4.2 shows the deployment of the helicopter in terms of the number of calls it attended in each police division during the pilot project.

**Figure 4.2: Deployment of the Helicopters by Division**
General Patrol Versus Standby

Throughout North America and Europe, police services operate their helicopters either on a general patrol basis or on a standby basis (i.e., remaining at its base until it receives a call for assistance).

The Toronto Police Service helicopter was used on a general patrol basis when not responding to an event. The police flight observers while in the air monitored the Communications Centre air band to determine if there were any events at which they could assist police ground units. If such a need was determined, they would attend the call.

General patrol is by far the preferred mode of operation for police helicopter units in both the U.S. and Canada. General patrol avoids the time required to assemble the flight team, warm-up the helicopter, and obtain flight clearance each time a call for helicopter support is received. By being in the air instead of at its base, the helicopter can respond within a short time span and be available immediately to attend crimes in progress or crimes that have just occurred.

If the helicopter was deployed on a stand-by basis, it would only be used to service specific events and would remain at its base the rest of the time. While this may reduce the variable costs (e.g., fuel), it would adversely impact a key attribute of the helicopter, that is, the speed with which it gets to an event. The stand-by mode of operation would only be effective if the helicopter was used exclusively for search and rescue activities, surveillance requests and other special events.

Response Time and First On Scene

Response time for any police vehicle is a function of the number of police units available, the number of ongoing events, the priority level of each event and the area of coverage. While these factors play a role in the response time of a helicopter, a helicopter has a faster response time, when on general patrol, than conventional police ground units.
A faster response time results in the helicopter being first on the scene more often. Due to the speed of the helicopter in getting to the scene there is more likelihood that the crime may still be in progress and the suspects still at the scene or in the immediate vicinity. This, together with the aerial perspective of the helicopter, increases the probability of locating and maintaining surveillance of the suspects and increases the likelihood of apprehension by police ground units.

During the pilot project, the average response time for the helicopter was 3.9 minutes. According to the Toronto Police Service “2000 Environmental Scan”, the average response time for a police car in Toronto is 8 minutes.\(^1\)

In the London, Ontario study, police flight observers had access to an “event holding queue” while in the air. An event holding queue displays incoming calls by priority level that have not yet been assigned to police ground units by the Communications Centre. Access to this queue contributed to the London police helicopter being first on scene for 57 percent of the total occurrences it attended. This in turn allowed the London police observers to assess the situation at these calls and, if appropriate, cancel police officers who would otherwise be dispatched. The ability to do this resulted in savings in officer time and the redeployment of officers to other occurrences. The London study reported a total of 106 officer calls being cancelled by the helicopter.

During the Toronto Police Service pilot project, the helicopter was first on scene for 223 (28 percent) of the 789 calls attended. Unlike the flight observers of the London Police Service, the Toronto Police Service helicopter flight observers did not have access to an event holding queue. We understand from our discussions with senior members of the Toronto Police Service that there are logistical problems in the ability of the Toronto Police Service to develop an event holding queue similar to the one in operation in London. In addition, the standard protocol followed by the Toronto Police Service Communications Centre was to dispatch police ground units first and then call on the helicopter to play a support role if necessary. The Toronto Police

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\(^1\) The Computer Aided Dispatch system was first introduced in 1996 and requires officers to acknowledge their arrival time via a mobile data terminal. In 1999 there was 45.8 percent compliance in Priority 1 calls which is what this figure represents.
Service Communications Centre dispatchers, as well as the police flight observers, claimed that calling on the helicopter for assistance at an event, particularly in the early stage of the project was “generally an after thought”.

This particular circumstance, combined with the lack of access to an event holding queue, adversely impacted the ability of the helicopter to be first on the scene at certain events.

The Toronto Police Service flight observers indicated that when the helicopter was first on the scene, it resulted in the cancellation of police ground units in certain cases. However, no statistics were maintained of the events at which these cancellations occurred or the estimated time savings resulting from these cancellations. Consequently, it is not possible to provide any further analysis on this particular matter.

**Constraints on the Use of the Helicopters**

The six-month Air Support Unit pilot project involved the introduction and integration of the helicopter and associated technology into police operations. Due to the expediency with which this project was introduced, upfront training for the police flight observers was minimal. The training, for the most part, consisted of the Toronto Police flight officers participating in the helicopter patrols of the Durham Regional Police Service for one week prior to the introduction of the pilot project. Subsequent to this, training was obtained on the job during the pilot project. Consequently, at the outset, the police flight observers were not fully adept at using the auxiliary equipment and, therefore, were not able to realize the full benefits of this equipment until later on in the project.

In addition, there was a lack of overall protocol to facilitate the proper integration of a new support tool into police operations. This may have compromised the full capability and benefits provided by the Air Support Unit during the pilot project.
Our discussions with the police flight observers indicate that they felt their effectiveness increased as they gained more experience and became more adept with the use of the auxiliary equipment.

The heavy air traffic at Pearson International Airport may have at times imposed air space restrictions for the helicopter, which in turn impacted its ability to service the police divisions in the vicinity of the airport. Although the police could override these restrictions in the case of an emergency, they did not exercise this authority during the period of the pilot project.

While the helicopter is effective in saving officer time in conducting searches, there are limitations as to where in the City of Toronto a helicopter could be used. It’s use was limited in the downtown core as tall buildings impede its manoeuvrability. In addition, conducting searches in the congested downtown area is extremely difficult.
Public Perspective

In order to obtain a representative perspective of Toronto residents with respect to the use of police helicopters, we commissioned the services of the Environics Research Group Limited to conduct a public opinion poll.

Environics Research Group Limited is a professional organization which conducts regular public opinion polls on a wide range of issues. Twice yearly, Environics Research conducts a public attitude survey of 1,000 residents of the Greater Toronto Area. One of the two yearly surveys took place in January 2001. We met with Environics Research in order to determine if it would be possible to include in this public survey specific questions relating to the police helicopter and restrict those questions to residents of Toronto only. Environics Research agreed to our request and provided advice and assistance in developing the opinion poll questions.

In addition, a process was established to allow for and gather comments from residents on the police helicopter, on an on-going basis during the pilot project. The results of the public opinion poll are presented below followed by an analysis and a summary of residents’ comments.

Public Opinion Poll

In collaboration with the Environics Research Group Limited, we designed a number of questions relating to the police helicopter that were included as part of Environics Research regular January 2001 survey. While these questions were provided to the Toronto Police Service for information purposes, the design of them was the responsibility of Audit Services. The survey was conducted during the sixth and final month of the helicopter pilot project and prior to the media publicity relating to the City’s budgetary problems.

The results of the poll were based on telephone interviews with 1,001 respondents, over 18 years of age, living in Toronto. According to Environics Research, the margin of error for a sample of 1,001 persons is plus or minus 3.1 percentage points in 95 out of 100 samples.
The demographics of the sample paralleled those of the Toronto population with equal representation of male and female respondents. The questions dealt with general awareness of the helicopter program, the level of support or opposition to the program, the issue of helicopter noise and the costs related to the program. The specific questions asked in the public opinion poll are included as Appendix 2 of this report. The responses to each question are presented below.

The first question asked, “Are you aware that the Toronto Police Service is currently testing the use of police helicopters in the City of Toronto?” A significant number of respondents (82 percent) were aware that the Toronto Police Service was testing the use of a helicopter.

The next question asked, “Do you strongly support, somewhat support, somewhat oppose or strongly oppose the use of helicopters by the Toronto Police Service?” The majority of residents (87 percent) were supportive and more than half (53 percent) of those who were supportive expressed strong support.

Residents were subsequently asked whether or not they would support the use of helicopters by the Toronto Police Service “at a cost of approximately $3 million per year?” Even with the cost of $3 million attached to the helicopter project, the level of support continued to be a majority in support of the initiative (68 percent). The results of the poll, both with and without the cost, are graphically demonstrated in Figure 5.1 below.

Figure 5.1: Public Opinion of Police Helicopters
To determine why residents either supported or opposed the use of helicopters at a cost of $3 million they were then asked, “What are your main reasons for supporting (or opposing) the use of helicopters by the Toronto Police Service?”

The belief that the helicopter is a deterrent to crime was the primary reason given by residents who supported the use of helicopters. The next most common reason was its use in vehicle pursuits, followed by its capacity in searching for missing persons or suspects and a feeling of safety from the presence of the helicopter. Cost was the predominant reason for those opposing the use of helicopter. Other reasons cited by the residents who opposed the helicopter included the fact that rates of crime are currently low, the noise of the helicopter and its impact on individual resident’s privacy.

Residents were asked, “What impact, if any, has the use of police helicopters had on you and/or your family?” Figure 5.2 illustrates that a considerable majority of residents (86 percent) reported that the helicopter had no impact on them or their family. Six percent reported that they were disturbed by the noise of the helicopter and three percent reported that it assisted with one or more policing issue in their neighbourhood. Five percent had no opinion.

Figure 5.2: The Impact of the Helicopters
The six percent of the residents who reported being disturbed by the noise were then asked, “If the police could operate a quieter helicopter, would you strongly support, somewhat support, somewhat oppose or oppose the use of a helicopter by the Toronto Police Service?” The majority indicated that they would support the use of helicopters if it was possible to acquire a quieter helicopter. These results are illustrated in Figure 5.3.

**Figure 5.3: Support For Quieter Helicopter**

![Support For Quieter Helicopter](image)

To determine how the residents of Toronto would prefer to see public funds expended among competing City priorities, we asked “If the City of Toronto had to choose how best to spend $3 million, which one of the following would you support?” Three alternatives were provided and the order of the presentation was rotated each time the question was asked. The alternatives were (1) other City programs (2) police helicopters (3) other police initiatives. The response to this question is outlined in Figure 5.4 which indicates that 34 percent said the funds should be spent on other City programs while 29 percent selected police helicopters. Fifteen percent would prefer the $3 million be spent on other police initiatives, while the remaining 22 percent had no opinion.

**Figure 5.4: Public Opinion on How the City Should Spend $3 Million**

![Public Opinion on How the City Should Spend $3 Million](image)
Public Opinion Poll - Conclusions

The majority of residents (87 percent) support the use of helicopters, although the level of the support decreases to 68 percent when the cost of the helicopters in the amount of $3 million is introduced. However, if given a choice between a helicopter and other City programs:

- 34 percent of residents would prefer that funds be expended on other City programs,
- 29 percent would support the acquisition of a police helicopter;
- 15 percent would support other police initiatives; and
- 22 percent had no opinion.

Residents’ Comments

At the inception of the evaluation project we developed, with the assistance of the City’s Corporate Communications Division, a process that would allow residents the opportunity to provide their opinions, complaints and other comments with respect to the police helicopter. A process was set up, whereby, residents could forward their comments to us by:

- e-mail, via the City’s internet Web site;
- calling our Helicopter Project Evaluation Hotline, set up for this specific purpose;
- calling Access Toronto;
- writing directly to the City Auditor.

The City’s Corporate Communications Division, at our request, also contacted various media outlets and requested that information concerning public input be included in media reports on the helicopter. This was done in a significant number of newspaper articles. In addition, the Mayor, Councillors, Commissioner of Works and Emergency Services, and Medical Officer of Health, were also requested to forward to my office any comments that they received from residents.
We received a total of 667 comments during the pilot project. As noted in Figure 5.7 the number of comments received was highest during the first month of the pilot project, declined significantly between the second and the fifth month and then increased slightly in the last month. Given that media coverage was prominent at the beginning and end of the project, one would expect such a pattern of responses.

Figure 5.7: Residents’ Input by Month

Of the 667 comments received by our department from residents, 447 (67 percent) expressed opposition to the police helicopter project in Toronto. Reasons given for this opposition included the noise associated with the helicopter and the significant cost. Many residents were of the view that resources could be better spent on other priorities within the Toronto Police Service and within the City.

During the pilot project, a group of Toronto residents who are opposed to the police use of helicopters formed a group named “Stop the Choppers.” This group organized a community forum with a number of panellists on March 8, 2001, to encourage public discussion on how police helicopters would affect the City of Toronto. The City Auditor and staff attended this
meeting to listen to and consider the concerns expressed. Many of the concerns that were voiced at this meeting had already been expressed in the residents’ comments that had been received by us during the six months of the project.

Figure 5.8 provides specific information relating to the number of comments which we received during the pilot project expressing opposition to the helicopter by month, and broken down by noise complaints and other reasons. Except for January 2001, the final month of the project, the comments received by us relating to noise declined over the period of the pilot project. Other comments opposing the helicopter remained constant during the term of the pilot project. The increase in comments in January 2001, the final month of the project, coincided with the increased media attention given to the project at its conclusion.
Of the 447 comments expressing opposition to the helicopter, 183 specifically related to noise. An additional 215 noise complaints and related inquiries were received directly by the Air Services Unit. It is possible that the same resident contacted both the Toronto Police Services and Audit Services. The issue of noise is addressed in the “Other Considerations” section of this report.

In analyzing the residents’ comments received by us, certain common themes were apparent. Residents who do not support the helicopter indicated that the helicopter was too noisy and too expensive. Residents also reported that it is “intrusive” creates “a feeling of a military police state” and that it is “not needed because the City of Toronto is not Los Angeles.” Those who supported the use of the helicopter felt that it saved lives, created a safer community and was worth the cost. The following are direct quotes from the comments received by us during the pilot project.

“There is nothing more frustrating than lying in bed at night trying to fall asleep after a long days work and hearing the thump-thump-thump of a helicopter flying or circling overhead. If I want to feel like I live in LA, I’ll move to LA.”
“I have heard the noise a couple of times in the summer, and while it is a bit loud, I would rather hear that than the sound of someone breaking into my home. Our police do an excellent job, and we should support them by giving them the best equipment and tools we can. A City of the size of Toronto should definitely have helicopters.”

“Research shows that police helicopters cause new social problems, often because of noise and its related physical and mental health problems. As a Toronto Noise and Health report points out, nocturnal noise has been indicated as a health risk (Altena & Beersman, 1993) because of the disturbance to the distribution of sleep stages resulting in direct immunosuppressive effects (Thompson, 1996). The police helicopters have woken many Toronto residents after midnight, and have caused excessive stress and sleeplessness, especially when they hover over neighbourhoods.”

“I think the Air Support Project is a brilliant initiative and very much needed in our City. I really do believe that these helicopters will make our City a safer place to live. I actually sleep better at night.”

“We feel the helicopters are an intrusion and not a protection to be constantly patrolling – somewhat like a military state. We feel it is a violation of our human rights to get a good nights’ rest and to be able to enjoy the property we pay such high taxes on. We are not in favour of police helicopters for Toronto. Why can’t the combined police forces of the entire golden horseshoe area share three or four helicopters to be used in true emergencies?”

“I was helping my 13 year old son doing his Community flyers on Vaughan. On and about Vaughan/Cherrywood, on the cement sidewalk there was a man running after a female, caught up with her, knocked her down and started beating her. As onlookers rushed to the scene, the young man was showing off his knife. My neighbour called the police on his cell. In about two minutes the air patrol was there with their spotlight. The main point is that the helicopter does work. The cop came later and heading for the
wrong direction. This is the first time I saw the air patrol in action. It works, keep up the good guidance and leadership role.”

“I have another citizen complaint that affects not me, but probably many others living in my Ward. Toronto, especially my part of Toronto, has become home to many refugees from war zones, where helicopters are terrifying objects of death. I am, therefore, also opposed to the helicopters because of the psychological trauma they are undoubtedly causing to these new and vulnerable citizens of Toronto. Finally, I object most profoundly to the surveillance intrusion associated with the helicopters. To me, they represent Orwellian intrusions into my and my neighbour’s lives. Unlike normal planes that fly overhead en route to somewhere else, these planes’ sole raison d’être is to visually survey the ground. I am on that ground, going about my business, and I strongly object to being surveyed, even in passing.”

“In a City that can’t afford playground equipment for our children, how can we afford to have such a huge and expensive toy for the police.”

“I feel if the helicopter finds one criminal or one missing person it would be well worth the cost.”

“This is a disgraceful waste of money and an intrusion into the lives of hard-working people. Crime is not on the rise in Toronto whereas the lack of housing and other community services is on the rise. And now, thanks to the invasion of the helicopters, we can add lack of sleep as being on the rise to that list as well.”

“My primary concern is regarding the high cost of operation for this helicopter. Unfortunately, helicopters are expensive to purchase, and expensive to operate.”

In summary, there are two divergent perspectives apparent from the above comments. On the one side, the noise and the nature of the operation of the helicopter, including the use of searchlights, are viewed by certain residents as intrusive on the privacy of Toronto residents. On
the other side, residents hold the view that the presence of a helicopter is reassuring, acts as a deterrent to crime and increases the feeling of resident safety.

It is also worth putting into perspective the extent of the opposition during the six-month pilot project. While not minimizing the concerns expressed by certain residents, the extent of the opposition (447 residents) is fairly low in a city with a population in excess of two million residents.
Police Perspective

In order to assist in our evaluation of the effectiveness of the helicopter in police operations, we viewed it important to solicit the opinions of those people most closely impacted by it – the police officers themselves. The success of a helicopter project depends upon a strong level of commitment from within the police service. While one could anticipate the significant police support for the helicopter, we felt it imperative to provide the officers with a vehicle to express their comments, issues and concerns. In order to do this, we developed a written survey which afforded a significant number of officers the opportunity to provide us with their perspective on the helicopters.

In order to ensure that each officer had the opportunity to independently complete the survey, we attended normal pre-shift police briefing sessions at six divisions, as well as from two specialized units (Traffic Services and Police Dog Services). At each of these sessions, Audit staff briefed the officers before the surveys were distributed.

The survey (Appendix 3) was completed by 613 police officers. Certain of these officers had direct experience with the helicopter during their day to day operations, while others had not. Of the 613 police officers surveyed, 448 (73 percent) strongly agreed that “helicopters are of benefit to police operations.” Of the remaining officers surveyed, a further 150 (23 percent) somewhat agreed with the statement. A graphical summary of the results are provided in Figure 6.1 below.

Figure 6.1: Opinion of Toronto Police Service Members

“Helicopters are of Benefit to Police Operations”
The survey also solicited information relating to the benefits perceived by each officer regarding the use of a helicopter. The following benefits were reported:

- enhances officer safety
- enhances public safety
- effective in the search for missing persons/suspects
- increases apprehensions
- provides assistance in vehicle pursuits

Our survey also provided police officers the opportunity to submit specific comments regarding the use of helicopters and some of these comments are presented below:

“Stress that helicopter use enhances officer safety, especially during armed suspect pursuits on foot and vehicles.”

“They need to be available seven days a week and not just Monday to Saturday. I have been involved in several calls where they have been required on Sunday nights and are not working.”

“Regular divisional personnel are misinformed as to the helicopters abilities, i.e., clearing large fields and stating it is clear of suspects, but they have no ability to tell if a suspect has run through the field and is hidden under a large bush or in a shed.”

“I am a member of the Police Dog Services Unit. The helicopter, in conjunction with Police Dog Services, is a powerful tool in the search for fleeing or hidden suspects. The lighting and infrared capabilities make my job safer and more efficient.”

In addition to the survey of individual police officers, we conducted interviews with police ground officers who were directly involved in specific occurrences which were attended by the police helicopter. The majority of these officers were positive in relation to the use of helicopters. In the words of some of the police ground officers:
“I have a new perspective on what the helicopter can do after this incident…”

“I was negative at first, but changed my mind after the ride along. Ride alongs would educate the Service on the uses of the helicopter and better utilization of the services it offers.”

“I always thought the helicopter was a good idea. I now know better what it can do. This night it saved a life.”

Overall, police ground officers felt that the value provided by the helicopter to police operations in the City of Toronto is worth the cost. A small number of officers disagreed and felt that the money could be better used on other police initiatives. Some of the comments of police ground officers regarding the costs and the benefits are noted below.

“…Every penny spent on the helicopter is worth the money.”

“Have to say that overall it is worth the money. If only one or two lives are saved, it is worth the money.”

“Benefits would significantly exceed cost in the long term (within two years)...this would occur with experience gained by observers and pilots, as well as by police ground officers using the helicopter assistance.”

“If we had all the money in the world, then the helicopter would be a good tool, but what we need most is manpower to get the work done.”

During our review we also met with the President of the Toronto Police Association in order to solicit his concerns and comments, as well as concerns of the Association in general. The Toronto Police Association is a firm supporter of the helicopter project, particularly in terms of the assistance the unit is able to provide to police ground officers.
In summary, a significant majority of police officers supported the use of a helicopter. The greatest value attributed to the helicopter by police officers is the positive contribution it makes, or is perceived to make, towards officer safety.
Findings and Observations

Our findings and observations are generally based on the following:

- a review of police officer event logs;
- debriefing interviews conducted with police ground officers;
- debriefing interviews with police flight observers;
- debriefing interviews with Communications Centre dispatchers; and
- our own personal observations.

We have also included information from various other reports, which we have reviewed during this evaluation.

Operational Efficiency and Effectiveness

Helicopters, by virtue of their speed, aerial platform, and on board auxiliary equipment, have long been associated with improving the effectiveness of police operations in:

- searches for both citizens and police suspects;
- assisting in the apprehension of suspects,
- search and rescue operations;
- managing crowds;
- drug eradication;
- monitoring traffic;
- supporting police ground units in vehicle pursuits; and
- surveillance activities.
Our Findings

The Toronto Police Service helicopter attended 789 events during the six-month pilot project. In conducting this evaluation, we requested each of these event logs. In actual fact, we received 722 of the 789 events attended. The Toronto Police Service Air Support Unit was unable to account for and provide us with the remainder of the event logs.

Given that the helicopter is primarily a support tool to police ground units, one of our objectives was to determine the value of the helicopter at various events from the police ground officer’s perspective. To assess the impact of the helicopter in supporting police ground units, we selected 190 (26 percent) of the events from the 722 event logs for detailed follow-up and analysis. The events selected were representative of the different types of occurrences attended by the helicopter, as well as the number of calls attended by police divisions across the City for each of the 190 events. We conducted interviews with police ground officers who had been directly involved in the selected events.

The details of our findings from the 190 interviews with police ground officers are presented in Table 7.1. The table provides a summary of all the events attended by the helicopter according to the type of event, as well as the respective number of interviews that we conducted. We asked each of the police officers whether or not the same results would have been achieved without the presence of a helicopter.

In summary, our review and analysis of this data found that while the helicopter supported police ground units in a number of different types of events, it was more likely to directly contribute to apprehensions when supporting calls for residential break and enters, crowd scenes, stolen vehicles and vandalism. Table 7.1 also indicates that the results achieved by the helicopter were not restricted to criminal activity. There were six situations in which the helicopter provided support that resulted in other benefits. On two occasions the helicopter located fires that were unattended and reported them to Fire Services. On two other occasions the helicopter was involved in rescuing people on watercrafts who were lost on Lake Ontario.
Table 7.1: Summary of Results from Interviews with Police Ground Officers

<table>
<thead>
<tr>
<th>Type of Events</th>
<th>Events Attended by Helicopter</th>
<th>Interviews with Police Ground Officers</th>
<th>Same Results Achieved Without Helicopter</th>
<th>Helicopter Supported Arrests Made</th>
<th>Results Attributed to Helicopter</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Don’t Know</td>
<td>Events</td>
<td>Arrests</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>E&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Assault</td>
<td>54</td>
<td>15</td>
<td>12</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>Break and Enter - Industrial</td>
<td>42</td>
<td>12</td>
<td>11</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Break and Enter - Residential</td>
<td>44</td>
<td>11</td>
<td>5</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Disorderliness</td>
<td>16</td>
<td>7</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Search Warrant/Narcotics</td>
<td>6</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Escaped Custody</td>
<td>7</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Fight (Crowd Scene)</td>
<td>53</td>
<td>10</td>
<td>4</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Fire</td>
<td>24</td>
<td>7</td>
<td>7</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Firearms Offence</td>
<td>79</td>
<td>24</td>
<td>18</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Forcible Confinement/Abduction</td>
<td>5</td>
<td>3</td>
<td>3</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Gang Activity</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Homicide</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Missing Person</td>
<td>40</td>
<td>12</td>
<td>9</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Motor Vehicle Accident</td>
<td>14</td>
<td>4</td>
<td>3</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Rescue</td>
<td>8</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Robbery</td>
<td>107</td>
<td>31</td>
<td>24</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Stolen Vehicle</td>
<td>54</td>
<td>16</td>
<td>7</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>Suicide Attempt</td>
<td>15</td>
<td>8</td>
<td>5</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Suspicious Characters/Prowler</td>
<td>56</td>
<td>12</td>
<td>9</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Traffic Violation</td>
<td>44</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Unknown</td>
<td>23</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Vandalism</td>
<td>21</td>
<td>5</td>
<td>3</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Video Filming</td>
<td>6</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Logs Received</td>
<td>722</td>
<td>190</td>
<td>134</td>
<td>40</td>
<td>16</td>
</tr>
<tr>
<td>Event Logs not received</td>
<td>67</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>789</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a.  E = number of events
b.  A = number of arrests
c.  prevented two fires by alerting Fire Services of unattended fires
d.  rescues on the waterfront
e.  prevented two potential suicides
In our interviews with the 190 police ground officers, we asked them to evaluate the overall level of impact that the helicopter had on the specific event. Responses are reflected in Figure 7.2 and indicate that 43 percent of the police ground officers said that the helicopter had a very positive impact and another 24 percent said that it had a moderately positive impact.

Figure 7.2: Police Ground Officer Perspective on the Impact of the Helicopter

We then asked each police ground officer if the outcome of the event could be directly attributable to the support provided by the helicopter. Most of the police ground officers (71 percent) reported that the same results would have been achieved without the helicopter and 21 percent said that the helicopter was critical to the outcome (Figure 7.3).

Figure 7.3: Police Ground Officer Perspective -- Same Result Without Helicopter?
Therefore, while 67 percent of police ground officers interviewed reported that the overall impact of the helicopter was positive, only 21 percent reported that the same result would not have been achieved without the helicopter. In other words, the helicopter may have contributed to a sense of officer safety, but did not necessarily have a direct impact on the ultimate outcome of the event.

An important attribute of the helicopter is its ability to effectively search and locate either suspects or missing persons. It can also search areas not easily accessible to police ground units. As a result, the time of police ground officers is often reported as being saved. The nature and circumstances surrounding the call have an effect on the amount of officer time saved.

Time savings related to apprehensions are not limited to officer time saved while on scene. If a suspect is apprehended, time is also saved from reduced investigation work. Video footage captured by the helicopter can further contribute to time savings by reducing or even eliminating alternative investigation procedures. Video footage also provides information to facilitate investigations and produces evidence for prosecution. These benefits are difficult to quantify.

Consequently, estimating police officer’s time saved by using the helicopter is subject to individual judgement and will vary depending on the officer’s experience. This element of judgement combined with the reality that additional resources needed may not have been available makes it difficult to determine the amount of time that would have actually been saved with any degree of certainty. In addition some benefits, such as enhancing officer safety, are by their nature impossible to quantify.

**Apprehensions**

The helicopter assisted police ground officers in a number of searches for suspects and in some cases the resulting apprehension was directly attributed to the support provided by the helicopter. Table 7.1 provided a breakdown of the different types of events supported by the helicopter and the respective resulting apprehensions. In some cases, the aerial platform provided by the helicopter, combined with the infrared auxiliary equipment on board enabled the helicopter to
locate suspects who were hidden in places not easily visible to police ground units. We viewed video footage that demonstrated how the flight officer used the infrared technology to locate suspects and then guided police ground officers to apprehend the suspects.

At 68 of the 190 events selected by us for further review, 97 arrests were made. At 14 of the 68 events, 24 arrests occurred that were directly attributed to the helicopter. In other words, 24 arrests would not have resulted or been made as quickly if the helicopter had not been involved. Therefore, the helicopter was instrumental in an arrest occurring at a third of the events it attended. It should be noted that this is based on information provided by the police ground officers and could not be independently verified.

Our findings with respect to apprehensions are consistent with the findings of other research studies and evaluations. For example, in the recent London, Ontario study, Professor Whitehead concluded that “occurrences in which the helicopter participated had a much higher ratio of apprehensions than in those where the helicopter did not participate.” The Jet Propulsion Laboratory’s study also concluded that apprehension rates were increased by the support of the helicopter.

**Searches**

During the pilot project, the Toronto Police Service helicopter supported police ground units in searching parklands, industrial areas, waterways, ravine areas, rooftops, railroad tracks, roadways, residential backyards, hydro corridors and cemeteries. During these searches the infrared, daytime camera and searchlight were used extensively. Searches were conducted for criminal suspects, missing children, lost elderly people, or to rescue people on the waterfront.

The helicopter assisted police ground units by searching particular areas, which were dangerous or inaccessible to police ground units, to determine if these areas were clear (e.g., Scarborough Bluffs area). Police ground officers reported that the helicopter saved them a significant amount of time in search activities and allowed them to more directly focus their search efforts in other areas.
It is important to note that any police officer estimated time savings as a result of the search activities of the helicopter assumes that the police ground units would have actually been available to attend or support the event and no other competing priorities existed that would have required the services of these officers. In other words, if the police ground officer estimated that the helicopter saved 12 officers working 50 hours, the 600 hour saving would only be realized if the officers would have been available with no other competing priorities for service.

The following narratives provide estimates of time savings made by police sergeants at specific events supported by the helicopter:

“I would have had to use 50 men working 10 hours to search the same area for the same result. The City is too big to be without a helicopter. It is a great tool. You cannot put a price tag on the value of this. It is the cost of doing business. The police and the public have an invaluable tool, keep it.”

“Scarborough has large areas that are ravine, undeveloped and industrial. Last week an elderly man went missing near the Guild. He used to live around the Scarborough Bluffs. It was the middle of the night. The helicopter covered an area within five minutes (the coast area) that it would have taken 20 men working a whole shift to do.”

In order to quantify the amount of police ground officer time saved by the intervention of the helicopter we asked the officers involved in the 40 events where the helicopter was deemed critical to the outcome to estimate how much time, if any, the helicopter had saved at the call.

Of the 40 officers interviewed, half reported that time was saved as a result of the support provided by the helicopter. The estimates ranged from 2 to 600 hours for search and rescue activities and from 1 to 150 hours at other types of events.

To determine the magnitude of potential officer time saved during the pilot project, we extended these estimates to all 789 events that the helicopter attended. This extrapolation resulted in a best case estimate of 3,200 police officer hours being saved. In dollar terms, the value added by
the helicopter based on the estimated 3,200 hours saved during the pilot project is approximately $160,000.²

**Searches for Suspects**

The helicopter assisted in a number of searches for suspects who were at crime scenes or who had recently fled the scene. The following information are excerpts from event logs, which were substantiated by us through further discussion with police ground officers:

**Rooftop Search**  
Response Time: 2 minutes. Time on Scene: 15 minutes

A number of suspects were reported to have entered through the roof, breaking a skylight and dropping down to the premises. The roof had several levels. The helicopter lit up the roof using the searchlight. The flashlights of the officers who climbed on the roof ran out of batteries and the searchlight provided light to enable officers to safely find the forced entrance. There were two arrests made relating to this incident at a location away from the immediate scene.

**Search for a Prowler**  
Response Time: 1 minute. Time on Scene: 69 minutes

Around midnight, the helicopter was called to attend the search for a break and enter suspect. The suspect was seen entering a cemetery. The assistance of the helicopter and the Police Dog Services Unit were requested. Using infrared equipment, the observer was able to locate a person crawling along a pathway in the cemetery. Ground officers were directed towards a heavily wooded area where the suspect had hidden and with the assistance of the Police Dog Unit, the ground officers were able to make an arrest without incident. The searchlight was also used in this event to light up the area for arresting officers and to recover stolen property. The ground officers claimed they were not able to see anything due to darkness and that the helicopter was instrumental in directing the Police Dog Unit and ground officers to make a successful arrest.

**Search for Five Break and Enter Suspects**  
Response Time: 4 minutes. Time on Scene: 32 minutes

The helicopter responded to a break and enter where five youth had fled the scene. The helicopter was able to identify possible suspects wearing knapsacks quite some distance from the scene and direct units to them. The road supervisor advised that the arrests that ensued were directly attributable to the information given by the helicopter observer.

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² Using $50 per hour for the cost of a police constable.
Search for Robbery Suspects
Response Time: 5 minutes. Time on Scene: 54 minutes

The helicopter was called to help in a foot pursuit of two suspects. Ground officers had lost sight of both suspects after they jumped a fence. Using the infrared equipment and observing the lakefront, the helicopter observer located one suspect hiding among the rocks. The other suspect started to flee when the searchlight was requested and used on the scene. Both suspects were arrested at the scene.

Search for Missing Persons

There were no incidents in the six-month period where a missing person was located by the helicopter. However, the helicopter was involved in the search of approximately 40 missing children or elderly persons during the pilot project and police ground officers indicated that the helicopter made an important contribution to these events. In searches for a number of elderly patients, large areas, such as railroad tracks, lakefront area and golf courses, were searched with the use of the searchlight and infrared equipment. The involvement of the helicopter significantly reduced the amount of time required by police ground officers to search the area and allowed them to search other areas that were not easily accessible to the helicopter.

The following three examples highlight the helicopter’s operational usefulness in these types of searches. These narratives are taken primarily from the police flight officer’s event logs and include additional comments by police ground officers, where applicable.
Search for an Elderly Male Patient with Alzheimer’s Disease  
Response Time: 4 minutes. Time on Scene: 4 minutes

A search took place in the Scarborough Bluffs for an 81-year-old male suffering from Alzheimer’s and Parkinson disease. The helicopter conducted a shoreline search from the Bluffers Marina westward. The sergeant on scene claimed that officer safety at night in this area was a factor and the helicopter covered more ground faster saving him from sending in several more officers to conduct the search. The individual was located elsewhere by ground officers.

Search for an Elderly Male Patient with Alzheimer’s Disease  
Response Time: 5 minutes. Time on Scene: 35 minutes

The helicopter was involved in a search for a missing male suffering from Alzheimer’s disease, searching several parks in the area, as well as railroad tracks. According to the ground officer interviewed, the Division had limited officers to begin a search at the time of the initial call. Due to very cold weather conditions (early December) and impending darkness, the event was classified as a high priority. Just prior to the call going out for all available core officers, the helicopter was called in. The helicopter when requested had not started up patrol but nevertheless responded to the call at 3:30 p.m. and was involved in clearing a large industrial area and park area within one and a half miles of missing person’s home. This allowed the ground units called in to concentrate their search in other areas. The missing individual was located elsewhere by ground officers.

Search for Two Missing Nine-year Olds  
Response Time: 2 minutes. Time on Scene: 31 minutes

The helicopter was called to search for two nine-year olds who may have gone to play near the train tracks. The helicopter searched the track area and was able to confirm that the missing children were not on the tracks. According to the ground officer interviewed, the helicopter search is estimated to have saved (if available) at least five to six patrol cars and allowed the officers who attended to concentrate their search in other areas. The missing children were located elsewhere by ground officers.

Searches on Water

Based on our review of event logs, the helicopter was involved in eight water related searches. The most publicised of these events occurred during the first month of the pilot project and involved a man on a Jet Ski who was stranded on Lake Ontario.

In view of the interest generated relating to this incident, we interviewed this particular individual. Our discussions with him confirmed that the helicopter located him about 10 minutes
after being dispatched. The Marine Unit of the Toronto Police Service had been searching for this individual for close to one hour and was having difficulty locating him.

Our discussions with Marine Unit officers indicated that the individual would have eventually been located even without the helicopter. However, they also stated that the helicopter was able to find the person much more quickly than the Marine Unit. At the time the individual was located it was becoming dark and it is possible that without the intervention of the helicopter the individual might not have been located until the following morning. In these circumstances the individual would have been on the lake all night and thus at some risk.

Vehicle Pursuits and Surveillance

Loss of life, damage to property and the resulting liability from police vehicle pursuits have produced regulations for police officers involved in pursuits in the course of performing their duty. Bill 22, relating to police pursuits, imposes severe penalties for motorists fleeing from the police and holds the police accountable for the decision to initiate, continue or terminate the pursuit of fleeing motorists in the interest of public safety.

Toronto Police Service policies relating to Suspect Apprehension Pursuit state that “a pursuit occurs when a police officer attempts to direct the driver of a motor vehicle to stop, the driver refuses to obey the officer and the officer pursues in a motor vehicle for the purpose of stopping the fleeing motor vehicle, or identifying the motor vehicle, or an individual in the motor vehicle.” The regulations lay out various restrictions surrounding a pursuit and state that public and officer safety are of paramount consideration in any decision to initiate, continue or discontinue a pursuit.

Various studies on the use of police helicopters have associated helicopters with the ability to safely monitor, as well as reduce the number and duration of vehicle pursuits. Studies indicate that the presence of the helicopter allows patrol cars in a pursuit to safely back off and reduce their speed without the risk of losing the suspect. The helicopter can inform patrol cars about the location of the suspect vehicle, the direction of travel, and the best routes to intercept the suspect.
vehicle, as well as advising them of any danger that might be ahead. It is reasoned that without a
patrol car in his view, the suspect vehicle is more likely to slow down and take fewer chances,
thereby reducing the danger to civilians, officers and property.

Nevertheless, Professor Whitehead, in the London, Ontario study states that “we have nothing
conclusive to say about the collision and life saving aspects of the use of police helicopters in
pursuits. We would point out however, that no police service has experimental or quasi-
experimental evidence on the efficacy of helicopters in pursuits. All of the “evidence” is
anecdotal not very systematic even though much of it is interesting.”

The public’s general perception is that helicopters are effective in safely monitoring and assisting
vehicle pursuits. While this may be the case, in Toronto, helicopters generally have little
opportunity to do this type of work.

During the pilot project there were 76 vehicle pursuits in the City of Toronto. The helicopter
assisted in two of these vehicle pursuits, neither of which was a high-speed chase. A comment
provided by a Communications Centre dispatcher to us indicated that “pursuits on average are
very quick and if they are more than two minutes long, then it is very unusual.”

It is, therefore, unreasonable to expect that the helicopter could respond to such a short-lived
event unless they are available, on general patrol, and in the immediate vicinity at the time of the
pursuit.

While the helicopter may be effective if involved in a vehicle pursuit, the probability of it being
able to intervene during a vehicle pursuit is at best, remote and, therefore, its benefit in this
regard is limited.

The helicopter did, however, prove to be effective in assisting police ground officers in making
“high-risk stops” of vehicles driven by potential suspects. The aerial platform provided by the
helicopter-facilitated surveillance of activity on the ground and kept both the vehicle and
suspects in view. The following narrative from an event log highlights the helicopter’s effectiveness in maintaining aerial surveillance to assist police ground units.

Vehicle Pursuit and Surveillance

Ground officers were following a stolen vehicle. The helicopter responded and requested the police vehicles to slow down. The helicopter followed the vehicle and observed the vehicle stop and three suspects bail out. The helicopter observer advised the ground officers, who in turn arrested two suspects almost immediately. The helicopter followed the third suspect through a wooded area and to a main road. Ground officers were directed to the suspect and the third arrest was made.

Crowd Control

Certain crowd situations have the potential to become disorderly and, thereby, may place the safety of both the public and police officers at risk. During the pilot project, police ground officers who attended crowd scenes involving altercations or disorderly conduct indicated that the presence of the helicopter at these events was useful in either dispersing the crowd or diffusing their anger.

The following narratives from event logs provide examples where police ground officers reported that the helicopter had a positive impact on officer safety.

Angry Crowd Threatening Officer Safety

Two officers were pursuing a suspect (within a housing complex) who had bailed out of a vehicle, which had previously tried to run over both officers when they had attempted to stop it. After a short foot pursuit the officers apprehended the suspect. A large crowd (estimated at about 150 persons) with beer bottles in hand came towards the two officers while the officers called for an assist. The helicopter happened to be in the area and noticed one officer signalling. The helicopter arrived on the scene and used the searchlight to light up the area. This was effective in distracting the crowd and diffusing their anger, giving the officers space to make the arrest and withdraw from the scene without further complications.
Fight at a Bar

Ground officer arrived first at a bar where there were reports of a fight and two persons stabbed inside and called for assist. The crowd was out of control, breaking windows and climbing out. Helicopter arrived on the scene shortly afterwards and hovered above. The searchlight was used, as it was very dark in the parking area. The crowd was distracted by the helicopter presence and it had a calming effect on the crowd. The ground officer interviewed stated that typically in these types of incidents subsidiary fights break out away from the scene. He stated that this did not happen in this event and attributed this fact to helicopter lighting up the area, keeping crowd illuminated and under surveillance.

The helicopter provided a surveillance platform to assist in the monitoring of peaceful crowd demonstrations at the political convention held at the Metro Convention Centre in October 2000. Senior officers in charge of planning and executing the security for this event reported to us that the helicopter’s aerial perspective was invaluable. The police flight observers provided information on the location of crowds, and the direction they were moving, which enabled senior staff to make pro-active decisions relating to deployment and positioning of police officers. While the same number of police ground officers that would normally have been deployed at this type of event was used, senior officers stated that they would plan to operate with fewer officers at a similar event if they were confident of the dedicated use and availability of the helicopter.

Assistance to Other Emergency Services

Based on our review of event logs, the helicopter attended 24 fire scenes throughout the City during the pilot project. The helicopter identified a number of fires and, based on discussions with Fire Services personnel, it was useful for providing a different vantage point to the fire. In some situations, the fire department or dispatchers specifically requested the attendance of the helicopter while in other cases, the helicopter attended because it was in the general vicinity.

The ability of the helicopter to assist at fire scenes was compromised by its inability to communicate directly with the Fire Command post, as the police and fire services are not on the same radio wave band. As a result, the police flight observer had to communicate messages to the police ground officer in charge who in turn relayed information to the Fire Command post.
The Evaluation of the Air Support Unit Pilot Project – Toronto Police Service

The new police and fire services radio communication system should remedy this situation and allow for direct communication.

**Involvement in Drug Eradication**

The helicopter attended six events relating to drug activity. At one of these events, the helicopter provided support to police ground units during a drug raid. The police flight observers also assisted in locating several suspected marijuana cultivation sites by the use of the infrared equipment to locate heat sources thereby identifying locations where marijuana was being cultivated.

**Police Officer Safety**

The main benefit of the helicopter, as reported by 76 percent of the police ground officers interviewed, was an increased sense of personal safety. When the helicopter attended an event, its searchlight lit up areas at night, cleared dangerous areas and located hidden suspects who may have posed a danger to officers on the ground. The helicopter was also effective in dispersing and managing crowds that may have otherwise turned violent.

The issue of police officer safety is illustrated in the comments from police ground officers:

“I stopped a vehicle and while I was waiting for backup, the helicopter came overhead. Because of this, I felt more comfortable and I approached the vehicle and ended up arresting someone wanted on an immigration warrant.”

“How does one place a value of an officer life saved? It is very possible that the helicopter would assist in doing this in a chase or some other type of incident.”

“…at night time, officers will definitely feel safer – helicopter is watching their backs.”

“The arrests would have happened without the helicopter, but the safety factor of the roof being lit up was tremendous.”

“The helicopter is well worth the cost. Officers appreciate it more when all they have is a flashlight.”
Crime Deterrence

A number of studies have been done in order to determine the effects of helicopters on rates of crime. Certain of these studies, concluded that helicopters have a deterrent effect on specific types of crime, such as, auto theft, burglary and robbery. Professor Whitehead’s recent study in London, Ontario, tested for a deterrent effect on seven types of crimes/occurrences and reached the general view that “… the most reasonable conclusion is that, in the overall, it cannot be inferred that helicopter patrols had a deterrent effect on the incidence of crime.”

A number of variables such as demographics, criminal behaviour, general crime trends and the health of the economy, can affect rates of crime. In studying the effect of helicopters on crime, it is difficult to control or measure the impact of these variables. Variation in the intensity and duration of helicopter patrols could also have an impact on the results. In other words, it is difficult to determine what level and method of helicopter intervention would have a deterrent effect on crime.

To determine if the helicopter has a deterrent effect on high crime areas, our evaluation plan, as approved by the Toronto Police Services Board, proposed to conduct, “target patrol of a high crime area for a specific period of time to determine the effects of a focused patrol on specific crime trends in the area. An analysis of trends from previous years would be performed to determine if any downward trend is attributable to the Air Service Unit and is not just a common trend each year.”

While conscious of the need to not interfere in the deployment of the helicopter, we requested that the police consider focus patrols in certain areas of the city. We met with members of the Toronto Police Service and selected specific crimes in three patrol areas where focussed patrol would be conducted for observation. Based on information provided by the police, it is our understanding that these patrols took place during the last three months of the project. However,
towards the conclusion of the pilot project, the police advised us that they had not agreed to the use of focus patrols in the study and, as such, were not prepared to provide us with information relating to those patrols. Consequently, this report contains no conclusions on whether focus patrols had any significant impact on specific crimes in selected patrol areas.

The Toronto Police Service provided us crime data for five specific types of crime (theft from auto, auto theft, commercial break and enters, residential break and enters and robberies), for the years 1995 to 2000. These types of crimes are cited in various research studies as the ones more likely to be impacted by the presence of helicopter patrols. The data provided by the Toronto Police Service has been graphically reproduced in Figure 7.4. The prevailing trend observed in each of these types of crimes from 1995 to 2000, is generally downward.

In order to compare the period with the helicopter to the same period in the previous year without the helicopter, we graphically reproduced the data for each month in 1999 and 2000. The graphs are presented in Figure 7.5 to 7.9 for each of the five crime types. Our objective in doing this was to determine if there was any noticeable decrease in the level of crime during the period when the helicopter was in operation. Based on our analysis, the occurrences for theft

![Toronto Crime Trends 1995 - 2000](image-url)
from auto crimes, as well as residential and commercial break and enter crimes, are lower when the helicopter was being used compared to the data from the prior year where no helicopter was present. However, further examination of the full year and multi-year data set illustrate that the decrease in the occurrences is probably reflective of a decreasing crime trend and not as a result of the introduction of the helicopter. In the area of auto theft and robberies, no pronounced differences were observed. Therefore, the City of Toronto did not appear to experience any crime deterrent benefits by using a helicopter to support police operations.

Figure 7.5  Auto Theft

Figure 7.6:  Theft from Auto
During the six months of the pilot project, the helicopter attended 789 out of 125,085 high priority calls, or 0.6 percent of all calls serviced by police during that time. It would therefore be difficult to conclude that one helicopter operating approximately eight hours per day, six days per week would have any sustainable impact on crime. Even if focus patrols were effective in
reducing crime in a particular area of the city, it would be difficult to determine, with any degree of certainty, if one helicopter could have any sustainable deterrent effect on rates of crime in the City as a whole.

Professor Whitehead’s study in London, Ontario and other studies have used measures, such as the number of times the helicopter was first on scene, the amount of time required to finalize a call, as well as the rate of apprehensions to assess the effectiveness of a helicopter in supporting police activity. The results from these studies have quite clearly concluded that helicopters contribute to operational effectiveness in policing. Professor Whitehead states the following:

“Analyses of occurrence reports and police logs led to the following conclusions:

(a) there is evidence of increased efficiency (i.e., time per call is less when a helicopter is involved; the helicopter is frequently first on the scene);

(b) there is evidence of increased effectiveness (i.e.; apprehensions are more likely) when the helicopter is involved;

(c) some types of searches lend themselves exceptionally well to the unique advantages of the helicopter.”

However, none of these studies quantified the dollar value added by the helicopter support.
Other Considerations

Based on the helicopter and the equipment used during the pilot project, it is estimated that an Air Support Unit for the Toronto Police Service would cost the City approximately $3.0 million annually, including the cost of police personnel, who would be redeployed from other areas of the Toronto Police Service. While our findings indicate that a helicopter enhances operational effectiveness in police operations, it is nonetheless relatively expensive. Prior to a decision being made on the formation of a permanent Air Support Unit, there are a number of issues that should be considered.

Lower Cost Alternatives

The cost of the Air Support Unit during the pilot project included the lease of two fully equipped, four-seater, Bell Jet Ranger 206 B3 helicopters.

Lower cost alternatives that maintain certain critical operational benefits provided by the operation of a police helicopter, should be considered. These alternatives might include the use of a smaller helicopter (e.g., a two seater); leasing one helicopter instead of two; or leasing a four-seater and a two-seater helicopter. We have discussed this matter with the Toronto Police Service who indicate that there are certain disadvantages in relation to the operation of a smaller less expensive helicopter. These disadvantages include safety concerns and less operational flexibility.

Greater Toronto Area Shared Helicopter

In the Toronto Police Service, Air Service Business Case (July 1998), a number of alternative service delivery models were considered. One of these options was a GTA shared helicopter model. This option was ruled out because of its inability to effectively meet the Toronto Police Service’s proposed general patrol deployment strategy. It was also noted in the business case that the size of the GTA made sharing impractical, due to the fact that response time would be severely affected.
During the pilot project, the Toronto Police Service helicopter was only available on a part-time basis. Even when it was on general patrol it could not service all events for which it may have been needed. There have been instances, before and after the pilot project, when the Durham Regional Police Service helicopter was called to provide assistance to the Toronto Police Service.

We understand that the police services in Durham and York Regions are discussing an integrated scheduling model with the objective of keeping one of their helicopters in the air and, therefore, available to either party at all times.

Consequently, while response time will be compromised, the sharing of helicopters in the GTA would reduce the overall cost for all participants, and potentially increase the availability of a helicopter by extending the hours of operation for the City of Toronto, as well as for the neighbouring regions.

Kathryn Asbury noted in her 1997 report entitled, “The Use of Helicopters in Municipal Law Enforcement” that “cost-sharing ventures will be the dominant model of the future.” This conclusion was based on interviews conducted with various police services and board representatives. Asbury further noted that, the success of such ventures requires co-operation by the participating police services to identify and agree on a number of issues relating to the shared arrangement.

The option of shared resources with neighbouring jurisdictions should, therefore, not be disregarded and warrants further consideration.

**Fixed-Wing Aircraft**

Given the capabilities of current technology, both a fixed-wing aircraft and a helicopter can be equipped with all the necessary auxiliary equipment to assist in police operations. The distinct advantages of the fixed-wing aircraft over a helicopter include longer flying time (greater fuel capacity), lower cost and a lower noise level. While a fixed-wing aircraft can do many of the
things that a helicopter can do, it is extremely limited in terms of where it can land, as well as in its manoeuvrability. Nevertheless, there are a few, if any, instances where a police helicopter needs to or is able to land in an urban setting to perform its operational work.

Our review of event logs indicated that, while on patrol duty, the police helicopter did not land at any event during its six-month pilot project. We appreciate, however, that suspects are aware that a helicopter can land and as such, does provide somewhat of a deterrent.

One cost effectiveness study that was conducted in England in 1988, by the Police Requirements Support Unit of the Home Office, compared the efficiency and effectiveness of two different fixed-wing aircraft with a helicopter and 12 ground persons, in searching one square mile area. This study found that while a fixed-wing aircraft takes slightly longer than a helicopter to search an area, it is considerably more cost effective than either a helicopter or a police ground unit. The results of this study are shown in Table 8.1 below.

Table 8.1: Comparing Costs for Search Activity

<table>
<thead>
<tr>
<th>Type of Resource</th>
<th>Time Taken</th>
<th>Cost in British Pounds</th>
<th>Effectiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bolkow 105 (helicopter)</td>
<td>12 min.</td>
<td>105</td>
<td>90-100% accurate</td>
</tr>
<tr>
<td>Optica (fixed-wing)</td>
<td>18 min.</td>
<td>27</td>
<td></td>
</tr>
<tr>
<td>Islander (fixed-wing)</td>
<td>22 min.</td>
<td>77</td>
<td></td>
</tr>
<tr>
<td>Human</td>
<td>454 min.</td>
<td>6,946</td>
<td>100% accurate</td>
</tr>
</tbody>
</table>

The Ottawa-Carleton Regional Police Service has recently purchased and will be using a fully equipped fixed-wing aircraft (Cessna 206 - six passenger). According to a report prepared by the Ottawa-Carlton Regional Police Service, “The fixed-wing will be used to undertake 80 percent of helicopter missions at 30 percent of the cost.” However, this is not based on experience as the fixed-wing aircraft at Ottawa Carleton is not yet operational.

Ottawa reports that the fixed-wing aircraft can do everything that a helicopter can except hover and land as easily. The noise level is neither as loud nor as distinctive as that of a helicopter, and may be better suited for covert surveillance.
Based on our discussions with various officials in the aviation industry, the operating costs for a fixed-wing aircraft range from $110 - $150 per hour, as compared to a helicopter at approximately $500 per hour.

In addition, based on an article in the October 2000 publication “Pilot”, and article entitled “Police Aviation” there has been an increasing interest in fixed wing aircraft for police operations in the UK. The North East Air Support Unit in England has “four years experience of operating an aeroplane and a helicopter alongside each other and, in the fight against crime, there is little to choose between them, apart from the cost. Certainly the helicopter can operate from a forward site, but the aeroplane can fly more quickly. Certainly the helicopter can hover above an incident, but the aeroplane can remain airborne, in an orbit, for much longer.”

The Toronto Police Service currently owns a fixed-wing aircraft which is used exclusively for surveillance purposes. Due to the requirement that this aircraft be available for surveillance purposes, its adaptation to general patrol operations is not feasible.

**Other Options**

Additional options, such as pay-as-you-go or using the services of other law enforcement agencies on an ad hoc basis, could provide helicopter support for some search and rescue missions, but would not be a solution for the general patrol mode of operation proposed by the Toronto Police Service.

**Noise – An Environmental Issue**

The issue of noise generated by the police helicopter is a significant concern for certain Toronto residents.

Many of the North American police services that we contacted during this review reported helicopter noise as a negative factor in their use of a police helicopter. During the pilot project, there were 398 complaints and inquiries related to noise. These complaints and inquires were
received both by our office (183) and by the Toronto Police Service Air Support Unit (215). The Toronto Police Service Air Support Unit indicated that they responded to all inquiries they received and, in particular, provided explanations as to why the helicopter was patrolling in a particular area. We also responded to residents’ comments, as appropriate and where requested.

A small number of the noise complaints, when followed up, were attributed to helicopters which were not operated by the police. For example, on certain occasions during the pilot project, complaints that were received were related to helicopters that were being used for movie productions.

Having said that, there is no doubt that the majority of complaints were attributed to the police helicopter. In almost all cases, noise complaints were not the result of the helicopter being on general patrol but rather were due to the helicopter being involved in the support of police officers on the ground. In general, the helicopter makes more noise when it is directly involved in a specific police operation and therefore, when it is most effective.

To assist in the reduction of noise levels, the Toronto Police Service adopted a “Fly Neighbourly Guideline” as a noise management strategy.

Certain residents who indicated they were disturbed by the noise of the helicopter also stated that they would be more supportive if a quieter police helicopter were used.

The quotations below highlight certain comments received from residents with respect to noise:

“I have been awakened by the helicopter on a number of occasions and I am concerned that this noisy helicopter will continue to disturb the quality of life in the Bluffs area.”

“I am supportive of the police helicopter project but would prefer a quieter helicopter. If it is a choice between this helicopter or no helicopter, I’ll go with no helicopter. I’m glad that somebody actually listened to my message and returned my call. Thanks.”

“As this message is being written, the sound of the police helicopter circling overhead is clearly audible. I expect that, by tomorrow, you will have heard all sorts of complaints attributed to the residents in this area, vocal in their objections to the noise. I feel compelled to write to you right now, while your force is still using the helicopter within
my hearing, to tell you that the sound is extremely comforting, and that those whose complaints with which you will have to deal do not speak for all of us. In fact, if the neighbourhood discussions of which I was a part of on the last occasion the helicopter was in use in our area are an indication, most of us believe that the Toronto Police Service should continue to use such tools, as and when necessary. So when you and others are assessing whether use of the helicopter should continue, whether it is ‘too noisy,’ whether it is too disruptive, please consider that a large number of us, perhaps the silent majority, support the continued use.”

“Three days before the pilot project ended a police helicopter hovered over my neighbourhood for almost an hour and a half after midnight. There was no possibility I could sleep through the thunderous flap of the helicopter blades and the shaking of my windows. I suspect hundreds if not thousands of residents were being kept awake. As well I am a professional wood worker. My work is physically exhausting and I use powertools. This means when I work I have to have my wits about me. The next day I was unable to work because I was so exhausted from lack of sleep.”

“My main concern about the helicopters is the noise over the City. I live on a quiet crescent in North York and already deal with airplane traffic. The airplanes, however, are a moderate and temporary hum during controlled hours. The helicopter, on the other hand, hovers constantly and sounds like a lawnmower outside my house. Last night, I lay awake unable to escape the noise of the helicopter, even with my windows closed. I felt as though I was in a military zone. This was probably the first time that I considered the possibility of having to move outside of the City, merely to escape the noise and military atmosphere created by these machines.”

Noise emissions from aircraft are not governed by the City’s noise by-law, but rather by Transport Canada. The noise level of the Bell Jet Ranger 206 B3 helicopter operated by the Toronto Police Service meets the regulatory requirements established by Transport Canada as set out in the Canadian Aviation Regulations. The noise created by the police helicopter would be exempt according to the City’s proposed harmonized noise by-law.

Safety Concerns

A concern expressed by various police services relates to the safe operation of police helicopter units. However, over the years there have been relatively few accidents relating to the operations of police helicopters. The only accident of any significance in Canada occurred in 1983 in which two RCMP officers were killed. In the U.S. in the 1970s, two officers from the Detroit Police Department lost their lives in a mid-air collision with a fixed-wing aircraft. In the Baltimore
Police Service, a fatal accident occurred in both 1997 and 1998. Also, a number of years ago, an accident in Seattle, Washington was a major reason for Seattle abandoning their helicopter unit.

**Opportunities for Improvement**

A police helicopter is an expensive resource and, therefore, it is imperative that it be properly integrated into police operations to realize its benefits.

As indicated throughout our report, we interviewed police flight observers, Communications Centre dispatchers, police ground officers, specialized units, such as the Police Dog Services and the Marine Unit. Each of these identified a number of issues that must be addressed if the Air Support Unit becomes a permanent program. One of the major concerns reported to us was the inadequate lead-time to fully incorporate the capabilities of the helicopter and the equipment into daily police routines.

The following issues were identified during our interviews:

1. The need to increase awareness and to educate the police ground officers and Communications Centre dispatchers in regard to the capabilities and limitations of the helicopter.

In our discussions with various police officers, including police flight observers and Communications Centre dispatchers, they indicated that during the early stages of the project the helicopter was often “an after-thought” in terms of responding to calls. Some police ground officers and Communications Centre dispatchers gained exposure to the helicopter by participating in “fly alongs”. Those who took advantage of this opportunity reported the experience as being useful in integrating the helicopter into their daily decision making processes. Increasing the awareness and informing officers about the deployment capabilities of the helicopter would make it that much more effective.

2. The need to develop and revise existing police policies and procedures to incorporate helicopter use into either the existing or a new protocol;
Written protocol and procedures often guide the judgement of officers. The existing protocol does not clearly identify the support that can be provided, as well as the limitations in the use of a helicopter. Consequently, these protocol and procedures need to be revised as necessary to properly integrate the intervention of the helicopter into police activity.

3. The need for a mobile data transmitter in the helicopter.

A mobile data transmitter would provide the Air Support Unit with access to an event holding queue. This would increase the probability of the helicopter being first on scene. By being first on the scene the helicopter can monitor the scene and provide information to the Communications Centre to help them clear events or assess deployment priorities.

4. The need to specify deployment criteria to help prioritize calls for the helicopter.

It is important to clearly define specific criteria to help prioritize calls and facilitate the decision as to which events the helicopter should attend. This would assist the police flight observers, Communications Centre dispatchers and police ground units to prioritize calls, thus maximizing the effectiveness of the helicopter.

**Performance Indicators**

If the helicopter is approved there is a need to measure its effectiveness in supporting police operations on an ongoing basis. In this regard, it is important that performance indicators used are not restricted to process based indicators, such as the number of events attended by the helicopter or the number of times it was first on scene. Instead, the effectiveness of the Air Support Unit should be measured based on the impact directly attributable to the helicopter. For example, while the total number of arrests made while the helicopter was at the scene is of interest, the value of the helicopter resides in the number of those arrests directly attributable to the helicopter. In other words, did the presence of the helicopter directly result in the arrest being made or being made faster.
Some of the results based indicators include:

- Number of hours saved in search and rescue activity.
- Number of hours saved in other types of calls.
- Number of apprehensions directly attributable to the helicopter.
- Standards set for response time, first on scene, operating costs.
- Effectiveness Rate (overall and by type of call): number of calls where a direct impact resulted from the helicopter divided by the total number of calls the helicopter attended.

Certain of these indicators can be compared to predetermined standards or on a year over year basis. To objectively report on these indicators, most of the information with respect to the impact of the helicopter in supporting police ground units should be gathered from police ground officers in attendance at the event.
Conclusion

Is the Use of a Helicopter by the Toronto Police Service Worth the Cost?

During the pilot project, the police helicopter demonstrated the ability to respond more quickly to calls and provided an aerial perspective that assisted operations with deployment decisions. It also contributed to apprehensions and helped diffuse potentially dangerous situations. In addition, police officers also experienced an increased feeling of safety when the helicopter was present at an event. The helicopter was particularly efficient in conducting search and rescue operations. It was also effective in apprehensions when supporting police ground officers at calls related to residential break and enters, crowd scenes, vandalism, and stolen vehicles. However, there is no evidence to suggest, based on the six-month pilot project that the helicopter is effective in regard to vehicle pursuits.

While police helicopters do not make arrests, they act as a support tool that can enhance the effectiveness of police activities at particular events. The benefits the helicopter provides come at a relatively high cost, as the helicopter and the on board auxiliary equipment are expensive tools. It is important to appreciate that the helicopter is of little value without the on board auxiliary equipment.

Based on the contract in effect during the pilot project, an air support unit would cost the City approximately $2.1 million on an annual basis, not including the cost of police personnel (four police flight observers and a sergeant), which would add another $400 thousand to the ongoing cost of the program. The actual annual cost of an air support unit would only be known following a competitive bidding process.

The benefits the helicopter provides and its capabilities are, for the most part, significantly different than those contributed by police ground units. Therefore, comparing the cost of a helicopter to the number of police ground officers it might replace, is not a fair or appropriate comparison.
The helicopter, by virtue of its speed, aerial perspective, thermal imaging and searchlight capabilities can support operations in a manner that police ground officers on foot, in cruisers or on bicycles, cannot. Nonetheless, a recurrent theme is that it may be preferable to hire additional police officers in a community policing capacity than invest in a helicopter. This, of course, is a decision of the Toronto Police Services Board. The cost of a helicopter unit is equivalent to the cost of hiring approximately an additional 25 police officers.

The benefits of the helicopter, in terms of officer time saved, increased apprehensions and enhanced officer safety are extremely difficult to quantify. Although we have attempted to estimate police ground officer time saved by the helicopter, this exercise is, at best an educated guess, since we can not estimate the savings with any degree of accuracy and completeness. Further, the assumptions supporting the estimates were provided by police ground officers, again based on an educated guess, which could not be independently verified. Time saved related to increased apprehensions is even more difficult to estimate and the value attributed to enhanced officer safety, impossible to quantify. While other studies have attempted to quantify the cost or benefits the helicopter provides at specific types of calls, no study has prepared a full cost and benefit analysis.

During the six months of the pilot project, the helicopter attended 789 out of 125,085 high priority calls (0.6 percent) serviced by police during that time. It would, therefore, be overly optimistic, to conclude that one helicopter operating approximately eight hours per day, six days per week would have any sustainable impact on the level of crime. Even if focus patrols were effective in reducing crime in a particular area of the City, it would be difficult to determine, with any degree of certainty, if one helicopter could have any sustainable deterrent effect on rates of crime in the City as a whole. In fact, the City of Toronto did not appear to experience any crime deterrent benefits by using a helicopter to support police operations during the pilot project.

We can conclude from our evaluation that the helicopter did make a positive contribution at many of the calls it attended. However, it was not possible to determine if the benefits provided by the helicopter outweighed its cost. Prior to a final decision on whether a permanent air
support unit should be established, other less expensive options, such as procuring the services of one helicopter instead of two, choosing a less expensive helicopter, considering the use of a fixed-wing aircraft, and exploring the possibility of sharing helicopters with other jurisdictions in the GTA, warrant further consideration by the Toronto Police Service. These options may reduce the cost of an air support unit and help bridge the gap between the cost and any dollar value placed on the benefits that the helicopter provides.

The limitations of the helicopter and its equipment must also be recognized and protocols developed and/or revised to properly integrate an air support unit into daily police operations. In this regard, the provision of training to police flight observers, as well as support units, is a necessity.

The issue of helicopter noise, which is a significant concern to a certain segment of the public, must also be given proper attention.

Certain Canadian jurisdictions have obtained a helicopter through private donations. While the initial capital cost of the helicopter can be financed by private funds, there continues to be regular maintenance, fuel and other operational costs including pilot salaries that are ongoing and must be funded through the annual operating budget. Eventually further funding would also have to be found to replace the helicopter. These cost factors, as well as the issue and implications of private funding impacting public policy decisions, should be considered if this avenue is to be pursued.

Is the value added by helicopter patrols worth the cost? Value in this regard is subjective, and can vary depending on the perspective of an individual or group. The Toronto Police Services Board must consider the need for a helicopter in terms of the benefits it provides to the Toronto Police Service’s operations and in comparison to other policing needs; City Council on the other hand, must assess the need for a police helicopter relative to competing priorities in the City.

The helicopter has demonstrated that it can effectively assist and add value to police ground units at specific calls. It can be argued that the cost of the helicopter, at approximately $2 million to
$3 million, is marginal relative to the Toronto Police Service 2000 operating budget of over $557 million. However, in absolute dollars, the cost of the helicopter is a significant expenditure that must be considered in the context of competing priorities within both the City and the Toronto Police Service, and at a time when continued funding for some programs is being carefully scrutinized.
Appendix 1

References


Toronto Police Services. 2000 *Environmental Scan*.


Appendix 2

Police Helicopter Evaluation
PUBLIC OPINION POLL

1. Are you aware that the Toronto Police Service is currently testing the use of police helicopters in the City of Toronto?
   1 – Yes
   2 – No
   ? – Do not know / Not applicable

2. Do you strongly support, somewhat support, somewhat oppose or strongly oppose the use of helicopters by the Toronto Police Service?
   1 – Strongly support
   2 – Somewhat support
   3 – Somewhat oppose
   4 – Strongly oppose
   ? – Do not know / Not applicable

3. (a) Do you strongly support, somewhat support, somewhat oppose or strongly oppose the use of helicopters by the Toronto Police Service at a cost of approximately $3 million per year?
   1 – Strongly support
   2 – Somewhat support
   3 – Somewhat oppose
   4 – Strongly oppose
   ? – Do not know / Not applicable

IF SUPPORT IN (a)

(b) What are your main reasons for supporting the use of helicopters by the Toronto Police Service?

DO NOT READ
   1 – Crime deterrent
   2 – Feeling of safety
   3 – Searching for missing persons/suspects
   4 – Vehicle pursuits
   5 – Other SPECIFY _______________
   ? – Do not know / Not applicable

IF OPPOSE IN (a)

(c) What are your main reasons for opposing the use of helicopters by the Toronto Police Service?

DO NOT READ
   1 – Affects privacy
   2 – Cost
   3 – Current low crime rate/no need
   4 – Noise
   5 – Other SPECIFY _______________
   ? – Do not know / Not applicable
4. (a) What impact, if any, has the use of police helicopters had on you and/or your family?

DO NOT READ
1 – disturbed by their noise
2 – disturbed by their lights
3 – they have helped with one or more policing issues in neighbourhood
4 – there has been no impact
5 – Other SPECIFY _______________
? – Do not know / Not applicable

IF SAY DISTURBED BY NOISE IN (a)

(b) If the police could operate a quieter helicopter, would you strongly support, somewhat support, somewhat oppose or oppose the use of a helicopter by the Toronto Police Service?

1 – Strongly support
2 – Somewhat support
3 – Somewhat oppose
4 – Strongly oppose
? – Do not know / Not applicable

5. (a) If the City of Toronto had to choose how best to spend $3 million, which one of the following would you support?

READ AND ROTATE - CHOOSE ONE ONLY – PROBE IF NECESSARY

1 – Police helicopters
2 – Other police initiatives Specify _______ UP TO 2 RESPONSES
3 – Other City programs Specify _______ UP TO 2 RESPONSES
VOLUNTEERED
4 – Other SPECIFY _______________
? – Do not know / Not applicable
Preamble:

As you may know, the Toronto Police Service has had the opportunity to operate a Police helicopter on a test basis. The test period will soon be coming to a close. As part of a full evaluation process, the City of Toronto Audit Services is using a short questionnaire to gather the views of police officers who may or may not have been involved in calls for service involving the police helicopter.

PLEASE NOTE: Your views are CONFIDENTIAL. No information will be used that could identify you or any particular event.

1. How many times have you been involved on a call/event where the helicopter was called to assist? **DO NOT** count simple flights overhead.
   - None □
   - 1 – 3 □
   - 4 – 6 □
   - 7 – 10 □
   - Over 10 □

2. Which of the following best describes your opinion on the following statement:

   “Helicopters are of benefit to police operations”

   □ Strongly agree         □ Somewhat disagree         □ Do not know/No opinion
   □ Somewhat agree         □ Strongly disagree

   IF you strongly agree or somewhat agree go to Question 3; IF you somewhat disagree or strongly disagree go to Question 4

3. If you strongly agree or somewhat agree, why do you support the use of helicopters by the police service? PLEASE SELECT THREE AND RANK THEM 1 to 3 (1 being the most significant benefit to police service operations)

   □ Enhances public safety
   □ Enhances officer safety
   □ Helps deter crime
   □ Assists in vehicle pursuits
   □ More effective in the search for missing persons/suspects
   □ Increases apprehensions
   □ Crowd management (control)
   □ Other(Specify) ___________________
   □ Other(Specify) ___________________
4. If you strongly disagree or somewhat disagree, **why don’t you support** the use of helicopters by the police service?

   PLEASE SPECIFY REASON(S)

______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

5. Do you have any **other comments about helicopter use**, that you would like to add? (e.g., suggestions for protocol for its use, deployment strategies, hours helicopter is available for use etc.)

   (USE BACK IF MORE SPACE IS NEEDED)

______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

For purposes of analysis please identify:

Division/Unit ___________  Your Rank ___________  Length of Service with TPS ___________ (Years)

Thank you.