Study of Police Management Information Systems

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Canada
STUDY OF POLICE MANAGEMENT

INFORMATION SYSTEMS

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The study was conducted over one and one-half years of elapsed time. Its major objective was to formulate a general catalogue of procedures to assist Canadian municipal police forces who wish to develop improved management information systems.

Management information systems (M.I.S.) can be defined as "a set of procedures for capturing, storing and displaying information so that it can be delivered to the appropriate individuals in the organization -- to assist them with their job functions". Described in this fashion, M.I.S. already exists in all police agencies. Yet, we believe that improved M.I.S. would enhance the performance of many Canadian police forces. By using more advanced information technology and associated procedures, Canadian police forces could improve the efficiency with which information is collected and stored, and the effectiveness with which it is used by police officers.

The study report has been divided into five separate volumes. Each is addressed to a subject matter which is fundamental to developing the notion of M.I.S. for Canadian police. Each volume is completely self-contained and can be read apart from the others.

Volume I is entitled Technological Alternatives and Development Initiatives for Canadian Police. It develops the notion of M.I.S. within the context of overall technological change and its impact on policing. It considers both the historical perspective and the future challenges of developing the new M.I.S. technology for policing.
Volume II is entitled Police Management Information Systems: Developments in the United States: A Comparative Review. M.I.S. as an application of electronic innovation was born and nurtured in the United States. In this volume we describe some of the more important experiences with M.I.S. in selected U.S. jurisdictions and distill a number of key "lessons" for our Canadian police audience.

Volume III is entitled Police Management Information Systems: The Canadian Experience. It outlines the experiences of a number of Canadian police forces with M.I.S. Also, it describes the results of a survey of large Canadian police forces and their interest in M.I.S. Finally, it concludes with a number of critical comments about the direction of M.I.S. development in Canadian policing.

Volume IV is entitled Targeted Information Processing System (TIPS): A Development program for Police Management Information Systems. Here, we provide a specific catalogue of procedures for developing M.I.S. in a police environment. We begin with a comprehensive description of the "way a police force should approach" the development of M.I.S. There are major changes in staffing and organization required. The Volume concludes with a "Master Plan" for developing M.I.S.

Volume V is entitled Targeted Information Processing System (TIPS): General Design Specifications. This final volume contains technical design specifications for TIPS which was generally described in Volume IV. Each TIPS component is described in terms of inputs, outputs and file interactions.

Although our Report leads the reader into detailed M.I.S. specifications, we emphasize that we do not develop the TIPS specifications as the ultimate comment on police M.I.S. TIPS is only one of many models of police M.I.S. Other approaches
can be equally successful. The key notion in TIPS is that a police force should design its own information system to complement its own internal "demand" for information -- or the kind of information that different police managers need to support their job functions. Few "packaged M.I.S. designs", including TIPS, will satisfy this need for all police forces.
STUDY OF POLICE MANAGEMENT INFORMATION SYSTEMS

SUMMARY AND CONCLUSIONS
In the spring of 1976, Decision Dynamics Corporation was asked by the Ministry of the Solicitor General to conduct a study of police management information systems for Canadian municipal police forces.

This document provides a general description of the summary and conclusions of the overall study. It is brief. It is designed to describe the highlights of a report which took over one year to complete and whose final version extends over 800 pages. Its ultimate aim is to synthesize the volumes of material produced in the overall study.

A. The Purpose of the Study

The purpose of the police management information systems study was described as: "develop management information systems specifications that could be used by Canadian police departments to guide future information systems development. Documents developed through the study could be used by police forces to identify first, their own information requirements and second, the general specifications of information systems required to meet these needs".

The overall aim of this study is to provide an "interpretive analysis" to assist Canadian police managers in the evaluation and application of new management information systems technology in their own jurisdictions.

It is difficult to define management information systems (M.I.S.), primarily because the term, and its application in police forces, includes such a broad range of issues and operating functions. Consider a basic definition of M.I.S., i.e.,
It is the entire set of information handling procedures and instruments designed to collect, store, retrieve and deliver information to appropriate individuals in an operating organization. It satisfies the needs of operations (records and documentation), operational management (monitoring and control) and planning (forecasts to anticipate the future).

This definition suggests that every organization has an operating M.I.S. Without an M.I.S., an organization could not exist. Information, broadly defined, is the basic issue of management. As a result, when we consider the operation of an M.I.S., we must review all aspects of management in the organization and show how information intersects with decision-making. This is why the subject matter of M.I.S. is so broad.

Yet, traditionally M.I.S. is described in a much narrower domain. Since modern management information systems have become increasingly dependent on computers, many police administrators have begun to think of M.I.S. solely as an application of computer science. This notion has confused the issue of M.I.S. Computers are necessary in modern information systems. As machines become less expensive, due to technological change, and labour becomes increasingly expensive, there will be strong economic pressures in policing to use machines for information storage and retrieval. However, our major point is that M.I.S. goes beyond the issue of computer hardware and software.
Our understanding of M.I.S. suggests that the process of M.I.S. development in Canadian policing must consider the computer issue within a much broader context of: How should information be collected and retrieved relative to its use for police operations and management. We focus on information use in police forces. This is the proper starting point for effective and efficient police M.I.S. in Canada. It is the basis of much of the material in the five volumes of our study Report.

B. The Five Volumes of This Report

The final report of the police management information systems study has been divided into five separate volumes. Each volume has a separate role to play in providing an interpretation of management information systems for police managers. Each volume is designed as a "stand-alone" component of information that can contribute to a better understanding of police M.I.S. The five volumes are:

- Volume I: Technological Alternatives and Development Initiatives for Canadian Police. We examine current trends in policing for Canadian municipal police jurisdictions and project their implications on the need for management information systems in the future.

- Volume II: Police Management Information System Developments in the United States: A Comparative Review. We review M.I.S. development in American police jurisdictions and extract a number of recommendations for similar developments in Canada.
Volume III: Police Management Information Systems: The Canadian Experience. We describe M.I.S. developments in Canada. We report on a survey of large Canadian municipal police forces. Also, we describe the specific M.I.S. initiatives in a number of individual police forces. We conclude that Canadian police departments have only recently become interested in this technological area.

Volume IV: Targeted Information Processing Systems (TIPS): A Development Program for Police Management Information Systems. This volume contains a conceptual framework for developing a management information system in a Canadian police jurisdiction. The major emphasis is on "why?" and "how?". We view this volume as a "catalogue of procedures" for developing M.I.S. in a police department. Although few of the procedures are "critical" in that they "must" be implemented for successful police M.I.S. development, we believe that an awareness of all of the elements specified in this volume (and the subsequent Volume V) will help police managers to develop M.I.S.

Volume V: Targeted Information Processing Systems (TIPS): General Design Specifications. This final volume contains most of the technical design qualities of the management information system framework presented in the previous Volume IV. Each component is described by a general flowchart illustrating inputs, output reports and file interactions. In addition, each file is described in terms of the various record types and data elements contained therein.
The titles of two of the five volumes refer to the "Targeted Information Processing System (TIPS)". This is the name that we have adopted for the information system conceptualization developed in this study. The emphasis is on the term "targeted". We use this term to underscore the one crucial element of information system design which has been underestimated in many M.I.S. implementations: the information system must be designed to provide information to individuals who require it. It must be targeted to user requirements. This has an important development corollary in our TIPS specifications: we recommend that police forces considering M.I.S. devote a significant amount of their resources to an analysis of: "who needs what kind of information to satisfy what type of police job functions".

This leaves us with one inescapable conclusion. There is no single "packaged" police M.I.S. As we have already stated, every police force has some form of M.I.S. in place. Since all police forces are different, the type of M.I.S. they will require "to deliver information to users in specific job functions" will differ by police force. But, because information technology is changing so rapidly, as are the demands being placed on police themselves, there is a constant need to upgrade police information procedures. They should be made more effective (as a means of delivering information to the appropriate users) and efficient (through reducing the costs of specific bits of information). These notions of effectiveness and efficiency are central to the TIPS development program described in our Report.
C. Technology and the Future of Policing in Canada
(Volume I)

The first volume in the five volume series of reports on this study examines the question of management information systems in its broadest possible context. We treat M.I.S. as an example of new technology and consider the overall issues in the application of new technology to policing. In other words, M.I.S. represents the application of new, often capital-intensive techniques for handling information in police organizations. It is associated with computers and technological changes in the electronics industry. It will have a profound effect on the style, philosophy and human relations within a police department. In that respect, M.I.S. is not much different than new technology in communications. Again, technological advancements through the miniaturization and improvement in communications devices have promoted the use of new communications systems in police forces. They are capital-intensive. They can drastically alter the style, philosophy and organizational texture of a police force.

We trace the development of an organizational philosophy in policing and the impact of early forms of technological change. For example, the use of telephones had a major impact on the application of patrol techniques and the relationship between patrol officers and senior command.
Also, we seek to interpret the social, economic and political conditions of municipal policing during the recent, post World War II period. We show that a host of new pressures have had an impact on policing during this interval. These pressures have to a large extent, mitigated against the application of some forms of new technology, such as M.I.S., in Canadian municipal police forces.

We isolate a set of new, and pervasive social and economic pressures which we believe will have a major impact on policing over the next two decades. These include: economic conditions, which will make personnel costs rise rapidly relative to the cost of technologically enriched capital; the rate of technological advancement itself, which will continue to improve the effectiveness of "machines"; and, what we have called "demonstration effects", wherein police personnel will be able to learn from other institutional sectors (e.g., the health and education sectors) and adapt their technology for their own use. We conclude that there will be significant pressures for new technological applications in policing over the next two decades.

Finally, we outline our impressions of the effect of these pressures and other demographic and social events on the future of policing over the next two decades. For example, the rate of urbanization is increasing, the structure of housing available for this new urban population is changing and the age profile of the population is going through historically unparalleled shifts. All of these influences will have a major impact
on both the organization and application of new technology for policing in the future.

We conclude Volume I with a set of recommendations for municipal police managers on adjusting and preparing for the future. Although we recommend an open and inquisitive attitude towards the application of new technology in policing, we caution our readers to adopt a cautious, conservative and reasoned "managed" implementation of this new technology.

D. The United States Experience (Volume II)

In many respects, the United States has been the font of technological development in the world during the 20th century. During the post World War II period, there has been a focus on R&D in the United States which complements and supports technological development for policing. The combination of millions of dollars spent on the space program and on military purposes has had an obvious secondary value through adaptive application to policing. The two technological areas most influenced by these two different types of R&D are police communications and computer applications.

Also, since the Omnibus Crime Control Act was passed in the United States in 1968, the federal government has made substantial resources available for the improvement of the effectiveness and efficiency of American policing. A significant proportion of these resources has been diverted to technological enhancements. Accordingly,
we believe that technological development, particularly in police M.I.S., in the United States should be of major interest to Canadian police. There is much to learn. American police sources are quite willing to share their experiences with Canadian police audiences.

One of the most significant institutions developed in the United States to assist all sectors of the criminal justice system is the Law Enforcement Assistance Administration. We review the work of this agency and describe its initiatives on behalf of American policing. We conclude that LEAA has made a major impact on the use of advanced technology by American police forces. Its influence has been felt through a number of contributions. First, LEAA provides development money to police departments interested in building "demonstration projects". A good part of these resources have been devoted to the development of the management information systems. Second, LEAA is active in documenting and evaluating the new technology which has been developed through its funding. Third, the existence of LEAA support has helped innovating police departments "hedge their risk" on their initiatives. This is an important contribution. New technology is risky. It is essential to have a large, well-funded agency which can share some of the financial burden of the uncertainties associated with new technological development.
In Volume II, we carried out intensive field visits to five of the most advanced police forces and described their management information systems. These municipal police forces are located in: The City of Miami, Florida; Kansas City, Missouri; Dallas, Texas; Los Angeles, California; and, San Diego, California. Many millions of dollars have been spent developing the information systems in these five police forces. There is a wealth of information available to assist Canadian development programs in these areas.

From our analysis of the U.S. situation in the development of police management information systems, we have developed a set of basic conclusions which are relevant to Canadian police. They are:

- the existence of a large agency such as LEAA, which can stimulate, support and document management information system initiatives may well be an essential ingredient to the effective use of resources in this area.

- there is a great deal of documentation and other types of information available in the United States about M.I.S. implementation. It is of great value to Canadian police.

- American police are much more interested and willing to accept the risks of experimentation. Much of this is carried out in an open environment and is characterized by a great deal of information transfer. We were surprised at the degree to which both senior and junior police officers in the police forces we visited showed
candor in describing both their failures and successes. This type of environment is an essential ingredient to the effective use of resources in the development of management information systems.

finally, crime conditions in the United States are fundamentally different from those in Canada. Large urban centres are characterized by much more crime, particularly violent crime. The issue of officer safety is much more pronounced in the American environment. This has a profound influence on the development of M.I.S. Systems oriented towards computer aided dispatch, automatic vehicle locators, mobile digital terminals, etc., are of more intrinsic value in the United States. Canadian systems design activities should be aware of these differences.

To conclude, there is much to learn from the American experience. But, Canadian police should evaluate carefully the meaning of this experience. We should not accept U.S. designs without cautious and careful questioning of their philosophic basis.

E. The Canadian Police Experience with Management Information Systems (Volume III)

The most significant police management information systems development in Canada is the Canadian Police Information Centre (C.P.I.C.). Managed by the RCMP, C.P.I.C. is a fundamental information resource
available for use by all police forces in Canada. The resource is managed centrally, for a totally decentralized spectrum of users. In our study, we have characterized C.P.I.C. as a utility; its value depends on the degree to which it is used by the largest number of police departments for storing and retrieving information on wanted persons, vehicles, property and criminal name references.

A major reason for the success of C.P.I.C. is its universal acceptance by Canadian municipal police. This, in turn, results from two features of the C.P.I.C. development program, i.e.,

- its internal operating characteristics, providing a turnaround of information requests in two or three seconds in a relatively error free environment.

- the slow, cautious and participatory mode of development adopted by the RCMP in the C.P.I.C. design initiative. A large number of departments were consulted in the design of C.P.I.C. The system was not released for use before it was adequately tested and found to be relatively fail-safe. As a result, there was a strong sense of confidence by the users of the system.

In our analysis of the Canadian and U.S. police M.I.S. environment, we learned that C.P.I.C. provides the development of Canadian M.I.S. technology with an important asset. In the United States, there are a large number of C.P.I.C.-type systems. The lack of a single, well
operated, national utility such as C.P.I.C. in the United States has burdened the M.I.S. development program of many individual municipal police forces. For example, the City of Miami Police Department information systems had to be designed to interface with six separate C.P.I.C.-type field support information systems, at a significant expense to the initial systems design.

We carried out a survey of large Canadian municipal police forces in order to provide a reference on the current state of police M.I.S. development in Canada. In this survey, we learned a number of basic things about Canadian municipal M.I.S. development, i.e.,

- very few Canadian municipal police forces are investing sufficient development or operating funds on management information systems; this suggests that there is not yet a major resource commitment to this technology. In part, this has resulted because Canadian municipal police forces are so well served by C.P.I.C. for field support information. Also, Canadian police have not yet come to grips with the value of M.I.S. for police operations.

- on the other hand, our survey did reveal a growth of interest in M.I.S. by senior police managers. Many chiefs surveyed indicated that they were becoming more interested in considering the application of computers to their police forces.
there is not yet a well defined consistent set of views among Canadian police managers on how and where M.I.S. should originate in their police force. In some police departments, there is a belief that M.I.S. should be the responsibility of the Research and Development Unit. But not all municipal police forces has such a unit. In other forces, Central Records or a Data Processing Unit are cited as the locus of the development initiative. Finally, in some police forces there is a loose relationship requirements for the development of M.I.S. Until police can specify clearly what they require in the form of M.I.S., such a loose relationship will not lead to articulate systems design.

In addition to a broad based survey of 27 municipal police departments in Canada, we carried out a more intensive descriptive analysis of M.I.S. development programs in six of the more advanced Canadian forces. We do not suggest that this is the exhaustive list of police forces in Canada involved in M.I.S. development. We selected these six forces only because their development programs help illustrate the key elements in the process. The forces which warranted elaborate descriptions in Volume III of our study include:

- the City of Ottawa Police Force, Ontario. We examined two implementations in this police force; the TOPCOPS occurrence reporting system and a system currently being implemented by the Ontarip Police Commission called CADRE.
the City of Edmonton Police Force, Alberta. We focussed on the Police Headquarters Project which is currently underway to develop a "modernization master plan". It includes the design of an information system.

the RCMP Detachment in Surrey, British Columbia. This RCMP Detachment, which is providing municipal police services in Surrey, is currently involved in a shift in managerial philosophy towards Management By Objectives. The new management system is associated with the development of a computer aided dispatch facility for Surrey and other detachments in the Lower Mainland area.

the City of Vancouver, British Columbia. We traced the development of an information system concept from the original master plan, called Police Management Information System (PMIS) to the current sub-system being developed through the provincial Attorney General, called Police Index Enquiry System (PIES).

the Metropolitan Toronto Police Department, Ontario. This police force has had an extensive information system development underway for several years.

the Ontario Provincial Police, Ontario. In this provincial police force, we reviewed the information procedures designed to satisfy a new management development process.
Although our survey suggests that there is not yet a major resource commitment to management information systems among Canadian municipal police departments, our visits to selected departments suggest that there are exciting, innovative and potentially valuable programs taking place in the field. What is obvious, throughout the Canadian police scene, is that few senior police officers are totally aware of the development programs taking place in other jurisdictions. Information transfer is episodic. It is not formalized. There has been little attempt to publish documentary evidence about M.I.S. development programs. This study represents the first such attempt in Canada.

Furthermore, there is little formalized initiative for evaluating the cost-effectiveness of much of the technology being developed through M.I.S. For example, most police managers either accept or reject the value of mobile digital terminals, and their associated technology, on faith. Few police officers in Canada realize that American experience with MDT's is rather inconclusive. For example, Kansas City, Missouri, where crime rates and their implications for officer safety strongly suggest the need for such devices, was not at all satisfied with the pay-off from these instruments.

There is a great need for much more communication about information systems in Canada. The information should not only be transmitted in the form of printed and published materials. Canadian police must learn to talk with other Canadian police, within the formalized environment of conferences, and other forms of information transfer, to strike a better understanding of police management information systems in the Canadian environment.
F. Building a Police Management Information System: TIPS Concept (Volumes IV and V)

Volume IV in our report on the police management information study is entitled: Targeted Information Processing System (TIPS): A Development Program for Police Management Information Systems. It represents our ultimate understanding of how a police department should develop its information systems.

A major emphasis in this volume is on the need to maintain the strong guidance of police management, and the needs of police organization throughout the information system design process. Hence, a large proportion of this volume is devoted to issues which are not traditionally associated with systems analysis, computers, data retrieval and other such elements of management information systems. We exercise our mandate to construct an "interpretive" study of police management information systems in this volume.

First, we emphasize the concept of information as a resource. It has value to police operations. An advanced and modern information system is much more than what is currently contained in most Central Records units in municipal police forces. Central Records contain records; they are stored in one spot in order to serve documentary purposes. Central Records is accessed when a police officer wishes to know something about a particular case or a particular person's involvement with a particular case. A modern information system not only improves access to a retrieval from
Central Records, but enables police management to use statistical information to make more informed decisions. This is the essential quality of information systems.

To illustrate the importance of this distinction for information systems design, we have borrowed an allusion from economics; we describe the conditions of "information supply and demand". A focus on information supply would emphasize the way information is generated, stored and retrieved in a police force. Improvements in the information supply capacity in a police department, say through the application of computers, may simply improve the accessibility of information in the police force and enable more rapid retrieval of data. This is an important capacity for police department, but it is not the only consideration.

Information demand is the other side of the management information system coin. Every organization has a peculiar structure of demand for information. In police forces the demand for information is related to: the type of functions being performed (e.g., services such as patrol and traffic enforcement) and levels of command (e.g., authority or the "need to know" which is based on authority). From our general understanding of information systems design in police and other jurisdictions, we believe that often there is insufficient concern for information demand exhibited in the M.I.S. design. Through the development of the TIPS framework, we articulate a set of procedures which we believe redresses this balance.
A large part of Volume IV considers the relationship between police organization and information systems. First, we define a general set of police functions and command levels around which we believe information can be targeted. Then, based on our field studies in the Hamilton-Wentworth Regional Police Force, the Quebec City Police Department and the City of Edmonton Police Force, we show how particular types of information can be targeted within this framework of a police organization.

Second, we provide a procedure which can be used by police forces to examine the internal need for information (demand) in their departments. The procedure is called: the Position/Activity Review. We believe that the use of this type of procedure would help police forces design information systems that complement the organizational demand for information.

Finally, in this volume we present a conceptual design for the TIPS management information system and some directions for the required development program. Extensive estimates are made on the cost of building an M.I.S. such as TIPS and the time required to carry out the development program. To summarize: we have estimated that it would take approximately seven years for a police force to build an information system such as TIPS. The total seven year development cost would approximate $1,720,000. This assumes that computer hardware is purchased by the police force. The operating cost would range from $185,000 in the third year to approximately $305,000 in the seventh year and beyond (in 1977 dollars).
The most important feature of the TIPS development plan framework is its recommendation for the type of development tasks required in the first two years. A good portion of these initial two years should be devoted to preliminary development steps such as: the development of a master plan, a feasibility study, a total review of policies, procedures and procedural documentation in the police department, and careful specification of user requirements for information.

These cautious and conservative recommendations for time allocations during the development of M.I.S. are based on a number of lessons which we learned during the field portion of this study. First, we believe that C.P.I.C. has been successful, in part because the designers of the system took the time required to develop, pretest, and evaluate a set of procedures which could satisfy all users. Second, in our field visits to U.S. jurisdictions, we developed the impression that those forces which placed a great emphasis on planning and preparation for M.I.S. tended to develop the most successful systems. Finally, in Canada the notion of M.I.S. is relatively new. This enhances the argument in favour of laborious preparatory work providing the background for M.I.S. developments.

The general descriptions of TIPS presented in Volume IV are supplemented with material contained in Volume V. The more detailed descriptions include flowcharts of the 19 TIPS components, descriptions of each file defined within the TIPS framework, and detailed descriptions of many of the more important data elements contained within the TIPS system.
G. Acknowledgements

It is difficult to acknowledge the large number of people who assisted with the development of this study. We visited more than 30 police jurisdictions in Canada, the United States and the United Kingdom. A large number of police officers and civilian officials gave generously of their time and resources. To mention them all would expand this summary document beyond its intended size.

However, through this study we developed a special relationship with two Canadian police forces. In the Hamilton-Wentworth Regional Police Force, we are grateful for the sincere interest and dedication shown by Chief Torrance and Deputy Chief Lane. In the Edmonton Police Force, Chief Lunney and Inspector Claney had the same interest and faith in our project. We know that the quality of our study would have been greatly reduced without the active participation of these two police departments. We appreciate their cooperation.

Finally, in the Ministry of the Solicitor General, Peter Engstad and Michèle Lioy have shown interest, kindness and tolerance towards a study team that was trying to come to grips with a subject matter that has never been addressed in a comprehensive way by Canadian police research. We hope that the ultimate product justifies their contributions.
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APPENDIX B

Sources of Information for the Police Management Information Study

The Police Management Information Study took more than one and one-half years to complete. The final report, in five volumes, contains many hundreds of pages. It is a comprehensive effort, which touches all elements which we believe to be contained within the general subject areas of management information systems for Canadian police. Its subject matter ranges between: the history of policing, the spirit of new technology in policing, the process of MIS development and flow charts describing many characteristics of a police MIS. We believe that the five volumes of our report can be represented as a self-contained body of information on Canadian police MIS.

On what authority did we reach our conclusions on MIS? As we have stated throughout the five volumes of this study, there does not exist a central body of research literature on police MIS which can act as an authoritative reference point to MIS studies. We hope that this study will be a starting point for such a reference in Canada. Therefore, our "authority" originates from the large number of field contacts we made during the course of this study, as well as a reading list of literature on police management and record systems -- many of the items on this list were contradictory, or at least characterized by a confusing language on MIS subjects.

Police managers who read this report may well want to read further to gain a better understanding of the technical
and procedural issues of police MIS. As a result, we have included Appendix A to Volume I. It is designed to act as a general outline to the types of information sources which we used in our study. It is not a comprehensive bibliography. We describe our sources of information merely to provide a general guide to the variety of sources required for an understanding of police MIS. We group the various items in a simple manner; categories of information sources are designated in the order in which we sought information at the beginning of our study. We make no attempt to divide the items into consistent areas of MIS "subjects", because the literature is simply not structured in an appropriate fashion.

The published sources of information for our study are broken up into nine categories, i.e.,

- bibliographical sources
- general
- budgeting
- dispatch
- investigation
- patrol allocation
- personnel management
- productivity analyses
- U.S. information systems.

A large number of the items, especially those listed under "U.S. information systems", were solicited directly from police sources. They are not published and cannot be found in most libraries. On the other hand, we met with great success in soliciting this material and advocate the same
approach by other Canadian interested in police MIS.

Next, we describe the various police and other law enforcement agencies we visited during the study, in Appendix C. Given the philosophy of our study, and the fact that we spent approximately 20 per cent of the project time on field visits, this "source of information" is the most important element of the study.
APPENDIX C

Field Visits

Canadian Police Forces in the Following Jurisdictions:

- Calgary, Alberta
- Edmonton, Alberta
- Hamilton Wentworth Region, Ontario
- London, Ontario
- Metropolitan Toronto, Ontario
- Ontario Provincial Police
- Ottawa, Ontario
- Quebec City, Quebec
- Royal Canadian Mounted Police (Ottawa Headquarters)
- Surrey, British Columbia
- Vancouver, British Columbia

Other Canadian Agencies Involved with Law Enforcement:

- Canadian Association of Chiefs of Police
- Department of the Attorney General, (Justice Information Services Group), British Columbia
- National Research Council
- Ontario Police Commission

U.S. Police Forces in the Following Jurisdictions:

- Dallas, Texas
- Kansas City, Missouri
- Los Angeles, California
- North Parkland Hills, Texas
- San Diego, California
- San Francisco, California

Other U.S. Agencies Involved in Law Enforcement:

- Law Enforcement Assistance Administration (LEAA)
- Police Foundation