# Review of Victoria Police Crime Statistics

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**Australian Institute of Criminology**
**Research and Public Policy Series**
**No. 45**

ISSN 1326-6004



**National Library of Australia Cataloguing-in-Publication entry**

Carcach, Carlos.
Review of Victoria police crime statistics.

Bibliography
ISBN 0 642 24283 6

1. Criminal statistics – Victoria. 2. Crime – Victoria – Statistical services. I. Makkai, Toni. II. Australian Institute of Criminology. III. Title (Series : Research and public policy series ; no. 45).

364.9945021

Review of Victoria Police Statistics
AIC project number 0012
Ethics approval number PO38

Published by the Australian Institute of Criminology
GPO Box 2944
Canberra ACT 2601
Tel: (02) 6260 9221
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http://www.aic.gov.au

Edited and typeset by Sarah Christensen, Australian Institute of Criminology
Printed by Panther Printnet, Canberra

# Foreword

This monograph provides an interesting insight into how police statistics in Victoria are obtained. It describes the administrative database used by Victoria Police (the LEAP database) and how crimes are recorded in it. Of course, not all crimes are reported to the police, so any police database will under-represent the true level of crime. However, police statistics are an important indicator of community safety and must therefore be as accurate and reliable as possible.

The review, conducted by the Australian Institute of Criminology in conjunction with Victoria Police, discusses the processes used by Victoria Police when recording crimes in its LEAP database and assesses the accuracy of current recording practices. It analyses a sample of LEAP records from June 2001 and includes a scenario-based survey of police officers' decision-making processes.

Recording crime data is a complex process that depends on definitions of what a "crime" is, police discretion when deciding whether to record an incident, and the various counting rules that are applied to the database. This report focuses on the likely effects of these and other factors on the veracity of the crime statistics produced by Victoria Police, and makes recommendations to improve the recording of crimes and their conversion to published crime statistics.

The AIC has enjoyed the constructive working relationship with Victoria Police and in particular with Chief Commissioner Christine Nixon. Her support, and interest in knowledge for evidence-based practice, is important in the continual enhancement of a more strategic approach to policing in Australia.

**Adam Graycar**
**Director, Australian Institute of Criminology**
**December 2002**

# Acknowledgments

The authors wish to express their gratitude to Mr Laurie Atkins and Ms Simone Reichstein for their administrative support during the review. Their guidance as to what was possible within the time and financial constraints was invaluable. In addition they provided intellectual critique and comment that strengthened the methodology and the analyses. We would like to acknowledge Superintendent Kevin Scott, Ms Jenny Mouzos and Dr Adam Graycar for their support throughout the life of the study, as well as their constructive analysis and feedback on earlier drafts of the report.

A number of other Victoria Police personnel provided their expertise, time and comment at various stages of the review. We would like to thank them for their efforts and acknowledge that any errors that remain in the report are our own.

Finally, we would like to thank those officers who supplied the LEAP reports and running sheets and those who completed the scenarios that form the basis of Chapter 4.

## Disclaimer

This research report does not necessarily reflect the policy position of the Commonwealth Government.

# Contents

# List of Tables and Figures

# Glossary of Terms

| | |
|---|---|
| Counting rules | A set of rules applied to an administrative database to generate a consistent set of counts. |
| Evidential model | An "evidence" model is a recording system in which police determine that there is sufficient evidence of a crime having been committed and the matter is entered into the administrative database. |
| Incident | Where a member records a "matter" in the administrative database it becomes an "incident". |
| LEAP form | Used to record "incidents" and "sub-incidents" in the administrative database. |
| Matter | A "matter" refers to an event to which police are called. It will not necessarily result in an investigation nor a crime being recorded in the police administrative database. |
| Member | A sworn police officer in the Victoria Police service. |
| Prima facie model | A "prima facie" model is a recording system in which all "matters" that come to the attention of police are recorded as "incidents". These matters may or may not be classified as crimes. |
| Recording rules | A set of rules that a member applies to determine whether or not to record a "matter". |
| Reporting-creation lag | The time difference between when the crime incident was reported to Victoria Police and when the LEAP record was created. |
| Running sheet | Used to record all the activities of members on patrol. |
| Sub-incident | A "sub-incident" is the record of each offence attached to the "incident". |

# Abbreviations

| | |
|---|---|
| ABS | Australian Bureau of Statistics |
| AIC | Australian Institute of Criminology |
| ANCO | Australian National Classification of Offences |
| ASOC | Australian Standard Offence Classifications |
| CAD | Computer Aided Dispatch system |
| CCC | Country Communications Centres |
| CDEB | Central Data Entry Bureau |
| CSP | Cross Systems Product |
| CSRS | Crime Statistics and Reporting System |
| GIS | Geographical Information System |
| LEAP | Law Enforcement Assistance Program |
| MNI | Master Name Index |
| SAS | Statistical Analysis and Science software |
| UEWI | unlawful entry with intent |

# Overview and Summary of Main Findings

## Authority for this Review

The Chief Commissioner of Victoria Police requested the Australian Institute of Criminology (AIC) to conduct of a review of Victoria Police crime statistics. The review was to assess:

1. the processes by which Victoria Police crime counting rules and classifications are applied to crime allegations;
2. the data quality and monitoring mechanisms for crime statistics and clearing data;
3. the methods and practices in relation to the recording and inclusion of crime data onto the Law Enforcement Assistance Program (LEAP) database;
4. the reliability and veracity of the compilation of Victoria Police statistics; and
5. the analytical programs and tools used to generate crime data.

## About this Report

This report:

1. assesses the above five issues and details the findings from the review;
2. makes recommendations to improve the recording of crimes, their further processing and conversion into published crime statistics; and
3. describes the methods and procedures implemented in arriving at the findings and recommendations.

# Major Findings and Recommendations

The major **findings** from this report are:

1. The crime statistics published by Victoria Police accurately reflect the counting rules and crime classifications that are applied to those "matters" recorded as crimes in the LEAP database.
2. The current policy for recording crime allows a degree of discretion by members to record crime either using a "prima facie" or an "evidential" model. Given this discretion, there is inconsistency in the way in which particular crimes are recorded.[1]
3. There was a minor discrepancy between the numbers of crimes that may have taken place and the numbers of crimes recorded by members. Based on the research, it is not possible to state conclusively whether this is the full extent of the discrepancy.
4. The policies and procedures for the quality assurance of the data recorded in the LEAP database are effective and the level of error in the records used to produce the crime statistics is negligible. However, there is room for improvement of the current situation via the design and implementation of a system of statistical quality control.
5. Victoria Police meets national standards in the provision of data to the Australian Bureau of Statistics (ABS). However, there are differences between the crime counts derived from Victoria Police data and those published by the Australian Bureau of Statistics. Victoria Police produce statistics primarily on an offence-based method. It also produces victim, offender and incident counts to service external clients and internal operational needs. The ABS counts offences based on victims only. It counts only the most serious offence within the ASOC category.
6. Despite being effective in leading to the production of reliable and accurate crime statistics, the LEAP database is complicated and requires members filling in various forms for the recording of crimes.
7. A system based on a "prima facie" model of crime recording, if properly designed, could reduce the amount of time that members spend in tasks related to the completion of forms, and improve the consistency of crime recording among members.

1 In a "prima facie" model, all crime allegations are recorded. Following further investigation, these crime allegations are classified as crimes or non-crimes. In an "evidence" model, the investigating member taking the report classifies the crimes that will be recorded.

8. Victoria Police meets its own needs by publishing the most comprehensive set of crime statistics in the country. However, as members, stakeholders and the community demand more, not less, "crime"-related data, there are opportunities to improve future levels of service. There would, however, be additional costs associated with the provision of improved levels of service.

The major **recommendations** derived from the review are:

1. Victoria Police should move into a "prima facie" model of crime recording. This would:
   - represent an advancement over other recording systems with respect to strategic crime analysis;
   - encourage consistency in crime recording;
   - enable the development of better sources of information about victims and offenders; and
   - match what is currently being recognised as "best practice".
2. The Victoria Police Annual Crime Statistics Report is based on different counting rules to the ABS Recorded Crime (finding 5 above). Victoria Police need to retain flexibility in their counting rules to meet multiple clients' needs, including external agencies such as the ABS.
3. Two enhancements to the LEAP data system are recommended:
   - an enhanced statistically orientated quality control system should be introduced; and
   - the application that underpins the LEAP data entry system should be modified to overcome inefficiencies.
4. For operational enhancement, integration of existing databases and the introduction of more user-friendly interfaces for members is recommended.

# Methodological Aspects of the Review

In arriving at these conclusions and recommendations, the AIC developed a methodology which:

- examined the policies and procedures relating to the collection, collation and storage of crime data;
- examined the methods for the recording of crime data in the LEAP database;

- assessed the reliability of processes for the collection and compilation of crime statistics, including data quality; and
- determined whether Victoria Police meets national standards in the provision of data to the Australian Bureau of Statistics.

The methodological approach used in this review is consistent with international norms and standards for the assessment of crime statistical systems. The design of this review is similar to what it is known as a "full review" of crime recording (Home Office 2002). It makes extensive use of the sampling method to collect relevant data and makes an effective use of observational research strategies.

The **present review** is based on a number of exercises:

1. Interviews with a range of people involved in the collection, recording and production of Victoria Police crime statistics, observation of data entry processes at the Central Data Entry Bureau (CDEB) and visits to city and regional police stations to observe procedures in regard to the recording of the LEAP forms.
2. An analysis of a random sample of LEAP records.
3. An analysis of running sheets associated with the LEAP records generated from the random sample.
4. An analysis of changes to the sample of LEAP records by CDEB.
5. A comparison of the crime counts estimated from the sample of LEAP records with crime counts generated by the Statistical Services Branch using both Victoria Police and ABS counting rules.
6. An analysis of members' decisions regarding crime recording using a scenario-based methodology.

# Previous Reviews

Since its inception there have been 14 "reviews" which have addressed various issues related to the LEAP database and crime statistics. The purposes of the reviews have varied. A detailed description of the processes involved in the production of recorded crime statistics by Victoria Police is provided in the *Quality Assurance Report on Police Offence Recording and Processing Systems* prepared by the Australian Bureau of Statistics in 1998. The present report does not seek to reproduce this information. There are also detailed descriptions in the internal manuals and training documents.

There are a number of themes that emerge from prior reviews. These include:

- complexity in LEAP forms;
- difficulty in extracting information from LEAP for crime analysis purposes;
- ongoing training issues; and
- missing data, particularly on location.

Although there is extensive internal auditing and checking, particularly within CDEB, there has not been any systematic attempt to determine whether members are consistently recording crimes. The British Home Office (2000a, p. x) recommended from their review of police recording practices that the counting rules should be clarified with a particular focus on addressing the circumstances of when a crime should be recorded.

# Structure of this Report

This report contains five chapters. Chapter 1 provides an overview of how crime statistics are generated as a necessary background for the review of the crime statistics produced by Victoria Police. Chapter 2 describes the main policies and practices associated with the recording and processing of crime reports and their further transformation into crime statistics. Chapter 3 discusses the findings from a study of LEAP records aimed primarily at assessing the accuracy of the crime recording and counting, the error rates in the LEAP records, the reliability of the crime statistics published by Victoria Police, and their comparability to the statistics published by the Australian Bureau of Statistics. Chapter 4 discusses the findings from a study of members' decisions regarding the recording of crime allegations. Chapter 5 presents options for the future.

# 1 Overview of the Recording and Counting of Crime

Official crime statistics are based on administrative data collected by police in the course of their work. However, the recording and counting of crime reflects both the public's willingness to come forward and report incidents and the police's own administrative procedures and priorities (Koffman 1996). The limitations of police administrative data are well known (see Makkai 2001); however, they remain the most comprehensive source of long-term data on "crime". A second source of crime data comes from surveys of the general community. These surveys ask people whether they have been the victim of a crime, and are usually referred to as crime victim surveys. Analyses of the British Crime Survey have suggested that there is a significant shortfall in the crime counts between the crime victim surveys and police recorded crime. It is in part this significant shortfall that has led to major audits and proposed reforms for recording crime by police forces in England and Wales over the last couple of years.

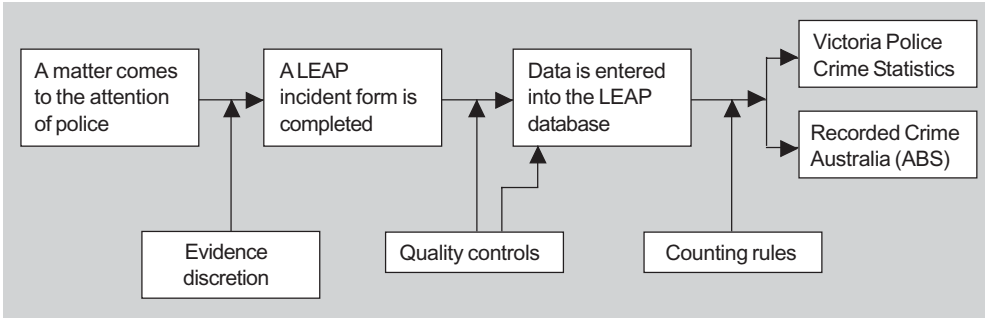
For Victoria there are two sets of official recorded crime statistics and related counting rules—the Victoria Police annual report on crime statistics, and the annual crime statistics produced by the Australian Bureau of Statistics. Both of these use data from Victoria Police's LEAP administrative database in which police record crime (see Figure 1). Those not familiar with the complex processes that surround the initial recording of crime often assume that:

- all matters that come to the attention of police are recorded in the administrative database; and
- all official statistics generated from this database will correspond perfectly.

In terms of the first point, police use discretion in determining which matters and their associated details are recorded. In Victoria, where a member is satisfied that a crime has been committed, the matter will be recorded as a "crime" incident. The *Victoria Police Manual* instructs members:

> *an employee receiving a report of an incident must make sufficient initial inquiries to satisfy themselves that a crime has been committed. Where the* **facts** *indicated that a crime has been committed the employee must complete and submit all relevant LEAP Reports.* [emphasis added]

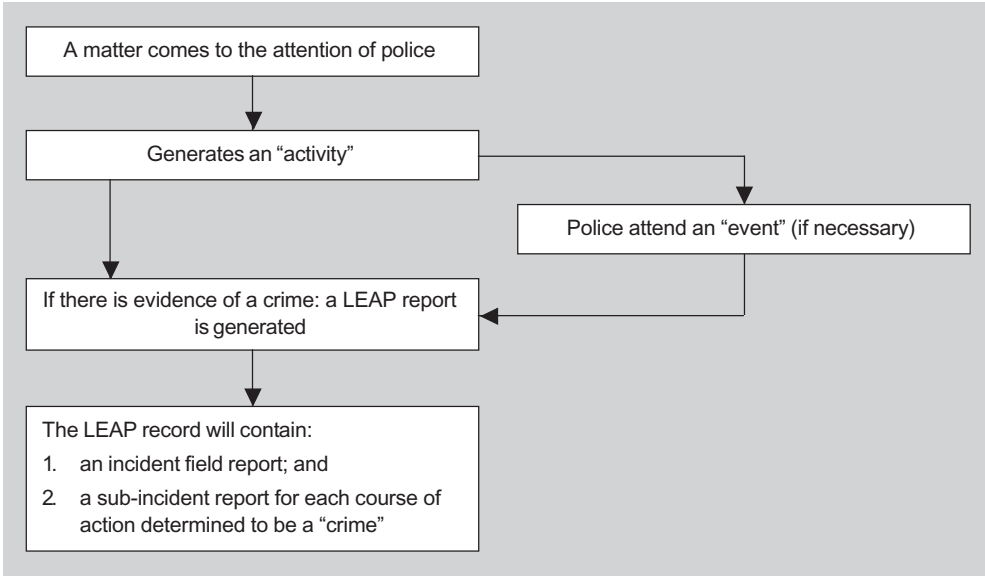
**Figure 1: Recording and counting crime by Victoria Police**




Thus, from the moment a matter comes to the attention of police, discretion is a key element in the decision to record.

The actual process is summarised in Figure 2. The first stage in the recording process occurs when a matter comes to the attention of the police. This may occur through a variety of mechanisms including a call for service, the report of a matter to the police station, or where a member comes across criminal activity. This generates an "activity" which can involve police attending an "event" or simply conducting further enquiries. From this, police determine whether or not a crime has been committed. If the determination is "yes", the member will complete an "incident" form that refers to the matter and for each "course of action that is deemed to be a crime" a "sub-incident" form will be completed. Once in the administrative database, a variety of

**Figure 2: Process of a matter being entered in the LEAP database**



different counting rules can be applied that will generate a variety of crime counts or statistics.

# Recording Crime in Australia

Before a crime can be recorded in the administrative database, the matter needs to come to the attention of police. Crime victim surveys indicate that many crimes are never reported to police in the first instance. Crimes most likely to be reported are:

- those that involve insurance claims; and
- those where the injuries require medical treatment.

A range of factors are known to affect whether a crime is reported to police. These include:

- the type of crime;
- age, sex and race/ethnicity of the victim;
- relationship between the victim and offender;
- perceived seriousness of the crime; and
- a perception of how the police would deal with the matter (see Carcach 1997).

Once the matter becomes known, a range of additional factors will influence whether it is entered on the administrative database as an "incident". These factors include the official recording rules, whether the matter is in fact a crime under the criminal statutes, the available evidence and the discretion of the investigating officer. UK and US research has shown that police use of discretion is a major factor in the decision to record a crime (see West & Farrington 1973; Carr-Hill & Stern 1979, Home Office 2000b). A further complication could be the status of a matter changing over time. A matter that is not initially recorded as a crime "incident" may later be recorded as such if further evidence comes to light. It is also possible for a matter to be deleted from the database if evidence emerges that in fact no crime was committed. Overseas research has found some evidence of crimes not being recorded for a variety of reasons (see Home Office 2000b; Elias 1986; Black 1970).

In Australia, there has not been a national study of "what" the jurisdictions record in their own police administrative databases. Within the criminological literature, crime recording has been classified into one of two methods—

prima facie and evidential. A prima facie method requires the recording of all matters that come to the attention of a police officer regardless of whether or not there is sufficient evidence to determine that a crime has been committed. The evidential method requires that a matter only be recorded if there is sufficient evidence to determine that a crime has been committed. In both methods there is an element of discretion; however, such discretion is more significant in the evidential method. If a prima facie method is adopted there is still a requirement to identify at some point whether a valid crime has occurred. The advantage of this model is that the administrative database captures both crimes and non-crimes, thereby providing a more powerful intelligence database for operational and tactical policing.

The statistics generated by Australian police services from their administrative databases reflect the policies and procedures implemented to record crime within each state and territory and the counting rules that are applied.[2] This applies to administrative databases across all areas of social policy including health, welfare and unemployment. Regardless of the counting rules, "counts" will reflect what has been recorded on the administrative database. However, if different methods for recording crime occur across jurisdictions this may affect ABS recorded crime statistics. There is a need for a national independent study of police recording practices.

The *Victoria Police Manual* directs that members should record a matter as a crime incident in the LEAP database where the facts indicate that a crime has been committed. The formal written rules suggest that an evidential model operates for the recording of crime in Victoria. However, discretion remains an important aspect of this process so that a member, even without evidence, can elect to record the crime *prima facie*. The UK Home Office (2000b, p. 19) has recommended that:

> *police should ensure that every incident relating to crimes, allegations of crimes and also disorder that is brought to their attention is recorded as an incident (or "call for service").*

It is argued that such an approach would result in "clarity" in terms of recording, and when later deciding whether the matter is counted as a crime or not. Intelligence information contained within the administrative database is not affected.

2 In addition, the Australian Bureau of Statistics publishes national recorded crime statistics on a calendar-year basis that are subject to their own counting rules and classifications.

# Counting Crime in Victoria

Victoria Police uses three methods of counting crime, depending on the type of offence:

- for all crime against the person, and most crime against property, the counting unit is the number of principal victims for each separate occurrence of the offence;
- for offences against statute, such as possession and use of drugs, the counting unit is the number of alleged offenders; and
- for a small number of infrequent offences, such as piracy, the incident becomes the counting unit (Victoria Police 2002, p. 9).

Since offences against the person and property account for over 90 per cent of total offences recorded in Victoria, the crime counting system used by Victoria Police can be classified as *victim-based*. It is also primarily *evidence-based,* since matters for which police officers determine that a crime has been committed are recorded in the system.

The following scenario study illustrates the complexity of recording and counting crime. Clearly this is a limited study and a more detailed assessment beyond the scope of this report is required. A detailed study that includes an assessment of recording practices by operational police as well as an assessment of the formal rules for recording and counting across jurisdictions would be beneficial.

The four examples below refer to incidents that took place on the same occasion:

1. Two persons are assaulted by three offenders—how many offences of assault are recorded/counted?
2. Two offenders are charged with possession of a prohibited drug—is the number of offences or the number of offenders the counting unit?
3. Three incidents of piracy occur—how many offences of piracy are counted?
4. A male comes to the police station and says he has been assaulted. There is no evidence of an assault in terms of physical bruising. He does not know who assaulted him (it occurred as he was leaving a bar). There were no witnesses—is this matter recorded?

Table 1 suggests that Victoria Police recording and counting rules for its official crime statistics publication are relatively unproblematic for scenarios 1, 2 and 3. Members' discretion and application of the policy plays a role in scenario 4. Victoria Police has a specific policy for assaults, where:

a. the assault is minor (and does not involve a family violence incident);
b. the parties are known to each other;
c. the assault was not witnessed by any other person, including police;
d. the assault did not result in serious or visible injury; and
e. there is no breach of the peace.

Under these conditions the person is advised to consult a legal practitioner or Registrar of the Magistrates' Court to initiate private proceedings. As the scenario does not fit within this criteria (the parties are not known to each other) then a report could be taken.

However, depending on what is recorded and how it is counted, different counts will be generated for different purposes. For analysis of hot spots, the following scenarios would generate counts of one "incident", whereas counts of offenders would generate three for scenario 1, two for scenario 2 and one for scenario 3. In scenario 4 the count would depend on whether the "matter" was recorded.

**Table 1: Recording and counting crime by Victoria Police**

| | Scenario | | |
|---|---|---|---|
| **1**<br>(two persons assaulted by three offenders) | **2**<br>(two offenders charged with drug possession) | **3**<br>(three incidents of piracy) | **4**<br>(one person claiming to have been assaulted) |
| Victoria Police official counting and recording rules.<br>Record and count two offences. | Record and count two offences. | Record and count three offences. | According to the *Victoria Police Manual* members could elect to record the crime. |

# Conclusion

The counts of crime that appear in various official reports all depend on:

- definitions of what is regarded as a crime for recording purposes;
- differences in the degree of discretion exercised by individual police officers when deciding about the recording of incidents; and
- the various counting rules that police services and others can apply to the administrative database.

The remainder of this report focuses on the likely effects of these and other factors on the accuracy and appropriateness of the crime statistics produced by Victoria Police.

# 2 LEAP and the Crime Statistics System

This chapter examines the processes involved in recording crime incidents in the LEAP database and the further production of crime statistics using that data. Policies and processes associated with quality management are also examined.

The main objectives are:

- gaining a detailed knowledge of the policies, practices and processes associated with the production and dissemination of crime statistics;
- understanding the flow of documents, data and information through the different components of the crime statistics system;
- knowing current policies, practices and procedures related to the decision by members to class matters as crimes, and the further recording of crimes in LEAP; and
- identifying policies, practices and procedures related to the entry of crime reports into the LEAP database, including their quality control.

The information discussed in this chapter was obtained from observations during visits to the units involved in the generation of crime statistics, interviews with relevant staff and examination of documentation and data. The following people were interviewed:

- Inspector Peter Ferguson (Police Communication Centre);
- Senior Sergeant Simon Davies (Ballarat Country Communications Centre);
- Mr Simon Dennis (LEAP Management Unit);
- Ms Carol McCloy and staff at the Central Data Entry Bureau;
- Ms Uma Rao (Statistical Services Branch); and
- members at selected police stations.

# An Overview of the Crime Statistics System

Nine major stages leading to the recording of crimes can be identified from the Victoria Police statistical system:

1. A matter becomes known to Victoria Police through either of the following mechanisms:
   - calls for service;
   - reporting by persons involved; or
   - detection by police while on patrol or other duties.
2. Following acknowledgement of a matter, a patrol may be dispatched (if required) to its place of occurrence and members make the decision to either:
   - classify a matter as a crime; or
   - not classify the matter as a crime.

   In any case, members record both the nature of the matter and the outcome of their attendance on the respective "running sheet".
3. Once members are back in the police station or specialist unit, they manually complete a crime report (using LEAP forms), depending on the case. Depending on the nature of the matter, a crime report often consists of a number of standard forms.
4. A supervisor checks the LEAP forms at the station or unit.
5. The checked forms are faxed to the Central Data Entry Bureau (CDEB) within eight hours.
6. CDEB processes the LEAP forms.
7. The Statistical Services Branch conducts edit and integrity checks on the complete database and a report (detailing errors, mostly in the classification of sub-incidents) is sent back to CDEB on a weekly basis.
8. CDEB makes the necessary corrections to the respective LEAP records. To ensure that the corrections have been made, staff in the Statistical Services Branch verify these records.
9. LEAP data are used to generate statistical and management reports.

### Processes

The sequence of activities detailed above involves six major processes:

- the reception and processing of calls for service;
- investigation and classification as to whether the matter is reportable as a crime;
- the manual completion of LEAP forms by members;
- the entry of the data contained in the LEAP forms into the LEAP database;
- auditing and quality control; and
- the production of statistical and management reports from the LEAP database.

These processes are examined in more detail below.

## Reception and Processing of Calls for Service

For the purposes of this report, a call for service is defined as any event in which a member of the public seeks police assistance. This definition includes:

- actual calls for service received through the Communications Centre operated by Intergraph, or through a regional call centre; and
- reports made by members of the public directly to a police station.

### The Communications Centre[3]

The Communications Centre is operated from Victoria Police Centre and processes calls for service originating in the major metropolitan areas around Melbourne. Eighty per cent of the state's population is concentrated in these areas. The Communications Centre activates the Computer Aided Dispatch system (CAD).

Forty-five per cent of calls for service originate from calls to the 000 telephone number. The remaining 55 per cent originate from calls to the 11 444 telephone number or to direct numbers. On average, the Communications Centre processes between 3,500 and 4,500 calls per day.

3 This information was provided by Inspector Peter Ferguson at the Police Communication Centre in Victoria Police Centre.

Sixty-seven per cent of these calls are associated with police matters and the rest relate to State Emergency Service, Ambulance Service and Fire Brigade matters.

The Communications Centre's CAD system collects key data about the location and timing of events that may result in recorded crimes. It incorporates a powerful geographical information system (GIS) facility that could be used to support operational and strategic aspects of policing in Victoria if integrated with LEAP.

## Regional Call Centres[4]

Regional call centres are officially known as Country Communications Centres (CCC). There is one call centre for each of the police regions other than region 1. CCCs operate very much the same as the Communication Centre in Melbourne. The major difference is that CCCs operate manual dispatch systems. Three types of cards are used to record the information associated with calls for service.

1. A dispatch card (VP Form 890) is used to record the following data:
   - name, address, suburb and telephone number of the person requesting police attendance. When no name is given, the call for service is recorded as anonymous;
   - address to attend and the name of the person to see in that address;
   - nature of the event;
   - identification number of the person making the dispatch, the member and unit attending the call for service; and
   - status of the job.
2. A unit card (VP Form 891) is used to monitor the activity of police patrols. It records the following data:
   - type of unit (for example, sedan, van, solo, marked);
   - code, location and status of the job associated with a call for service; and
   - date and time of the job.
3. A service card (VP Form 889) is used to record data on the service required by Victoria Police vehicles in order to determine their availability to attend a call for service at any given time.

4 This information was provided by Senior Sergeant Simon Davies at the Ballarat regional call centre.

The following activities take place whenever a call for service reaches a CCC.

- On receipt of a telephone call, CCC staff manually complete the dispatch card and assign the job to a unit.
- A record is entered into the unit card indicating the location of the job as well as the date and time of dispatch. When required, an entry is made on the service card.
- At attendance, members decide on whether the matter is a crime or not, record it into the respective "running sheet", and inform the CCC about the status of the job.
- Once a job is finalised, CCC staff make an entry onto the dispatch card and store it.

During the year ending 31 December 2000, the CCC in Ballarat processed 191,601 telephone calls that produced 21,329 dispatch cards, 36,102 unit cards and 11,185 service cards. The manual system operated by the CCCs enables the collection of a wealth of data about events resulting in police attendance. The final destination of the cards is either an archiving facility or destruction. The system could be automated to store and retrieve information electronically and assist in addressing strategic issues in policing.

### Incidents Reported in Person at Police Stations

People reporting incidents in person at police stations represent a less complex type of "call for service". Usually, members make an immediate assessment of the nature of the types of matters reported through the counter and, if required, a LEAP report is generated. If further investigation is required, then a unit is allocated the job.

## The Decision by a Member to Generate a LEAP Report

According to current policy contained in the *Victoria Police Manual* (Operating Procedures, Chapter 4), police must investigate all allegations of a crime to:

- determine if a crime has been committed;
- determine the facts of the crime incident;

- obtain all evidence; and
- bring the person(s) committing the crime before a court.

Where the facts indicate that a crime has been committed, the member must complete and submit all relevant LEAP reports. A LEAP report must be taken for any crime incident:

- reported to police (including to unsworn employees in certain circumstances);
- occurring within Victoria, regardless of which sub-district; and
- where the facts indicate a crime has been committed.

A LEAP report is not required for any:

- offence of drunk, or drunk and disorderly, committed by an adult and where that is the only offence alleged;
- traffic offence (except for child cautioning); and
- offence where a penalty notice has been issued and that is the only action taken.

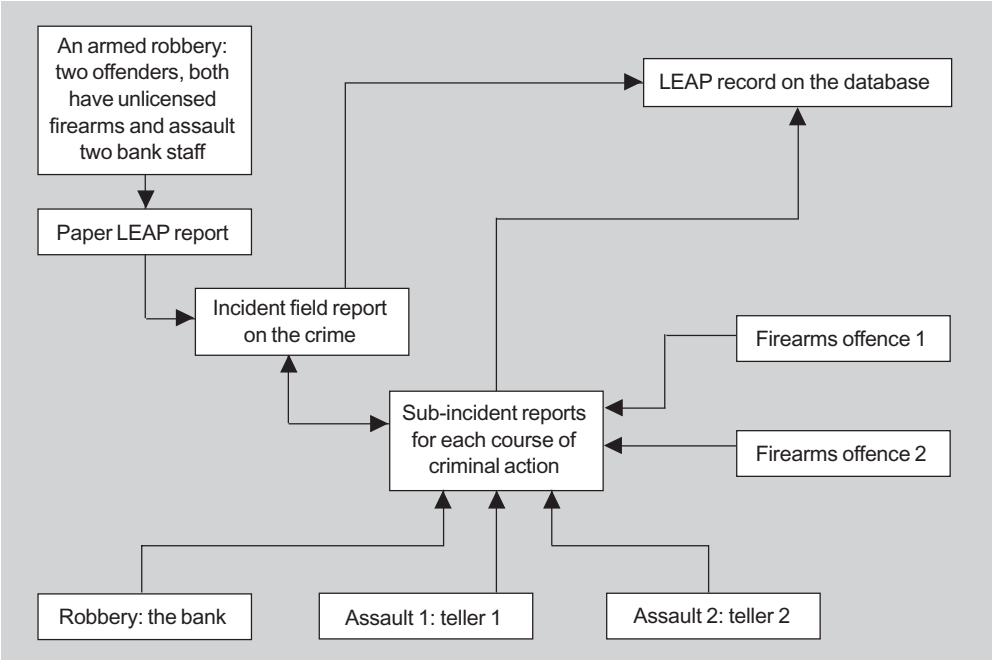
# Manual Recording of LEAP Forms by Police Members

Once the decision has been made to classify a matter as a crime incident, the member must complete a set of LEAP forms. The following LEAP forms are used for recording crime:[5]

- Form L2A (offence against the person);
- Form L2B (offence against property or statute);
- Form L5 (vehicle theft);
- Form L6 (theft from a motor car);
- Form L7 (bicycle theft);
- Form L25A (possess/use drugs);
- Form L26 (fire report); and
- Form L24 (multiple sub-incident report).

5 This information was provided by Mr Simon Dennis of the LEAP Management Unit. Other forms used for recording crime are: Form L14 (offender), Form L17 (family incident) and Form L21 (cautioning notice). Members use as many forms as necessary when completing a crime report.

**Figure 3: The process of creating a LEAP record**




These forms are completed manually and are checked by a supervisor before they are sent to CDEB for their entry into the LEAP database. (Crimes are linked to Victoria's Crime Acts and Section code.)

Members must complete one LEAP report that contains an incident field report for each matter. For each distinct course of criminal action related to the matter a sub-incident form must be completed. For example, police are called to an armed robbery occurring at a bank. They arrive and arrest two people who have committed the robbery, are in possession of unlicensed firearms and have assaulted two bank staff. One incident form and five sub-incident forms would be completed and entered in a LEAP record on the database. This process is shown in Figure 3.

# Entry of Crime Records into LEAP Database[6]

The processes associated with the creation of crime records in the LEAP database take place at the Central Data Entry Bureau (CDEB) located in the Victoria Police Centre. The CDEB operates 24 hours a day, seven days a week, and is manned almost exclusively by non-sworn police staff. There are

6 This information was provided by Ms Carol McCloy, manager of the CDEB.

seven supervisors, each with responsibility for 10 operators who enter data from an average of 1,500 to 1,600 LEAP reports per day. On Mondays and Tuesdays, the volume increases to a daily average of between 1,800 and 2,000 LEAP reports. This data suggest that during a typical year, staff at CDEB process between 547,500 and 584,000 LEAP reports. About 80 per cent of these reports are associated with crime incidents. LEAP reports are received from police stations and units through 12 fax machines.

The main activities of CDEB staff when processing LEAP reports are as follows.

1. The received LEAP forms are checked for the following:
   - completeness;
   - missing data; and
   - incorrect incident classification.
2. If the LEAP forms do not pass the CDEB checks they are returned to their originator for corrections; otherwise, they are sorted and assigned a priority code for data entry. In addition, the following details are entered into an internal Access database aimed at providing CDEB management with information to monitor the flow of work and the workload of data entry staff:
   - date the leap forms were received at CDEB;
   - station generating code; and
   - priority code.
3. The information in the LEAP report is entered into the LEAP database by CDEB operators.
4. Fax copies of LEAP forms are kept at CDEB for 30 days, after which they are destroyed.
5. CDEB supervisors conduct quality control checks on a sample of the LEAP records entered by each operator and prepare an individual report. The necessary corrections to the LEAP records take place.

The Statistical Services Branch conducts edit and integrity checks on the LEAP database and a report (detailing errors, in particular on the classification of sub-incidents) is sent back to CDEB on a weekly basis. CDEB makes the necessary changes to the LEAP records.

On occasion CDEB returns LEAP reports to the originating police station for the provision of additional data. When this occurs details are entered into a database known as CHASE. This database contains information on the

number of reports returned to police stations. One-third of forwarded chasers are resolved within three months. CDEB endeavours to record as much of the crime incident on the LEAP database before sending a chaser. In some cases it is not possible to record any details of the crime incident due to vital information being missing (for example, no attached sub-incident report). An audit conducted by CDEB found that for the period from 1 March 2000 to 28 February 2001, approximately 3,800 chasers were issued. This represented 0.9 per cent of the number of LEAP reports for the period.[7] It is estimated that there are about 600 outstanding LEAP reports during a typical month, or 20 reports a day. This represents about 1.5 per cent of all the LEAP reports processed by CDEB during the same period.

There is a high degree of morale and quality awareness among CDEB staff and this translates into remarkably low error rates. This has a positive effect on the accuracy of the statistics produced out of the LEAP data. However, operations at CDEB are mostly manual and very labour-intensive. The average set of LEAP forms translates into a large number of fields requiring data entry. The current system is designed as a CSP application and the data are entered using CSP screens displayed in computer terminals. Navigating through the set of screens associated with a given set of LEAP reports requires the operator to develop an ability in mastering commands entered through specified keys. Despite the apparently high level of quality, there is always room for improvement and staff at CDEB acknowledged the benefits of moving into an electronic processing system.

It was also observed that operators enter the same information in both the fixed fields and the associated narratives. The narratives are primarily required to assist detectives in their day-to-day enquiries. This duplication of effort could be avoided by introducing minor changes to the current application enabling it to pass relevant values from a field to the end of the LEAP record. Such a modification would overcome inefficiencies in the current data entry application.

7 From a memorandum sent on 19 March 2001 by Ms Carol McCloy to Acting Superintendent Oomes, Acting Manager, Records Services Branch (a copy of this document was provided to the AIC for the purposes of this review).

# Auditing and Quality Control

Auditing and quality control processes take place at four levels:

1. Supervisors check for the correctness and completeness of the LEAP report generated by members at the police stations or units.
2. CDEB checks for completeness and correctness of the LEAP forms sent by the police stations and units, and conducts checks and regular audits on the quality of the data entered by its staff.
3. The Statistical Services Branch conducts regular checks on the existing LEAP records, in particular regarding the accuracy of sub-incident data.
4. The National Centre for Crime and Justice Statistics at the Australian Bureau of Statistics conducts quality checks to ensure that the crime counts provided to them by the Statistical Services Branch comply with the counting rules for the production of national crime statistics.

## Quality Control at CDEB

A supervisor is rostered once a fortnight to conduct quality control during one day. This supervisor checks the LEAP records on a purposive sample of 10 operators. Emphasis is placed on new operators deemed to be inexperienced with the system. This supervisor conducts a thorough check on the selected records and completes a personalised report for each operator using a specially designed Microsoft Word template. This report addresses data entry errors and is intended to serve as a feedback and training tool.

The main focus of quality control checks is that the operator has:

- followed data entry procedures;
- recorded the correct offence code;
- not created duplicate sub-incidents;
- attached the correct person's computer record to the incident; and
- not duplicated the person's details in LEAP.

This system results in very low error rates. The Manager of CDEB estimates that the error rate can be as low as two per cent of forms for experienced operators and five per cent of forms for inexperienced operators. Quality control reports suggest that the overall error rate can be in the order of two in 10,000 during a given month.

### Quality Control at the Statistical Services Branch[8]

The Statistical Services Branch produces a report containing a list of potential errors that is forwarded to the CDEB Manager for corrective action. This report is prepared every Tuesday and contains a list of the following types of potential errors:

- not classified offences;
- incorrect result codes;
- sub-incidents with inconsistent dates;
- sub-incidents with no victim master name record;
- 129G assault police (serious) sub-incident records;
- likely duplicate sub-incidents;
- sub-incidents where the offence code has no matching charge code;
- offender identifiers where more than one informant;
- MNIs with intent to summons with same process date and member number;
- sub-incidents with offence count above the ninety-fifth percentile;
- possible attempted theft of motor vehicle or incorrect offence; and
- possible incorrect offence counts.

At CDEB, a supervisor checks the records in the list and determines the nature of the error. This is then corrected by the respective operator. In general, the current quality control model is very successful at keeping error rates low. Despite this success, the current system could be improved by introducing more statistically oriented quality control procedures and methods. Supervisors, operators and LEAP records could be selected in a random fashion for auditing. This would enable a more detailed and accurate assessment of the quality of the data stored in the LEAP database.

## The Production of Crime Statistics

The production of crime statistics takes place at the Statistical Services Branch. The records in the LEAP database are read into a SAS dataset and a nightly batch program extracts an up-to-date copy of LEAP records. These

8 This information was supplied by Ms Uma Rao, Manager, Statistical Services Branch.

are used by the Crime Statistics and Reporting System (CSRS) in the production of statistical reports, management reports and ad hoc reports. The crime statistics report produced annually is based on the LEAP data at a given date.[9] This report contains the most comprehensive crime statistics published by any police service in the country at this time. These crime statistics cover offender profiles, victims of crime, and family incidents.

## Victoria Police Crime Statistics

The counts of crimes published by Victoria Police are based on the number of sub-incidents for each type of incident that were recorded in the LEAP database on any date between 1 July of a given year and 30 June of the following year. Depending on the type of incidents, the numbers of published crimes can represent:

- numbers of principal victims for each sub-incident; or
- numbers of alleged offenders (in the case of statute crimes); or
- numbers of events (in the case of a small number of infrequent offences such as piracy).

LEAP records correspond to the most serious offence for each incident. Offenders can be charged with more than one offence for the same sub-incident. Consequently, the crime statistics published by Victoria Police reflect the number of victims (or offenders) involved for each sub-incident that is recorded in the LEAP database during a given financial year. Offences are classified according to the Australian National Classification of Offences (ABS 1986).

## Recorded Crime Statistics

The recorded crime statistics published by the Australian Bureau of Statistics cover all the victims of selected offences reported to police during a given calendar year. These offences are classified according to Australian Standard Offence Classifications (ASOC). The offences included in this collection

9 The crime statistics published by Victoria Police for the year 2000–2001 were derived from the version of the LEAP database on 18 July 2001 (Victoria Police 2002, p. 5).

represent nearly 70 per cent of all the crimes recorded by Victoria Police. They are:[10]

- murder;
- attempted murder;
- driving causing death;
- aggravated assault;
- non-aggravated assault;
- aggravated sexual assault;
- non-aggravated sexual assault;
- kidnapping and abduction;
- aggravated robbery;
- non-aggravated robbery;
- blackmail and extortion;
- unauthorised entry with intent (UEWI)—burglary/break and enter;
- theft of a motor vehicle;
- theft of motor vehicle parts/contents;
- theft from retail premises;
- theft other than above; and
- illegal use of property (except motor vehicle).

The Statistical Services Branch provides the ABS's National Centre for Crime and Justice Statistics with offence counts classified according to variables such as type of offence, sex and age of victim, location of offence, data on weapon use and type of weapon, relationship of offender to victim, and outcome of investigation. The ABS uses these variables to prepare the tables included in the recorded crime publication. The ABS conducts a series of checks on these data and when inconsistencies are detected a report is forwarded to the Statistical Services Branch for corrective action.

In deriving the counts of the numbers of offences for each offence category in the national crime collection, the Statistical Services Branch applies the rules for the mapping of Victorian Local Codes contained in the *National Crime Statistics Manual* (ABS 1993, pp. 133–46). The rules for the mapping of

10 This corresponds with the list of offences used by Victoria Police to provide the Australian Bureau of Statistics with crime counts for preparation of national crime statistics.

Victoria Police offence codes onto ABS offence codes are implemented in a computer program written in SAS language developed at the Statistical Services Branch and approved by the ABS.

# Assessment of the Crime Recording System

The accuracy and reliability of the crime statistics produced by Victoria Police depends upon decisions and processes that take place from the moment a matter is reported or detected by police to the counting rules used to generate statistical and management reports. Despite being effective in leading to the production of reliable and accurate crime statistics (see next chapter), the LEAP database is complicated and requires members to fill in various forms when recording crimes. While the present review is not intended to provide Victoria Police with a detailed analysis and assessment of these decisions and processes, it is worth noting the following issues that may improve the range and quality of information provided by the crime statistics derived from LEAP.

Dispatch systems are not integrated with LEAP. In the metropolitan area of Melbourne, which contributes 80 per cent of total police activities in the state, there is access to state-of-the-art GIS facilities that have the potential to provide accurate data regarding street addresses of events (in particular events leading to LEAP reports). Although CCCs do not possess the technological sophistication of the Communication Centre, they have the potential to validate and record street address information. This is an important issue as staff at the CDEB check for the accuracy of the street address data contained in LEAP reports. Integration of the LEAP system and the dispatch system may help in enhancing the quality of street address data.

Running sheets contain detailed records of the activities performed by members during given periods of time. The record of police activities contained in these forms provides valuable information on the nature of members' workloads. Data regarding the time members spend on specific activities, the outcomes of these activities and, more importantly, the portion of these activities that result in crimes, are crucial to understanding the processes that generate recorded crimes. These forms could be linked to the LEAP reports. This would enable police activity and efficiency to be assessed

in a systematic and periodic manner. In addition, important tactical information about "matters" could be more fully utilised if the running sheet and LEAP database were integrated.

The CDEB is a professionally run operation with highly committed and motivated staff. The procedures associated with the quality control of the data entered into the LEAP database seem to be very effective in ensuring apparently low error rates. However, there is need for a more systematic and technical approach to data quality and integrity. Edits and checks currently performed by staff in the Statistical Services Branch could be integrated into such a quality control system. This may require the redevelopment of the current applications for data entry into LEAP to enable a number of edits and checks to be automatically made.

Victoria Police meets its own needs by publishing the most comprehensive set of crime statistics in the country. However, as members, stakeholders and the community demand more, not less, "crime"-related data, there are opportunities to improve future levels of service. There would be additional costs associated with the provision of improved levels of service. The LEAP database provides information that, in conjunction with data held as part of intelligence databases, can be used to maximise the police's ability to clear crime. Improved efficiencies and more effective policing would conceivably offset additional costs. The integration of these databases should be examined in further detail in order to assess their viability and utility for Victoria Police.

# 3 Study of LEAP Records

This chapter discusses the findings from an analysis of LEAP records aimed at:

- estimating the proportion of police activities that result in crime reports;
- assessing the magnitude and extent of recording errors due to incomplete crime reports, incorrect classification of crimes, data entry operations, and incorrect application of counting rules through the different stages of the LEAP database;
- assessing the degree of accuracy of the crime statistics published by Victoria Police; and
- assessing the degree to which Victoria Police meets national standards in the provision of data to the Australian Bureau of Statistics.

## Method

There were two components to the study of the LEAP records—an analysis of the running sheets and an analysis of the LEAP reports. In an attempt to ensure date consistency, the study collected information for both components from four days in June 2001 (Tuesday 5th, Thursday 14th, Wednesday 20th and Saturday 30th).[11] The Statistical Services Branch produced a count of 3,648 LEAP records related to crime incidents created in the LEAP database during the four selected days. From this, a random sample of 580 LEAP records was selected. This sample size was deemed appropriate to produce estimates of the proportion of police activities that are recorded as crimes within five per cent of the true value, 99 per cent of the time.

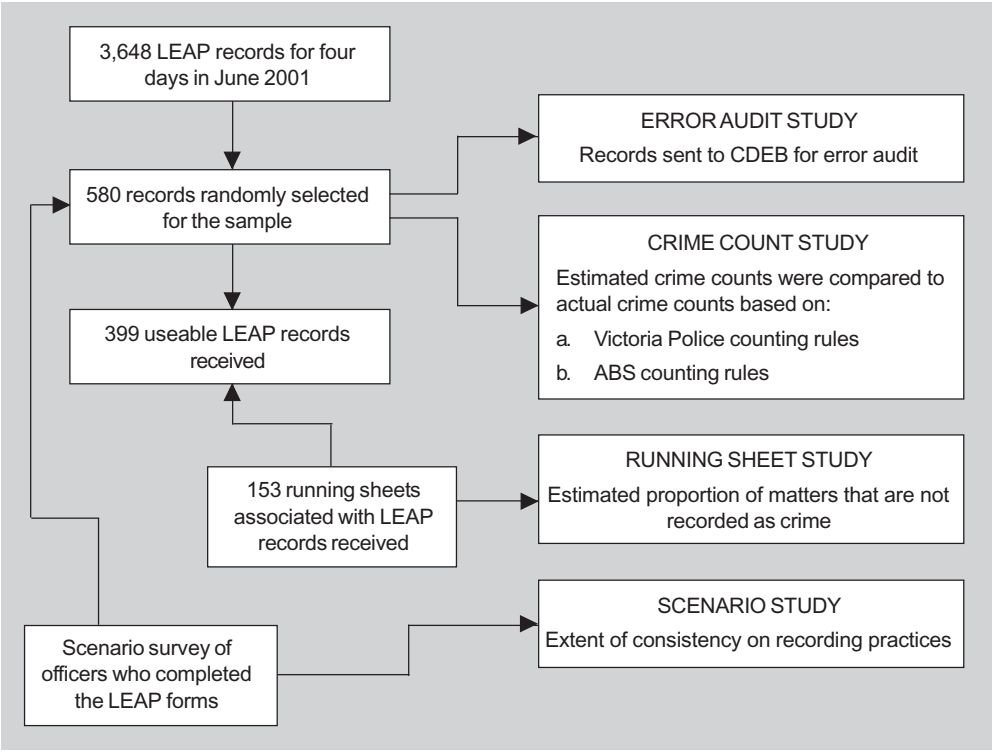
Police stations were then requested to supply the paper LEAP forms associated with the 580 sampled LEAP records. Three hundred and ninety-

11 The month of June 2001 was chosen for the following reasons: (1) It was the last month of the 2000–2001 financial year; (2) It was the month during which this study was initiated; (3) Faxed LEAP copies are kept by CDEB only for 30 days and then are destroyed and CDEB might have needed these forms to supply data to the review; (4) The method for the review required gathering the running sheets containing the events of police attendance that were associated with the sample of LEAP records. Restricting the survey period to a few days in June would reduce the burden for staff at the police stations in locating the necessary LEAP forms and running sheets.

nine useable forms were supplied. This generated two separate lines of enquiry, which are detailed in Figure 4. These lines of enquiry were:

1. CDEB were asked to check the 399 LEAP records and to document any changes that had occurred to the records (and the reasons for those changes); and
2. estimates derived from the sample LEAP records were compared to the published crime counts according to Victoria Police counting rules and ABS counting rules.

**Figure 4: Flow chart showing review process**




When a matter comes to the attention of the police it is recorded on a running sheet. This is effectively a daily log of activities, some of which result in a LEAP record. A running sheet has an average of about 15 activities per sheet. Relevant police stations were requested to supply the running sheets associated with the sample of 399 LEAP records. One hundred and fifty-three running sheets were returned, accounting for 38 per cent of the requested LEAP records. It is possible that some running sheets were not returned or the LEAP report may have originated from reports

made by victims directly at police stations. These running sheets were then used to estimate the proportion of matters not recorded as crime and represented a third line of enquiry.

A scenario-based survey was conducted of those officers who completed the LEAP reports in the sample. This generated the final line of enquiry and is explored in Chapter 4.

# Running Sheet Study

This line of enquiry was aimed at assessing the proportion of total activities that result in a crime being recorded. The following counts were developed from the data recorded on the selected running sheets:

- the total number of police activities;
- the number of police activities that resulted in a LEAP record; and
- the number of police activities that might have resulted in a LEAP record but were not recorded as crimes by members.

Ms Simone Reichstein, Corporate Policy Division of Victoria Police, coordinated the data collection as well as the follow-up letters to the relevant police stations that had not responded to the survey within the specified time frames. The police stations sent the LEAP reports and associated running sheets to Ms Reichstein for the coding of events, checking for completeness and further remittance to the AIC.

## Proportion of Police Activities that Result in Crime Reports

Overall, 2,264 activities were generated from the 153 running sheets included in the study. This represented an average of 14.8 activities per running sheet. The 153 running sheets received from the police stations contained three types of activities:

- activities that generated a LEAP record with an incident number that was included in the sample of incidents selected for the study;
- activities that generated a LEAP record with an incident number that was not included in the sample of incidents selected for the study; and
- activities that did not lead to the creation of a LEAP record.

Table 2 shows that 26 per cent of all the police activities from the sample resulted in a LEAP record being created. This figure is slightly lower than

that found by other studies about the nature of police work in Australia. For example, a study conducted in Queensland (Criminal Justice Commission 1996) found that about one-third of all matters coming to the attention of police are recorded as crimes. However, only 38 per cent of the requested LEAP forms were returned. The estimated 26 per cent is based on this subset of 153 running sheets and, as such, is subject to sampling (and non-sampling) error. The total number of running sheets associated with the 399 LEAP reports in the sample is unknown, which makes it impossible to estimate the standard error for the estimated percentage of activities leading to a LEAP record.

**Table 2: Distribution of activities by whether they resulted in the creation of a LEAP record**

| | Activities in running sheets | |
|---|---|---|
| | Number | Per cent |
| Activity leading to a LEAP record that was **also included** in the sample | 197 | 8.7 |
| Activity leading to a LEAP record that was not included in the sample | 387 | 17.1 |
| (Total activity leading to a LEAP record) | (584) | (25.8) |
| Activity not leading to the creation of a LEAP record | 1,680 | 74.2 |
| (Total) | (2,264) | (100.0) |

Source: Australian Institute of Criminology 2002, Victoria Police Running Sheet Study [computer file]

The activities that were recorded on the running sheets containing at least one of the LEAP records selected for this study represented only 8.7 per cent of the total number of police activities. A number of police activities that did not result in a LEAP record were related to matters that might have otherwise been recorded as a crime incident. According to existing counting rules, the recording of a LEAP incident field report requires members to have enough information to ensure that a crime has been committed (see Chapter 2).

Table 3 examines entries on the running sheet that might have generated a LEAP field incident report. Only 35, or 1.5 per cent, of the 2,264 police activities were deemed to be activities that might have been recorded as crimes. In this sample the two activities deemed most likely not to lead to a LEAP record were attending a domestic dispute (nine cases) and attending an assault (six cases). However, the number is small suggesting that the amount of under-recording at the level of members may be very low.

**Table 3: Activities not recorded as crimes that might have been recorded as such by nature of the event**

| Nature of police activity | Events of police attendance | |
|---|---|---|
| | Number | Per cent |
| Attend burglary and theft | 2 | 5.7 |
| Attend theft of motor vehicle | 2 | 5.7 |
| Attempted theft of motor vehicle | 1 | 2.9 |
| Theft from motor vehicle | 2 | 5.7 |
| Attend assault | 6 | 17.1 |
| Attend attempted assault | 1 | 2.9 |
| Attend wilful damage | 4 | 11.4 |
| Attend domestic dispute—no charges laid | 9 | 25.7 |
| Stalking | 1 | 2.9 |
| Attend breach of intervention order | 2 | 5.7 |
| Attend theft | 3 | 8.6 |
| Attend shop stealing | 2 | 5.7 |
| (Total) | (35) | (100.0) |
| Percentage of all 2,264 activities recorded in running sheets | 1.5 | |

Source: Australian Institute of Criminology 2002, Victoria Police Running Sheet Study [computer file]

# Error Audit Study

A LEAP record can undergo changes due to reasons such as wrong crime classification, incomplete information, or changes in status. These changes may occur at the time when the LEAP report is being data-entered at CDEB and data entry staff or their supervisors detect errors or omissions, or after a LEAP record has been created. Detection after the record has been created may be due to:

- quality control checks by CDEB supervisors; or
- changes requested by members.

The list of 399 LEAP records selected in the target sample (see "Effective Sample Size" below) was provided to CDEB for quality control and recording of errors, their nature and sources. For each LEAP record the following checks were made:

- whether a change was made to the LEAP record by CDEB staff and, if so, the nature of the change and the date the change was made in the system; and

- whether an error due to the omission of relevant information or misclassification of an incident was made, and if so by whom, when the LEAP record was changed, by whom and the date the change was made.

CDEB provided the AIC with a Microsoft Excel file containing information about any changes to LEAP records and their errors. About half of the LEAP records included in this study underwent some change. The most common change had to do with updating the case status (47%), followed by correction of errors (38%) (Table 4). Thirty-six per cent of changes due to "incorrect or missing details" were associated with information about the location of incidents or sub-incidents. These included LEAP forms with missing information or members providing an incorrect description of the actual place where sub-incidents occurred. In 3.6 per cent of cases, the problem was associated with the offence code, and in 3.8 per cent of cases it related to victim details. CDEB either detected these cases and corrected them or filled in details when information was missing from the form.

## Table 4: Changes to LEAP records

| | Per cent |
|---|---|
| Change made to LEAP record (N=399) | |
| Yes | 52.4 |
| No | 47.6 |
| (Total) | (100.0) |
| Nature of change at CDEB (N=210) | |
| Case progress status to pending from active | 35.9 |
| Case progress status to complete from pending | 6.7 |
| Case progress status to complete from active | 4.3 |
| Other change to case progress details | 0.5 |
| Offence code altered | 3.8 |
| Assign member, investigating or station number | 6.2 |
| Incorrect or missing details | 38.3 |
| Other change | 4.3 |
| (Total) | (100.0) |
| Description of incorrect or missing details (N=80) | |
| Victim details | 3.8 |
| Location updated | 36.3 |
| Offence code | 3.6 |
| Offender information (including modus operandi) | 14.5 |
| Incorrect member number or incident number | 14.4 |
| Property details (including motor vehicle details) | 13.0 |
| Other modifications to LEAP records | 13.8 |
| (Total) | (100.0) |

Source: Australian Institute of Criminology 2002, Victoria Police Error Audit Study [computer file]

# Crime Count Study

This line of enquiry focused on comparing crime counts derived according to the AIC's specifications with actual crime counts generated by the Statistical Services Branch. The following estimates were generated for the sample of 399 LEAP records:

- the count of crimes that *would have been published* as part of the Victoria Police Crime Statistics; and
- the count of victims of crime that *would have been provided* to the Australian Bureau of Statistics.

These were compared to the actual counts of crimes produced by the Statistical Services Branch (Appendix 1):

- according to Victoria Police counting rules for the month of June 2001; and
- according to ABS counting rules for the month of June 2001.

## Effective Sample Size

Four hundred and twenty-seven LEAP reports were received from the relevant police stations. However 11 of these did not correspond with those selected as part of the sample. There were six further records with no information on the police station and 11 were duplicates—they were excluded. This resulted in an effective sample of 399, which represented a response rate of 69 per cent relative to the original target of 580 LEAP records. Table 5 shows the distribution of the target sample and the effective

**Table 5: Distribution of the sample of LEAP records by Victoria Police region target sample, effective sample and response rate**

| Region | Target sample | Effective sample | Per cent effective sample | Per cent response |
|---|---|---|---|---|
| 1 | 124 | 91 | 22.8 | 73.4 |
| 2 | 115 | 73 | 18.3 | 63.5 |
| 3 | 112 | 59 | 14.8 | 52.7 |
| 4 | 114 | 90 | 22.5 | 78.9 |
| 5 | 103 | 86 | 21.5 | 83.5 |
| (Total) | (568) | (399) | (100.0) | (70.2) |

Note: Regions were derived from police station codes. There were 12 LEAP records which could not be assigned to regions due to missing data.

Source: Derived from unit record files, Statistical Services Branch, Victoria Police, and Australian Institute of Criminology 2002, Victoria Police Running Sheet Study [computer file]

sample within each of the Victoria Police regions. Response rates varied across regions, with region 3 recording the lowest number of returned LEAP records (52.7%). Region 5 recorded the highest response rate (83.5%).

### Weighting

As a sampling methodology was used to generate the sample of LEAP records, the estimated crime counts were weighted up to reflect the true regional distribution of recorded crime during the month of June 2001. The weighting procedure consisted of three steps. In the first step, regional weights were computed by dividing the average daily number of LEAP records created by the number of records in the final effective sample within each region.[12] The second step consisted of adjusting the regional weight by the ratio of the total number of days during the month of June 2001 (30 days) to the number of days selected for the study (four days). The third step adjusted the weights to conform to a distribution of the estimated number of incidents by type of crime that corresponded to LEAP records created during the month of June 2001[13] (see Appendix 2).

## Accuracy of Published Crime Statistics

### Counts According to Victoria Police Rules

Table 6 shows the number of offences in the LEAP sample and the actual or published counts for June 2001 using Victoria Police counting rules. Given the relatively small sample size (399 LEAP records out of over 37,000 records for the month of June 2001), no cases were detected for such rare offences as homicide, rape and abduction/kidnapping in the LEAP sample. These types of offences represent a negligible proportion of the total crime that is recorded by Victoria Police.

The sample differs in composition when compared to the distribution of recorded crime published by Victoria Police for the month of June 2001 (Victoria Police 2002). Offences such as robbery, residential burglary, theft of motor vehicle, going equipped to steal and harassment were over-

12 The number of total LEAP records within each region for the four days included in the study were derived by applying the skip-through factors used by the Statistical Services Branch to select the sample of LEAP records to the realised sample size within the regions. Regions were derived from police station codes.

13 Statistical Services Branch, Victoria Police, provided this distribution (Appendix 1, column 3).

## Table 6: Offence counts for four-day sample and month of June 2001

| Offence type | Four-day sample (unweighted) | | Month of June [a] | |
|---|---|---|---|---|
| | Number | Per cent | Number | Per cent |
| Robbery | 7 | 1.4 | 437 | 1.2 |
| Assault | 18 | 3.5 | 1,899 | 5.0 |
| Abduction/kidnapping | 0 | 0.0 | 42 | 0.1 |
| Arson | 3 | 0.6 | 251 | 0.7 |
| Property damage | 50 | 9.8 | 3,436 | 9.1 |
| Burglary (aggravated) | 2 | 0.4 | 196 | 0.5 |
| Burglary (residential) | 68 | 13.4 | 4,347 | 11.5 |
| Burglary (other) | 34 | 6.7 | 2,756 | 7.3 |
| Deception | 21 | 4.1 | 2,032 | 5.4 |
| Handle stolen goods | 10 | 2.0 | 812 | 2.2 |
| Theft from motor vehicle | 114 | 22.4 | 5,844 | 15.5 |
| Theft of motor vehicle | 48 | 9.4 | 3,712 | 9.8 |
| Theft (shopsteal) | 18 | 3.5 | 1,436 | 3.8 |
| Theft (bicycle) | 8 | 1.6 | 619 | 1.6 |
| Theft (other) | 66 | 13.0 | 5,865 | 15.5 |
| Drugs (cult., manuf., traff.) | 2 | 0.4 | 448 | 1.2 |
| Drugs (possession, use) | 7 | 1.4 | 810 | 2.1 |
| Going equipped to steal | 3 | 0.6 | 86 | 0.2 |
| Justice procedures | 11 | 2.2 | 1,024 | 2.7 |
| Regulated public order | 0 | 0.0 | 167 | 0.4 |
| Weapons/explosives | 6 | 1.2 | 452 | 1.2 |
| Harassment | 5 | 1.0 | 182 | 0.5 |
| Behaviour in public | 1 | 0.2 | 314 | 0.8 |
| Other | 6 | 1.2 | 579 | 1.5 |
| Not classified | 0 | 0.0 | 6 | 0.0 |
| (Total) | (508) | (100.0) | (37,752) | (100.0) |

a Excludes 24 counts of homicide, 106 counts of rape and 439 counts of sex (non-rape)

Source: Victoria Police, Statistical Services Branch

represented in the LEAP sample compared to the distribution of actual recorded crime. With the exception of motor vehicle theft and weapons/explosives, the remaining types of offence were under-represented by the sample. This was due to the fact that the LEAP records used in this study were a simple random sample selected from the population of LEAP records for the four randomly selected days in June 2001. To adjust for the imbalance, the sample estimates were weighted according to the weights described in the previous section.

## Table 7: Comparison of weighted sample estimates and published crime counts, June 2001

| Offence category | Estimate from LEAP sample[1] | Published by Victoria Police[2] | Percentage difference |
|---|---|---|---|
| Homicide | 0 | 23 | n/a |
| Rape | 0 | 107 | n/a |
| Sex (non-rape) | 439 | 431 | 1.82 |
| Robbery | 437 | 432 | 1.14 |
| Assault | 1,899 | 1,886 | 0.68 |
| Abduction/kidnapping | 0 | 43 | n/a |
| Arson | 251 | 249 | 0.80 |
| Property damage | 3,436 | 3,434 | 0.06 |
| Burglary (aggravated) | 196 | 192 | 2.04 |
| Burglary (residential) | 4,347 | 4,336 | 0.25 |
| Burglary (other) | 2,756 | 2,761 | –0.18 |
| Deception | 2,032 | 1,896 | 6.69 |
| Handle stolen goods | 812 | 768 | 5.42 |
| Theft from motor vehicle | 5,844 | 5,813 | 0.53 |
| Theft of motor vehicle | 3,712 | 3,743 | –0.84 |
| Theft (shopsteal) | 1,436 | 1,441 | –0.35 |
| Theft (bicycle) | 619 | 617 | 0.32 |
| Theft (other) | 5,865 | 5,699 | 2.83 |
| Drugs (cult., manuf., traff.) | 448 | 429 | 4.24 |
| Drugs (possession, use) | 810 | 776 | 4.20 |
| Going equipped to steal | 86 | 83 | 3.49 |
| Justice procedures | 1,024 | 967 | 5.57 |
| Regulated public order | 0 | 159 | n/a |
| Weapons/explosives | 452 | 442 | 2.21 |
| Harassment | 182 | 181 | 0.55 |
| Behaviour in public | 314 | 301 | 4.14 |
| Other | 0 | 544 | n/a |
| (Total) | (37,397) | (37,753) | (–0.95) |

n/a Not applicable

Source: (1) Australian Institute of Criminology 2002, Victoria Police Crime Count Study [computer file]
(2) Victoria Police, Crime Statistics 2000–01, Table 2.1, p. 16.

Table 7 shows the weighted estimates together with the count of offences as published by Victoria Police (2002) and the percentage discrepancy between the two. As mentioned, when describing the weighting procedures, the estimated offence counts obtained from the sample were adjusted to conform to a known distribution of offence counts for the month of June 2001. The Statistical Services Branch provided the distribution to ensure proper application of Victoria Police counting rules.

The data in Table 7 show that there were minor discrepancies between the survey estimates and the published data.[14] The largest discrepancies occurred for the offence of deception (6.7%) followed by justice procedures (5.5%), and handle stolen goods (5.4%). Overall, the total number of offences estimated from the LEAP sample was one per cent less than the numbers of published offences. In general, these findings suggest that the crime statistics published by Victoria Police accurately reflect the existing counting rules and crime classifications that are applied to those matters recorded as crimes in the LEAP database.

## Counts According to ABS Rules

Table 8 shows numbers of recorded offences by offence category for the month of June 2001 according to the counting rules and editing procedures prescribed by the National Centre for Crime Statistics at the Australian Bureau of Statistics. Staff at the Statistical Services Branch, Victoria Police, derived these counts by applying the counting rules set by the Australian Bureau of Statistics for the Recorded Crime collection. Victoria offence codes were mapped to ASOC offence codes as specified in the ABS *National Crime Statistics Manual* (ABS 1993, pp. 133–41). Crime statistics published by Victoria Police are not strictly comparable to the crime statistics published by the Australian Bureau of Statistics, even after adjusting the crime counts for differences between the ANCO and ASOC classifications (Table 8, columns A, B and C). The factors that affect comparability include:

- The ABS and Victoria Police use different counting rules. Victoria Police crime statistics are based on counts of offences according to the date when LEAP records are created in the system. The ABS counts crimes on the basis of the date of reporting.
- ABS counts are numbers of not necessarily distinct victims. If a person or organisation was the victim of more than one offence during the same incident, then the ABS records one victim for each offence, unless the offences belong to the same major ASOC group, in which case only one victim is recorded.
- Victoria Police counts represent the number of "sub-incidents". A sub-incident corresponds to the most serious offence recorded for a single distinct course of conduct within an incident. For all crime against the

14 According to the Statistical Services Branch, the observed discrepancies between the crime estimates from the LEAP sample and the crime counts published by Victoria Police are due to the dynamic nature of the LEAP database. Counts on different dates are based on different updated versions of the LEAP database.

## Table 8: Unadjusted and lag-adjusted numbers of recorded offences, Australian Bureau of Statistics and Victoria Police, June 2001

| | Unadjusted counts | | | Adjusted counts | | |
|---|---|---|---|---|---|---|
| Offence category (ABS) | Count according to ABS rules[1] (A) | Count according to Victoria Police rules[2] (B) | Percentage difference relative to ABS counts (C) | Lag factor[3] (D) | Lag-adjusted Victoria Police count[k] (E) | Percentage difference relative to ABS count (F) |
| Homicide | 21 [a] | 23 | 9.5 | 92 | 21 | 0.0 |
| Sexual assault | 188 [b] | 344 [c] | 83.0 | 89 | 306 | 62.9 |
| Kidnapping/abduction | 15 | 17 | 13.3 | 87 | 15 | 0.0 |
| Robbery | 436 [d] | 432 | –0.9 | 96 | 415 | –4.9 |
| Assault | 1,320 [e] | 1,622 | 22.9 | 91 | 1,476 | 11.8 |
| Blackmail/extortion | 19 | [j] | n/a | [j] | n/a | n/a |
| UEWI—burglary/break & enter | 7,204 | 7,289 [f] | 1.2 | 99 | 7,216 | 0.2 |
| Theft of motor vehicle | 3,418 | 3,743 | 9.5 | 100 | 3,743 | 9.5 |
| Theft from retail premises | 1,327 | 1,441 [g] | 8.6 | [j] | n/a | n/a |
| Theft of car parts & contents | 5,847 | 5,813 [h] | –0.6 | [j] | n/a | n/a |
| Other theft | 5,713 | 6,316 [i] | 10.6 | 98 | 6,190 | 8.3 |
| Illegal use of property | 3 | [j] | n/a | [j] | n/a | n/a |
| (Total) | (25,511) | (27,040) | (6.0) | [j] | (n/a) | (n/a) |

(a) Murder, attempted murder and driving causing death
(b) Aggravated and non-aggravated sexual assault
(c) Sex (non-rape)
(d) Aggravated and non-aggravated robbery
(e) Aggravated and non-aggravated assault
(f) Aggravated burglary, burglary (residential) and burglary (other)
(g) Theft (shopsteal)
(h) Theft from motor vehicle
(i) Theft (other) and theft (bicycle)
(j) Not available
(k) Unadjusted count time lag factor divided by 100

n/a Not applicable

Source: (1) Statistical Services Branch, Victoria Police
(2) Derived from data published in Victoria Police, Crime Statistics 2000–01, Table 5.1, p. 16
(3) ABS 1998, Table 5, p. 26

person, and most crime against property, the counting unit is the number of principal victims for each sub-incident. For offences against statute, the number of offenders is the counting unit, whereas the event itself becomes the counting unit for a small number of infrequent offences (Victoria Police 2001).

### *The Reporting-Creation Lag*

A study conducted by the ABS indicates that the proportion of crimes created in the LEAP database after six weeks of being reported ranges from a low 83 per cent for the offence of driving causing death, to a high 100 per cent for offences such as motor vehicle theft or manslaughter. Ninety-one and 89 per cent of assaults and sexual assaults were recorded in LEAP

within six weeks of having been reported to Victoria Police. The corresponding percentage for break and enter was 99 per cent (ABS 1998). The ABS's findings suggest that the effect of the reporting-creation lag may oscillate between 0 and 17 per cent depending on the offence category being considered. These findings suggest that one way to improve comparability between the two series of crime statistics is to adjust Victoria Police counts down by the lag factor.

As expected, adjusting Victoria Police crime counts for the reporting-creation lag had the effect of lowering the numbers of offences. The adjustment brought Victoria Police crime counts closer to ABS counts, in particular for homicide and kidnapping/abduction, where there was an exact agreement between both sets of figures, and break and enter, for which the discrepancy was reduced to 0.2 per cent (Table 8). However, adjusted Victoria Police counts for the other offences remained higher than the ABS.

These findings seem to indicate that the time elapsed between the date a crime is recorded and the date a crime record is created in the LEAP database has only a marginal effect on the comparability of the ABS and Victoria Police crime statistics.

### *Multiple Sub-incidents*

Discrepancies between the counting rules by the Australian Bureau of Statistics and Victoria Police depend primarily on the way multiple sub-incidents are counted. Depending on how these are counted, the crime count will vary. As an example, an incident sampled for this study had nine sub-incidents attached to it, and two victims. The sub-incidents associated with one victim had the following offences recorded: assault, theft, assault with intent to rob, breach of intervention order, aggravated burglary—person present, criminal damage (intent damage/destroy), unlawful assault, and theft of motor car. The offences recorded for the sub-incidents associated with the second victim were the following: unlawful assault and assault with intent to rob. According to Victoria Police rules, 10 offences were recorded and two victims were counted. According to Victoria Police:

> *…the ABS counts for this incident…were calculated by running the code which extracts ABS counts. Accordingly, the count is a total of four offences (two victims of aggravated robbery, one motor vehicle theft, one UEWI). This code has been checked and approved by the ABS in its quality control.* (Ms Simone Reichstein, written communication from Ms Uma Rao, 9 July 2002)

LEAP incidents with multiple sub-incidents were estimated to be 10.6 per cent of all the LEAP incidents created during June 2001 and contributed 29.6 per cent of total offences over the same period. Table 9 shows for each selected offence category in the Recorded Crime collection:

- the estimated number of crimes according to ABS counting rules;
- the estimated average number of sub-incidents per LEAP incident;
- adjusted number of estimated ABS crime counts; and
- the estimated crime counts according to Victoria Police rules for the month of June 2001.

The adjusted ABS crime counts were obtained by multiplying the number of crimes according to ABS counting rules by the average number of sub-incidents per LEAP incident. The final column in Table 8 shows the percentage difference between the Victoria Police counts and the adjusted ABS counts. The data in Table 9 suggest that the number of sub-incidents per LEAP incident explains much of the difference between ABS and Victoria Police crime statistics. Assault remained the only offence for which the discrepancy is relatively high. Whatever is underlying the observed discrepancies between ABS and Victoria Police is not clear-cut and requires further investigation.

**Table 9: Unadjusted and sub-incident-adjusted numbers of selected recorded offences, Australian Bureau of Statistics and Victoria Police, June 2001**

| Offence category (ABS) | Count according to ABS rules[1] | Average number of sub-incidents per incident | Adjusted ABS crime counts | Count according to Victoria Police rules[2] | Percentage difference relative to adjusted ABS counts |
|---|---|---|---|---|---|
| Robbery[a] | 436 | 1.00 | 436 | 432 | –0.9 |
| Assault[b] | 1,320 | 1.07 | 1,412 | 1,622 | 12.9 |
| UEWI—burglary/break & enter[c] | 7,204 | 1.01 | 7,276 | 7,289 | 0.2 |
| Theft of motor vehicle | 3,418 | 1.11 | 3,794 | 3,743 | –1.4 |
| Other theft[d] | 12,887 | 1.06 | 13,660 | 13,570 | –0.7 |

Note: Selected offences (homicide, sexual assault, kidnapping/abduction and blackmail/extortion) have been excluded from this table due to small numbers.

(a) Aggravated and non-aggravated robbery
(b) Aggravated and non-aggravated assault
(c) Aggravated burglary, burglary (residential) and burglary (other)
(d) Theft (shopsteal), theft from motor vehicle, theft (other) and theft (bicycle)

Source: (1) Statistical Services Branch, Victoria Police
(2) Derived from data published in Victoria Police, Crime Statistics 2000–01, Table 5.1, p. 16

# Conclusion

The policies and procedures for checking the quality of the data recorded in the LEAP database are effective. The level of error in the records used to produce the crime statistics is negligible. However, there is room for improvement of the current situation via the design and implementation of the system of statistical quality control.

The findings from the study of LEAP records indicates that the crime statistics published by Victoria Police accurately reflect the counting rules and crime classifications that are applied to those matters recorded as crimes in the LEAP database.

There was a minor discrepancy between the numbers of crimes that may have taken place and the numbers of crimes recorded by members. Based on the research, it is not possible to state conclusively whether this is the full extent of the discrepancy.

Victoria Police meets national standards in the provision of data to the Australian Bureau of Statistics. However, there are differences between the crime counts derived from Victoria Police data and those published by the Australian Bureau of Statistics. The findings from this study do not lend support to an explanation of such differences in terms of reporting LEAP creation lags. Some of the difference can be accounted for by the counts of multiple sub-incidents.

# 4 A Study of Members' Recording Practices

Although it is possible to assess the quality of the data entry and extraction of data from the LEAP database, it is far more difficult to determine whether crimes coming to the attention of police are being recorded in the system (sometimes referred to as ethical assessment). Research indicates that "discretion" is the primary reason for under-recording when an evidential standard to allegations of crime is adopted by police services (Home Office 2000a). This chapter discusses the findings from an analysis of crime recording decisions by Victoria Police members aimed at:

- assessing the degree of consistency of members regarding the decision to record allegations of crime; and
- identifying factors that may contribute to variations among members in their decisions about recording crime.

## Method

Several approaches are available for the assessment of crime-recording practices and procedures. One approach is to examine the calls for service and to track these through to determine whether the call resulted in an entry. If no entry was recorded then it would be necessary to determine if the reason was "legitimate". From this exercise it would be possible to determine the extent of non-recording from calls for service. However, a second source of under-recording that would not be evident from tracking through the calls for service concerns those incidents coming to the attention of police as part of their routine activities. For example, a drug transaction observed by an officer who does not record the incident or an assault that an officer chooses not to pursue for whatever reason. One method of gauging this might be to undertake a participant observation of officers "at work". Such an approach would be subject to bias—officers may adjust their behaviour accordingly so that no under-reporting (if it existed in the first place) would be detected.

A second method is to undertake a scenario exercise where officers are given hypothetical examples and asked to indicate whether they would record or not record the incident. This also has methodological problems—first, it is an artificial environment; second, officers might not indicate what they would really do but rather what they know should be done; third, the scenarios are relatively short to reduce burden upon those participating in the exercise. As a result of the latter issue, officers are making a judgment not based on all the information they might collect in the real world, hence the artificiality of the exercise.

Despite such limitations, this exercise was undertaken in a recent review of the recording practices of English police officers (HM Inspectorate of Constabulary 2000) and was utilised here. Crime scenarios similar to the UK exercise were developed in conjunction with Victoria Police. Because of the limitations highlighted, we would caution about extrapolating from these data to a larger figure of "under-reporting". However, as will be seen, the information is interesting and may suggest areas for further training and clarification of recording practices to members.

In keeping with the methodology, officers associated with the LEAP reports selected for the study in Chapter 3 were sent the scenario survey. After consultation a list of 14 different scenarios was developed, with three possible options for action (Appendix 3):

- complete a LEAP incident report;
- not take a report; and
- carry out further investigation.

The surveys were sent to 497 officers in five regions who were asked to self-complete the instrument. It is possible that officers may have consulted their colleagues about the recording. This should not be a significant problem because in the real world members would check with the person responsible for supervising the completion of LEAP forms. This would be especially the case where they might be uncertain about the correct recording. It is possible that we might expect variation in responses by the level (that is, the experience) of the officer so information was asked about the rank of the officer completing the form. As forms are completed differently in the country region, information was collected about the region the officer was located in and whether the officer was assigned to a metropolitan or country station.

# Results

## Missing Data

In terms of missing data, six officers did not supply their rank, 26 did not supply their region and 23 did not indicate whether they were in a metro or country area. The extent of missing data is shown in Table 10. All those officers who did not supply rank also did not supply the region or metro/country data. Most of those who did not supply the information on metro/country did not supply the information on region (n=21). Only one person failed to answer any of the 14 scenarios and three people failed to answer seven of the scenarios. The former person also failed to provide any information on their characteristics and one of the three also failed to provide characteristic information. Due the systematic incompleteness of their answers these two persons have been excluded from the analysis. After excluding these two persons the extent of missing data per individual scenario is provided in Table 10.

### Table 10: Missing data

| | N | Per cent |
|---|---|---|
| Sample characteristics | | |
| Rank | 6 | 1.7 |
| Region | 26 | 7.3 |
| Metro/country | 23 | 6.5 |
| Missing on all three items | 6 | 1.7 |
| Missing on either region and metro/country | 21 | 5.9 |
| Scenarios | | |
| No missing data | 336 | 94.4 |
| One scenario | 15 | 4.2 |
| Two scenarios | 1 | 0.3 |
| Seven scenarios | 3 | 0.8 |
| Fourteen scenarios | 1 | 0.3 |

Source: Australian Institute of Criminology 2002, Victoria Police Scenario Study [computer file]

## Non-Response

As not all persons responded to the survey it is possible that this is a biased sample of the true population. To account for this, a series of weights were developed to reflect the known population (Appendix 4). Table 11 shows the unweighted and weighted characteristics. The weighted data indicate that

**Table 11: Representativeness of the sample (column percentages)**

| | Unweighted data | Weighted data |
|---|---|---|
| Rank | | |
| Constable | 34.0 | 21.6 |
| Senior constable | 57.6 | 62.2 |
| Sergeant or above* | 8.4 | 16.2 |
| (n) | (347) | (7,400) |
| Region | | |
| Region 1 | 22.2 | 21.8 |
| Region 2 | 19.2 | 20.8 |
| Region 3 | 19.8 | 19.7 |
| Region 4 | 18.1 | 21.5 |
| Region 5 | 20.7 | 16.2 |
| (n) | (328) | (7,400) |
| Metro/country | | |
| Metro station | 79.1 | 79.8 |
| Country station | 20.9 | 20.2 |
| (n) | (330) | (7,354) |

* One respondent was a senior sergeant and two were inspectors or above

Source: Australian Institute of Criminology 2002, Victoria Police Scenario Study [computer file]

the number of constables was over-represented and the number of sergeants or above under-represented in the study. There are a variety of reasons that might account for this difference:

- constables were more concerned about possible repercussions if they failed to complete the survey;
- constables were genuinely more committed to assisting the evaluation than sergeants;
- constables responded more positively to the Chief Commissioner's supporting letter; and
- sergeants or above had less time to complete the instrument.

There are relatively few geographic differences although region 4 is slightly over-represented while region 5 is slightly under-represented. There are no differences between country and metro stations. Given the differences in the ranks, and particularly given that sergeants may exert quite an influence in the station as to what is recorded, the weighted data are used for the analyses presented throughout the rest of the report.

In answering the scenarios some respondents circled more than one response. As a result there were five response categories:

- complete a LEAP incident report (A1);
- complete a LEAP incident report and carry out further investigation (A2);
- not take a report (A3);
- not take a report and carry out further investigation (A4); and
- carry out further investigation before deciding whether to complete a LEAP report or not (A5).

The distribution of responses is shown in Table 12. The first thing to observe is there is variation in how officers responded to the scenarios. The *Victoria Police Manual* (section 4.3.2.2) directs that:

> *an employee receiving a report of an incident must make sufficient initial inquiries to satisfy themselves that a crime has been committed. Where the facts indicate that a crime has been committed the employee must complete and submit all relevant LEAP Reports.*

Thus, Victoria Police has an evidential model of crime recording although individual members retain discretion as to how they proceed. The distributions in Table 12 indicate the extent to which discretion can produce a variety of possible responses to a crime scenario. If we take scenario 1 as an example, 44 per cent indicated they would complete a LEAP form, 16 per cent would not and a further 39 per cent were unable to decide and would carry out further investigation. In the case of scenario 14, 44 per cent would definitely complete a LEAP form, one per cent would not and 56 per cent could not decide and would conduct further investigations.

Figure 5 indicates the degree of consistency in reporting with those indicating they would complete a LEAP form based on the current information and those who would not (even though they would conduct further investigations that might lead to evidence of a crime at a later stage). Scenario 6 has the highest consistency, with 96 per cent of members indicating that at this stage they would not complete a LEAP form. There are five other scenarios with consistency levels above 80 per cent—scenarios 2, 3, 4, 8 and 9.

Simple bivariate analysis suggested that members with ranks of constable seemed to have a higher propensity to create a LEAP record for scenarios 1, 2, 4, 7, 9 and 14 compared to senior constables and sergeants. In addition, senior constables tended to report scenario 11 more frequently than constables and sergeants. Sergeants seemed to have a higher propensity to report scenarios 3 and 5 compared to constables and senior constables (Table 13).

## Table 12: Responses to scenarios (row percentages)

| Scenario | | Complete LEAP record A1 | Complete LEAP record A2 | Not complete LEAP A3 | Not complete LEAP A4 | No decision A5 |
|---|---|---|---|---|---|---|
| 1 | A woman phones up and states that she has returned home from a shopping trip and found the kitchen window at the back of her Ministry house damaged. The damage amounts to a crack in the glass across the full width of the window. She does not know how the damage occurred but is reporting it to the police because she cannot have the window repaired unless she reports the crime and gives a copy of the crime report to the Ministry. | 39.3 | 5.0 | 16.0 | 0.4 | 39.3 |
| 2 | A person reports that a neighbour has damaged his fence. He does not wish you to take the matter any further but has reported this in case anything else happens. He does not want you to visit the neighbourhood. | 17.4 | 0.6 | 73.4 | 0.4 | 8.2 |
| 3 | Whilst on patrol you see graffiti on a telephone box and nearby wall. The graffiti is new and you know it wasn't there yesterday. | 9.2 | 2.2 | 56.9 | 0.4 | 31.2 |
| 4 | During the course of a patrol you come across a car that has a smashed window, the ignition barrel has been removed and the radio appears to have been removed. A check with D24 does not indicate the vehicle is stolen but the owner cannot be contacted. | 2.9 | 7.7 | 2.7 | 2.4 | 84.3 |
| 5 | You eventually are able to contact the owner of the vehicle in Scenario 4. He is staying with a friend interstate and will not return for a week. At this stage you cannot establish from the owner whether the vehicle is stolen. He states he will recover the vehicle on his return. You return to the same vehicle the following day. You notice the vehicle is now up on bricks, and the wheels and headlights have been removed. | 30.2 | 11.6 | 9.5 | 2.9 | 45.8 |
| 6 | You receive a call from a person living in a block of flats. They state that they saw a fight outside between five men. During the fight they saw one man punch another in the face and this person fell to the ground. They are still lying there whilst the witness is making the call. On your arrival there is no sign of any of the parties involved. | 2.6 | 1.8 | 33.9 | 6.3 | 55.4 |
| 7 | Having carried out an area search you find the injured person who tells you that the alleged offender is his friend and they had a disagreement, which resulted in them punching each other. The injured person has been drinking heavily and does not wish to make any complaint. He has a bruise to the side of his face. The incident has been captured on CCTV and you can identify all the parties involved. | 19.9 | 5.0 | 44.0 | 1.7 | 29.5 |
| 8 | You are called to a domestic dispute; on your arrival it is apparent that the occupants of the house, a male and female, have been involved in a fight. The woman has a red mark to her cheek. She decides she does not wish to make a complaint and will not support a prosecution, she does however tell you that the man hit her across the face. | 71.7 | 14.7 | 6.6 | 0.0 | 7.1 |
| 9 | You are called to a house where the occupants report that a small glass panel in the front door has been smashed. It does not appear that anyone has entered the premises. | 79.0 | 9.0 | 2.8 | 0.0 | 9.2 |

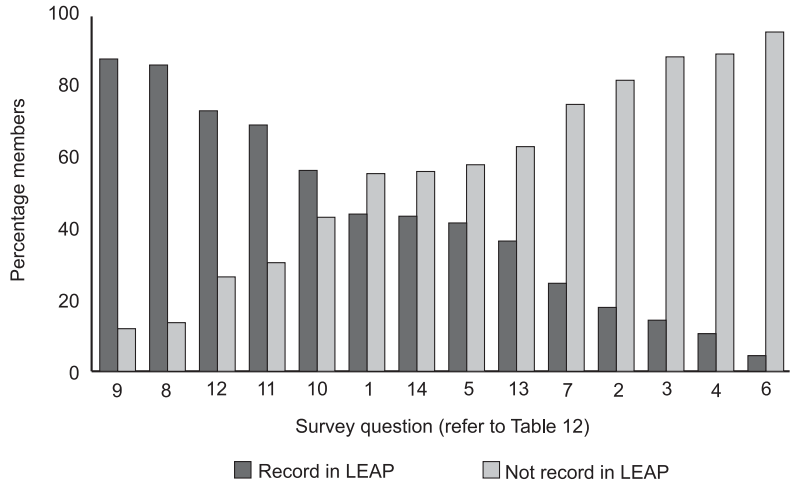
## Table 12 (con't)

| Scenario | | Complete LEAP record A1 | Complete LEAP record A2 | Not complete LEAP A3 | Not complete LEAP A4 | No decision A5 |
|---|---|---|---|---|---|---|
| 10 | You are called to a shopping centre as a result of a radio call. A store detective has seen someone who had been in the store walk out with two bottles of alcoholic drink under their coat and run off. The store detective has given chase but lost this person. The store detective did not see the person remove the bottles from the shelf as their vision was obscured. They did however see two bottles under the person's coat as they left the store and the store detective tells you the person did not have them on them when they entered the store. There is no immediate way of telling what exactly was stolen. | 45.6 | 11.0 | 8.3 | 1.1 | 33.9 |
| 11 | A woman alleges she has been raped and names the offender. She states that she is not prepared to attend court and give evidence and she does not want the police to contact the person. She is simply reporting the offence so that the police aware of the matter. | 51.7 | 17.7 | 4.8 | 0.7 | 25.0 |
| 12 | A petrol station cashier reports that they have had a drive off. A red Escort filled up with $35.90 worth of petrol and the driver failed to pay. The cashier did not see the vehicle leave and there are no details on CCTV. | 69.4 | 4.0 | 12.9 | 1.5 | 12.2 |
| 13 | A petrol station cashier reports that they have had a drive off. A red Escort filled up with $35.90 worth of petrol and the driver failed to pay. The cashier has details of the registration number of the vehicle, which are passed to you. | 17.1 | 19.5 | 0.0 | 0.9 | 62.5 |
| 14 | A petrol station cashier reports that they have had a drive off. A red Escort filled up with $35.90 worth of petrol and the driver failed to pay. The cashier has details of the registration number of the vehicle which are passed to you. The recorded owner when contacted claims he had sold the car the previous week. | 15.7 | 28.0 | 0.3 | 0.3 | 55.6 |

A1 Complete LEAP record
A2 Complete LEAP record and further investigation
A3 No LEAP record
A4 No LEAP record and further investigation
A5 Carry out further investigation before deciding whether to complete LEAP record or not

Source: Australian Institute of Criminology 2002, Victoria Police Scenario Study [computer file]

## Figure 5: Percentage who would complete a LEAP form for each scenario at this time




Source: Australian Institute of Criminology 2002, Victoria Police Scenario Study [computer file]

## Table 13: Percentage of members recording crime allegations by rank, region and whether working in a metro or country station

| | Rank | | | Region | | | | | Metro/country | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Scenario** | Const. | Senior const. | Sgt or above* | 1 | 2 | 3 | 4 | 5 | Metro | Country |
| 1 | 56.6 | 43.0 | 33.9 | 48.1 | 48.6 | 40.0 | 45.5 | 36.2 | 46.1 | 34.8 |
| 2 | 27.3 | 15.5 | 15.5 | 25.6 | 12.3 | 17.1 | 12.0 | 23.7 | 18.8 | 15.7 |
| 3 | 9.1 | 10.5 | 18.6 | 7.8 | 13.9 | 11.4 | 13.2 | 10.2 | 9.5 | 20.0 |
| 4 | 16.9 | 7.7 | 13.6 | 11.5 | 10.8 | 4.3 | 10.5 | 16.9 | 8.8 | 15.9 |
| 5 | 38.7 | 39.4 | 54.4 | 34.2 | 44.6 | 44.3 | 44.2 | 42.9 | 37.7 | 57.4 |
| 6 | 3.9 | 5.0 | 3.4 | 7.8 | 8.3 | 1.4 | 2.6 | 0.0 | 5.3 | 1.4 |
| 7 | 31.6 | 22.6 | 23.7 | 32.9 | 14.9 | 27.1 | 25.0 | 23.7 | 24.6 | 24.3 |
| 8 | 86.8 | 86.0 | 87.3 | 88.5 | 90.3 | 77.9 | 80.3 | 96.6 | 87.9 | 79.7 |
| 9 | 92.2 | 88.2 | 81.8 | 90.9 | 86.3 | 80.9 | 88.2 | 93.2 | 88.6 | 85.7 |
| 10 | 53.9 | 57.0 | 58.2 | 56.4 | 61.6 | 60.3 | 52.6 | 50.8 | 57.4 | 52.2 |
| 11 | 64.5 | 73.6 | 60.0 | 64.9 | 64.4 | 75.0 | 74.7 | 67.2 | 69.9 | 66.7 |
| 12 | 77.6 | 70.9 | 78.2 | 68.4 | 64.4 | 75.0 | 81.8 | 77.6 | 72.0 | 77.1 |
| 13 | 39.0 | 37.6 | 30.9 | 32.5 | 41.7 | 33.8 | 30.3 | 48.3 | 33.8 | 47.8 |
| 14 | 54.5 | 40.1 | 43.6 | 44.2 | 45.2 | 39.7 | 39.5 | 51.7 | 40.9 | 53.6 |

* One respondent was a senior sergeant and two were inspectors or above

Note: Refer to Table 12 for description of scenarios

Source: Australian Institute of Criminology 2002, Victoria Police Scenario Study [computer file]

Exact logistic regression analyses were performed for the decision to create a LEAP record (that is, complete a LEAP report or LEAP report plus further investigation) for each of the survey questions. The results from these analyses indicated that for most survey items, the observed relationships between the propensity to recording crime and the characteristics of rank, region or the metro–country character of the police station were spurious. However scenarios 1, 2 and 5 departed from this general pattern (Table 14).

**Table 14: Main results from a logistic regression analysis of recording decisions**

| Scenario | | Higher propensity to record in LEAP |
|---|---|---|
| 1 | A woman phones up and states that she has returned home from a shopping trip and found the kitchen window at the back of her Ministry house damaged. The damage amounts to a crack in the glass across the full width of the window. She does not know how the damage occurred but is reporting it to the police because she cannot have the window repaired unless she reports the crime and gives a copy of the crime report to the Ministry. | Members with the rank of constable ($p<0.05$) |
| 2 | A person reports that a neighbour has damaged his fence. He does not wish you to take the matter any further but has reported this in case anything else happens. He does not want you to visit the neighbourhood. | Members with the rank of constable ($p<0.05$) |
| 5 | You eventually are able to contact the owner of the vehicle in Scenario 4. He is staying with a friend interstate and will not return for a week. At this stage you cannot establish from the owner whether the vehicle is stolen. He states he will recover the vehicle on his return. You return to the same vehicle the following day. You notice the vehicle is now up on bricks, and the wheels and headlights have been removed. | Members with the rank of sergeant and members assigned to region 2 ($p<0.05$) |

Source: Australian Institute of Criminology 2002, Victoria Police Scenario Study [computer file]

# Conclusion

The scenario exercise, based on a UK model, indicates that there may be some problems with the "evidential" model of reporting, when it is not clear that a crime has been committed. Consistency tends to be highest where details about the evidence that a crime has or has not occurred are given in the scenario. The analyses suggest that there are few systematic differences by rank and region. For some scenarios, members with the rank of constable or sergeant had a higher propensity toward recording crime allegations in the LEAP database. This suggests that the current evidential model may be creating inconsistencies among members reporting within Victoria Police.

Research in the United Kingdom (Home Office 2000a) and the United States (see *Journal of Quantitative Criminology*, vol. 15, no. 2) has addressed the advantages of the prima facie model relative to the evidential model of crime recording. A prima facie crime recording system largely removes the effects of the use of discretion on the number of recorded crimes, enables the development of better sources of information about victims and offenders compared to the evidential model, represents an advancement over other reporting systems with respect to strategic crime analysis, and encourages consistency in crime recording.

# 5 Options for the Future

Police collect a variety of data in the course of their work. The collection, processing and publication of these data are subject to policies, procedures and practices to ensure that police services, external agencies and communities make informed decisions based on accurate information. Crime statistics aimed at informing about the work of police in dealing with crime are derived from such data. Local crime statistics also feed national collections that are often used to compare crime between jurisdictions. Within this context, crime statistics must reflect the magnitude and extent of crime reported to police. Any future changes should consider the following:

- all crime allegations are properly investigated;
- crimes are recorded properly;
- crimes are correctly categorised in accordance with existing classificatory systems;
- incidents classified as crimes have a matching crime record;
- crime reports are properly audited and scrutinised;
- crime records are accurately entered onto the computerised system;
- quality of systems and their data are properly monitored;
- crime counting rules are properly defined and applied;
- crime statistics are derived with integrity and honesty; and
- crime statistics are accessible to operational police, managers, external agencies and the community.

This review has examined the policies and procedures of Victoria Police for the recording of crime, its processing and further transformation into crime statistics.

The review encompassed an assessment of the practices relating to crime recording and processing, as well as the production of crime statistics. This incorporated a tracking exercise aimed at studying members' decisions relating to crime allegations through to the production of crime statistics. The major conclusions from the study are detailed in the beginning of the report and at the end of each chapter.

In looking to the future there are a number of options open to Victoria Police in terms of their recording and counting practices. These include:

- keep the status quo (that is the "evidence"-based model for the recording of crime); in order to achieve consistency in recording practices, steps need to be taken to ensure that all members comply with the current policies for the recording of crimes;
- change the recording practice to a prima facie model; and
- change the counting rules to make them consistent with those used for the counting of offences toward the production of national crime statistics.

The two major considerations are:

- whether the current system is sufficiently robust to ensure the integrity of the crime statistics; and
- whether the data support an "intelligence"-led police force in the twenty-first century.

Both considerations are interrelated for they rely on the administrative database for their information. From this review it is apparent that the current counting rules behind the crime statistics are "true". However, the evidential model of recording may under-record particular kinds of matters. This is most likely to occur with more minor offending such as street offences, and the difficult offence of assault. This will obviously impact on tactically led policing that relies heavily on the day-to-day data from LEAP. The identification of hot spots of crime, the monitoring of crime at a location level, and general strategic crime analysis may fail to include important matters that would inform the decision-making process.

The way in which matters and related information are recorded, and the ease of the software to access the data are also critical components for a police service that wishes to fully utilise its database. The current LEAP database is cumbersome for those not intricately acquainted with its structure and form.

The current trend internationally is to move toward a prima facie model for recording that uses the incident as the basic unit of analysis. Within the incident there may be multiple offenders, victims, offences and property. Different counting rules can still be applied to generate different types of statistical data. The incident becomes the essential unit for most tactical crime analyses. Within this framework linkages between victims, offenders

and offences can be undertaken. These data currently exist in the LEAP database but not in an incident-based structure. Furthermore, if operational police are to routinely (for example, at the beginning of each shift) check their local hot spots, check lists of known offenders and inspect changing crime trends in their area, both hardware and software infrastructure are vital.

The move to restructure the database would represent a unique opportunity to:

- identify the key variables required for tactical crime analysis, reducing the current paper burden on members;
- implement direct data entry methods force-wide to reduce the burden of recording-keeping on members; and
- develop user-friendly software (with GIS capabilities) that members can access quickly and easily without having to rely on specialist expertise.

If Victoria Police changes its recording practices it is highly likely to affect crime counts. It is important that those outside the police understand that these changes may not reflect a change in the "true" level of crime but may be an artefact of the change in recording practices. In addition, changes to counting rules could have the same impact. Thus, any changes to the current system need to be handled carefully.

Potentially, there could also be an increase in record-keeping for members. For this reason, before any change, careful consideration needs to given regarding:

- what information is essential (as opposed to what "would be nice") for tactical crime analysis and public accountability; and
- technological changes to reduce the burden of record-keeping.

# Appendix 1: Crime Counts

## Table A1: Crime counts for the month of June 2001 and for the sample period according to Victoria Police counting rules

| Offence | Counts for the month of June 2001 | | Recorded offences for 580 sampled incidents (5, 14, 20 and 30 June 2001) |
|---|---|---|---|
| | According to date of reporting | According to date of creation | |
| Homicide | 23 | 24 | 1 |
| Rape | 82 | 106 | 1 |
| Sex (non-rape) | 330 | 439 | |
| Robbery | 455 | 437 | 8 |
| Assault | 1,905 | 1,899 | 34 |
| Abduction/kidnapping | 42 | 42 | |
| Arson | 251 | 251 | 6 |
| Property damage | 3,505 | 3,436 | 62 |
| Burglary (aggravated) | 190 | 196 | 4 |
| Burglary (residential) | 4,383 | 4,347 | 94 |
| Burglary (other) | 2,707 | 2,756 | 46 |
| Deception | 1,768 | 2,032 | 25 |
| Handle stolen goods | 716 | 812 | 17 |
| Theft from motor vehicle | 5,849 | 5,844 | 146 |
| Theft of motor vehicle | 1,385 | 1,436 | 25 |
| Theft (shopsteal) | 3,707 | 3,712 | 72 |
| Theft (bicycle) | 624 | 619 | 10 |
| Theft (other) | 5,788 | 5,865 | 108 |
| Drugs (cult., manuf., traff.) | 501 | 448 | 34 |
| Drugs (possession, use) | 814 | 810 | 32 |
| Going equipped to steal | 91 | 86 | 4 |
| Justice procedures | 968 | 1,024 | 19 |
| Regulated public order | 150 | 167 | |
| Weapons/explosives | 472 | 452 | 7 |
| Harassment | 156 | 182 | 5 |
| Behaviour in public | 318 | 314 | 4 |
| Other | 624 | 579 | 10 |
| Not classified | 3 | 6 | |
| (Total) | (37,807) | (38,321) | (774) |

Source: Statistical Services Branch, Victoria Police

# Appendix 2: Weighting for the LEAP Study

## 1. Notation

| | | |
|---|---|---|
| $r$ | = | Victoria Police region indicative ($r$=1, 2, K, 5) |
| | = | Offence category indicative |
| | = | Number of recorded crimes during the month of June 2001 |
| $d$ | = | Number of days included in the study (5, 14, 20, 30 June 2001) |
| $k$ | = | Indicative for a LEAP record included in the final sample |
| $N$ | = | Total number of LEAP records created during the month of June 2001 |
| $M$ | = | Number of LEAP records selected for the study |
| $m$ | = | LEAP records selected for the study effectively included in the final sample |
| | = | Selection weight |
| $w_2$ | = | Non-response adjusted weight |
| $w_3$ | = | Final survey weight (after post-stratification) |

## 2. Computation of the Survey Weight

The survey used a two-stage sample design. At the first stage, four days were randomly selected from the days within each of the weeks of the month of June 2001. At the second stage, a random sample of 145 LEAP records was selected from the LEAP records created during each of the selected dates. The weight attached to each LEAP record included in the final sample incorporates three factors:

1. the selection probability for a day within each week in June 2001;
2. an adjustment for non-response; and
3. an adjustment to ensure that the estimate of total numbers of offences from the survey conform to a distribution of the numbers of incidents by type of crime corresponding to the LEAP records created during June 2001.

The non-response adjusted weight attached to a particular respondent to the survey is given by the following expression:

$$w_{1k} = \frac{30}{d} \times \frac{N_{rk}}{M_{rk}}$$

The weight after the adjustment for post-stratification is given by:

$$w_{2k} = \frac{\sum_{k \in r} w_{1k}}{m_r}$$

The weight after the adjustment for post-stratification is given by:

$$w_{3k} = \frac{C_{jk}}{\sum_{j=1}^{J} w_{2\,jk}}$$

# Appendix 3: Members Survey Form

## Crime Statistics Data Review

*Crime Reporting Simulation*

You have been invited to participate in this questionnaire from a random pool of members who have completed or checked LEAP reports in the past six months. This questionnaire aims to examine variation in crime reporting.

Please indicate what action you would take in respect to the individual scenarios in the questionnaire. The scenarios are not designed to test you, but rather assist the Australian Institute of Criminology to gain a better understanding on when crime reports are submitted. No names or any identifying details you provide will be matched to individual responses.

If you have any queries regarding the questionnaire please do not hesitate to contact Simone Reichstein, Research and Development, Corporate Policy Division 9247 6710, or Carlos Carcach, Australian Institute of Criminology (02) 6260 9245.

Thank you for your time.

Please complete questionnaire and return it in the envelope provided **within 7 days of receipt.**

**Respondent Profile**

| Rank | | Region | | Metro/Country | |
|---|---|---|---|---|---|
| Constable | ☐ | Region 1 | ☐ | | |
| Senior Constable | ☐ | Region 2 | ☐ | Metropolitan station | ☐ |
| Sergeant | ☐ | Region 3 | ☐ | | |
| Senior Sergeant | ☐ | Region 4 | ☐ | Country station | ☐ |
| Inspector and above | ☐ | Region 5 | ☐ | | |

**Communication Box**

This section will be **removed** from the questionnaire prior to data entry of your responses. Your identity will not be recorded against your responses.

Your registered number is required to ensure you don't receive chasers to submit the questionnaire and to enable us to provide you with the results of the survey.

Member Registered Number ☐

**Don't send me the results of the survey** ☐

Please send me the results of the survey ☐ via e-mail

☐ via internal mail

**Scenarios**

Examine the following scenarios. **Faced only with the information given in each scenario, indicate what action you would take using the options provided.**

| | | |
|---|---|---|
| 1. | A woman phones up and states that she has returned home from a shopping trip and found the kitchen window at the back of her Ministry house damaged. The damage amounts to a crack in the glass across the full width of the window. She does not know how the damage occurred but is reporting it to the police because she cannot have the window repaired unless she reports the crime and gives a copy of the crime report to the Ministry. | **Please tick the box:**<br>☐ Complete a LEAP incident report<br>☐ Not take a report<br>☐ Carry out further investigation |
| 2. | A person reports that a neighbour has damaged his fence. He does not wish you to take the matter any further but has reported this in case anything else happens. He does not want you to visit the neighbourhood. | ☐ Complete a LEAP incident report<br>☐ Not take a report<br>☐ Carry out further investigation |
| 3. | Whilst on patrol you see graffiti on a telephone box and nearby wall. The graffiti is new and you know it wasn't there yesterday | ☐ Complete a LEAP incident report<br>☐ Not take a report<br>☐ Carry out further investigation |
| 4. | During the course of a patrol you come across a car that has a smashed window, the ignition barrel has been removed and the radio appears to have been removed. A check with D24 does not indicate the vehicle is stolen but the owner cannot be contacted. | ☐ Complete a LEAP incident report<br>☐ Not take a report<br>☐ Carry out further investigation |
| 5. | You eventually are able to contact the owner of the vehicle in Scenario 4. He is staying with a friend interstate and will not return for a week. At this stage you cannot establish from the owner whether the vehicle is stolen. He states he will recover the vehicle on his return. You return to the same vehicle the following day. You notice the vehicle is now up on bricks, and the wheels and headlights have been removed. | ☐ Complete a LEAP incident report<br>☐ Not take a report<br>☐ Carry out further investigation |
| 6. | You receive a call from a person living in a block of flats. They state that they saw a fight outside between five men. During the fight they saw one man punch another in the face and this person fell to the ground. They are still lying there whilst the witness is making the call. On your arrival there is no sign of any of the parties involved. | ☐ Complete a LEAP incident report<br>☐ Not take a report<br>☐ Carry out further investigation |

| | |
|---|---|
| 7. Having carried out an area search you find the injured person who tells you that the alleged offender is his friend and they had a disagreement, which resulted in them punching each other. The injured person has been drinking heavily and does not wish to make any complaint. He has a bruise to the side of his face. The incident has been captured on CCTV and you can identify all the parties involved. | ☐ Complete a LEAP incident report<br>☐ Not take a report<br>☐ Carry out further investigation |
| 8. You are called to a domestic dispute; on your arrival it is apparent that the occupants of the house, a male and female, have been involved in a fight. The woman has a red mark to her cheek. She decides she does not wish to make a complaint and will not support a prosecution, she does however tell you that the man hit her across the face. | ☐ Complete a LEAP incident report<br>☐ Not take a report<br>☐ Carry out further investigation |
| 9. You are called to a house where the occupants report that a small glass panel in the front door has been smashed. It does not appear that anyone has entered the premises. | ☐ Complete a LEAP incident report<br>☐ Not take a report<br>☐ Carry out further investigation |
| 10. You are called to a shopping centre as a result of a radio call. A store detective has seen someone who had been in the store walk out with two bottles of alcoholic drink under their coat and run off. The store detective has given chase but lost this person. The store detective did not see the person remove the bottles from the shelf as their vision was obscured. They did however see two bottles under the person's coat as they left the store and the store detective tells you the person did not have them on them when they entered the store. There is no immediate way of telling what exactly was stolen. | ☐ Complete a LEAP incident report<br>☐ Not take a report<br>☐ Carry out further investigation |
| 11. A woman alleges she has been raped and names the offender. She states that she is not prepared to attend court and give evidence and she does not want the police to contact the person. She is simply reporting the offence so that the police aware of the matter. | ☐ Complete a LEAP incident report<br>☐ Not take a report<br>☐ Carry out further investigation |
| 12. A petrol station cashier reports that they have had a drive off. A red Escort filled up with $35.90 worth of petrol and the driver failed to pay. The cashier did not see the vehicle leave and there are no details on CCTV | ☐ Complete a LEAP incident report<br>☐ Not take a report<br>☐ Carry out further investigation |
| 13. A petrol station cashier reports that they have had a drive off. A red Escort filled up with $35.90 worth of petrol and the driver failed to pay. The cashier has details of the registration number of the vehicle, which are passed to you. | ☐ Complete a LEAP incident report<br>☐ Not take a report<br>☐ Carry out further investigation |

14. A petrol station cashier reports that they have had a drive off. A red Escort filled up with $35.90 worth of petrol and the driver failed to pay. The cashier has details of the registration number of the vehicle which are passed to you. The recorded owner when contacted claims he had sold the car the previous week.

- ☐ Complete a LEAP incident report
- ☐ Not take a report
- ☐ Carry out further investigation

Please return questionnaire in the envelope provided to: Simone Reichstein, Corporate Policy Division, DX210065

# Appendix 4: Weighting for the Members Survey

## 1. Notation

| | | |
|---|---|---|
| $r$ | = | Victoria Police region indicative (r=1, 2, K, 5) |
| | = | Rank indicative (1—Constable; 2—Senior Constable; 3—Sergeant; 4—Senior Sergeant; 5—Inspector or higher) |
| | = | Indicative for a respondent to the survey |
| $N$ | = | Total number of Victoria Police members at the time of the survey |
| $M$ | = | Police members associated with the LEAP records selected for the study |
| $m$ | = | Police members associated with the LEAP records selected for the study that responded to the survey |
| | = | Weighting factor |

## 2. Computation of the Survey Weight

The survey was designed as a stratified random sample, with strata defined in terms of region and rank. The weight attached to each respondent to the survey incorporates two factors:

1. the probability that a member within a given region-by-rank stratum is selected for the survey; and
2. an adjustment for non-response.

The survey weight attached to a particular respondent to the survey is given by the following expression:

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