

DATA REQUIREMENTS FOR CRIME ORIENTED PLANNING

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INTRODUCTION

In order to effect a reduction of crime, the planning effort must be specifically directed toward that end. Non-directional programs to simply produce improvement in parts of the criminal justice system will not effectively reduce crime. The improvement of the criminal justice system is not in itself a reasonable goal, but it will inevitably result from comprehensive methodical crime oriented planning simply because the criminal justice system is the available tool for the reduction of crime and delinquency. However, crime oriented planning may suggest solutions outside of the traditional criminal justice system. Thus, there is a great deal more flexibility than exists in system oriented planning.

The concept of crime oriented planning is receiving its first major test with the "High Crime Impact Program" sponsored by LEAA in eight cities. Under this program the cities were required to develop a crime reduction program based on relevant, high quality data. The purpose of this paper is to describe the kinds of data required to adequately implement this kind of planning.

INCIDENT DATA

Most major police agencies are currently producing statistics on crimes known to the police, arrests and related information. However, these statistics are generally inadequate for effective crime oriented planning. In almost every case the necessary information exists on two basic source documents, the incident report and the arrest record. However, the raw information must be organized differently and in more detail than is generally done by police agencies.

It is recognized that different kinds of crimes require different data. This document will limit itself to stranger-to-stranger crimes and burglary, those crimes which have been shown to generate the most fear in the general public. However, the principles can be applied to any specific crimes or to

crime in general. Burglary presents no conceptual problem since the Uniform Crime Report definition can be used without change. Stranger-to-stranger crime on the other hand is not a defined UCR offense. The first requirement for identifying a stranger-to-stranger offense is that the victim-offender relationship be determined. Where the victim was well known or related to the offender, the crime is not relevant to the program. Stranger-to-stranger offenses thus can be described as including any of the following offenses (UCR defined) which occur between persons unknown to each other: murder, forcible rape, robbery and assault. It is clear that it will not always be possible to determine the relationship between the victim and the offender, (an unsolved murder, for example). However, there is adequate evidence to show that in an extremely high percentage of cases the information is available.

With the target crimes adequately identified, the distribution and characteristics of the criminal events should be determined in order to design programs which adequately address the problem. The distribution of offenses must be examined in terms of both time and space. This examination will provide the basis for an effective allocation of resources. In the time dimension it is important to know the times of day when the target offenses occur as well as the days of the week. To some extent seasonal differences must also be considered.

The importance of knowing when offenses occur is matched by the need to know where they occur. Thus it is useful to have data available for small geographic areas such as beat, Carney block, block face or census tract. Data by precinct or police district is the minimum acceptable for reasonable planning although subtotals reflecting these larger areas are desirable. Response tactics and strategies will also vary by whether the crimes occur on the street or elsewhere; by the type of place in which off street crime occurs, e.g., liquor stores, filling stations, apartment buildings, public transit, etc.

The type of area or neighborhood in which "on street" crimes occur is similarly important. Shopping centers, other commercial areas, main streets and side streets will produce different crime patterns. Details such as population density as deter-

mined by census data or zoning regulations should not be overlooked. In specific situations a city should consider them in determining its overall data requirements and analytical needs. Detailed data from the decennial census and other census surveys should be considered in statistically identifying and characterizing neighborhoods and other geographic areas.

In order to achieve this kind of geographic selectivity, the crime data derived from law enforcement sources should contain as much geographic detail as is feasible. Geographic coding to provide this level of detail should be integrated into the crime reporting system.

Beyond the dimensions of time and space, data on the characteristics of the event can often provide tactical direction. Information about the number of offenders, their apparent age, weapons, etc., can prove useful.

For planning purposes, the complete reliance on the usual hierarchical classification of offenses can also be counterproductive. For example, a rape which takes place during a burglary or robbery must be considered quite differently, in terms of criminal justice response, from a rape which occurs for its own sake. In the former case, a reduction of the kinds of robberies and burglaries in which there is a rape risk should see a reduction in the overall number of rapes. Similarly an assault which takes place during a robbery situation should have a different response pattern from other stranger-to-stranger assaults.

This suggests the need to attempt to determine for statistical analysis, the intended offense, as well as the most serious offense which occurred during the criminal incident.

ARREST DATA

The primary source of information about offenders is the arrest record. While there is no way of being certain that the characteristics of persons arrested are representative of all of those committing similar offenses, we have little choice but to use arrest statistics as a surrogate for true offender statistics.

Age, sex, race, school or work status, and other arrestee characteristics should be examined along with the offense for which the person was arrested. These characteristics along with information about prior offenses when examined in aggregate can provide useful insights about the characteristics of the target population.

Arrest data when used in conjunction with incident reports can be used to produce area crime

specific estimates of the characteristics of offenders. Arrest rates must be used with extreme care. For example, an arrest is largely irrelevant for the deterrence of serious offenders if the arresting officer fails to make an adequate enough case to warrant prosecution. Thus, our primary measure should be "effective arrests" -- those which result in prosecutable cases. Arrests which do not result in having the defendant "bound over" should probably not be used to evaluate the effectiveness of the police.

QUALITY CONTROL

Data on arrests and incidents can only be useful if the records from which they are drawn are of high quality and if they are aggregated carefully. In addition to crime specific planning, these data will probably be used by a city and the criminal justice agencies involved, to provide for program evaluation. Therefore they must be beyond reproach. In order to assess the quality of the data and determine where improvement or correction is needed, an independent audit of the incident and arrest statistics should be carried out routinely. This is essential for the maintenance of the integrity and credibility of the crime statistics developed for this effort. However, an independent contractor or auditor should be used to carry out the audit itself. In those states in which the state is the focal point of UCR collection, the responsible state agency may arrange for or conduct the audit. Interstate agreements to audit each other's reports may also be a viable possibility.

USE OF EXISTING INFORMATION

In order to establish the baseline information needed to develop specific plans, it may be necessary to reclassify existing data using recent incident and arrest reports. This can be done with little technical difficulty. However, it would be useful to utilize scientific sampling techniques to reduce the workload. Relevant sampling techniques are generally available, however, there is a great deal of misunderstanding of statistical sampling, and to prevent committing serious errors, care should be taken in sampling to insure that the sample is representative and that the resulting data are reliable.

PROCESSING DATA

In order to gain maximum utility for incident and arrest data, they should be presented in a way which will facilitate problem solving.

To provide maximum flexibility, modern data processing techniques should be utilized. If individual incident and arrest records are maintained in a machine-readable format, changes in the data displays can be effected easily. Most police statistics are collected by using tally sheets from which summary statistics are drawn. The alternative method, that of keeping machine-readable individual records, would visualize for example information about each offense being maintained on a separate punch card or consisting of a separate record in a computer tape file. All of the usual summary data can be generated as well as new displays.

By utilizing modern data processing techniques, direct input can be made into such areas as resource allocation and command and control.

DATA ELEMENTS

In order to maximize the interpretive potential of offense and arrest data, great care should be taken in the selection of the data which will be collected and the detail in which it is stored. The identification of such data should reflect the needs of criminal justice operating agencies and planners.

THE INCIDENT REPORT

The incident report utilized by the police agency must take into account the needs of both police and other planners. The first and most obvious need is to have a description of the offense. All UCR offenses should be included in any data system. All crimes of violence should be constructed in such a way as to identify separately stranger-to-stranger crimes and crimes among friends and acquaintances. Thus the offense data elements would appear as follows:

Offenses

Stranger to Stranger Personal Crimes

- Murder
- Forcible Rape
- Robbery
- Assault

Other Personal Crimes (Relatives, Friends, etc.)

- Murder
- Forcible Rape
- Robbery
- Assault

Burglary

THE TIME DIMENSION

One of the most critical elements in determination of deployment and resource allocation involves the question of when crimes occur. The concern includes but is not restricted to the time of day. A knowledge of the hours in which crimes

tend to happen should obviously be a critical ingredient in the patrol deployment decision.

Similarly the day of the week is important, as in most areas the weekend pattern is far different from the weekday pattern.

Similarly there are significant seasonal changes in crime patterns. School vacations, holidays (especially the Christmas season) change the ordinary living patterns and thus the crime patterns.

All of the time considerations can be coded for maximum detail -- single hours or specific day of the week for example. However, for analysis it would be more reasonable to examine them in more summary fashion. One alternative would be the following:

Hours: 12:00 PM-3:00 AM
 3:00 AM-9:00 AM
 9:00 AM-4:00 PM
 4:00 PM-8:00 PM
 8:00 PM-12:00 PM

} One possible alternative -- The actual selection of time periods would depend on the activity patterns in a particular city

Days: Monday-Thursday
 Friday
 Saturday
 Sunday

Months or seasons: Develop independently for cities, but take into consideration school sessions, holidays, e.g., Christmas, etc.

LOCATION

The importance of time is matched and perhaps surpassed by the importance of the location at which crimes occur or do not occur. Geographically, data should be recorded for the smallest practical area, preferably down to "block face." Information at this level of detail can always be aggregated into larger areas for analytical purposes. The detail adds to the flexibility by making it possible to recode the data in any way to represent different area definitions.

In addition to the geographic location, it is valuable to know the characteristics of the specific location. It is sometimes possible to develop strategies for target hardening or manpower deployment if patterns can be detected. The following data elements should be viewed only as examples, they can and should be modified to reflect the realities in a particular locality.

Specific Location

- On the Street
 - Shopping Center
 - Other Commercial Area
 - Residential - high density
 - Residential - Other
 - Other

- Off Street
 - Liquor Store
 - Filling Station
 - Grocery Store

Bar or Restaurant
 Apartment Building
 Transit Vehicle
 Other

CHARACTERISTICS OF THE INCIDENT

Statistical analysis can be thought of as the investigation of relationships and patterns: criminal incidents examined in terms of the type of offense: when and where it occurred and the other characteristics of the incident. Again the socio-economic realities of the city will determine the actual data elements to be collected. For example a city which is a transportation hub might be more interested in theft of certain kinds of materials from warehouses, etc. Another city with a large financial industry would be concerned with thefts of securities.

The following set of data elements again should be considered as examples and not a definitive list.

Characteristics of the Incident

Single Offender
 Multiple Offenders
 Age of Offender(s) (Apparent)
 Juvenile
 Young Adult
 Other

Weapons

None -- Strongarm
 Gun
 Knife
 Other - club, etc.

Stolen Property

Cash
 Electronic equipment
 Clothes - furs, etc.
 Liquor
 Cigarettes
 Etc.

Other Relationships (Record as many as apply)

Drug Related
 User
 Pusher
 Distributor
 Alcohol Related
 Juvenile Gang Related
 Apparent Organized Crime Relationship

THE ARREST REPORTS

Although the arrest report is an inaccurate reflection of the characteristics of offenders it is the best guide we have for the development of crime reduction strategies based on the characteristics of offenders. When data on the offender are combined with data on events the targets for crime reduction programs can be identified. Obviously similar data are needed to address the problem of offenders.

It must be kept in mind that the characteristics described here should be maintained as individual

records, but are not meant to substitute for the criminal histories. Complete criminal histories, which should be maintained at the state level, require many more data elements*. The data elements described here are for the purposes of crime oriented planning, not for general criminal justice purposes. Offender Based Transaction Statistics (OBTS) should provide all of the additional data needed for program planning.

The value of arrest data can be significantly augmented by tying the arrest information to crime data. This is not an easy task. The clearance rate on crimes in general is quite low (and of course this is the area most in need of improvement) therefore, reducing the value of the integrated records. Nonetheless the integrated arrest/incident record can provide new and valuable insights.

The arrest record should provide sufficient data for planners to identify relevant population for crime prevention and control programs. The age of the arrestee for example will determine whether juvenile or adult programs are indicated and further whether programs should be focused on the schools or outside of schools.

The sample data elements which follow are generally self-explanatory and their utility is obvious.

Arrestee Characteristics

Age *

Less than 14
 14-15
 16-18
 19-21
 22-24
 25-34
 35-54
 55+

Race

- White
 Black
 Etc.
 Etc. } As relevant in a particular city

Prior Record

1. Prior felony arrest
2. Prior misdemeanor arrest
3. Juvenile status offense* only
4. No prior

Criminal Justice Status at Time of Arrest

Awaiting Trial or Appeal
 On Probation
 On Parole
 Not Under Supervision

* See SEARCH Technical Report No. 4, *Implementing Statewide Criminal Justice Statistics Systems - The Model and Implementation Environment*, California Crime Technological Research Foundation, Sacramento, January 1972.

* This should reflect the state's statutory juvenile "cut-off" age if different.

* Those offenses, such as truancy, which would not be offenses if committed by adults.

Job or School Status at Time of Arrest

1. Employed
2. In school
3. Not employed

Characteristics of Arrest

Most Serious Offense Charged

Stranger-to-Stranger Crime

Murder

Rape

Robbery

Assault

Burglary

Primary Offense Intended

Murder

Rape

Robbery

Assault

Auto theft

Other

Subsequent Disposition

Released by police

Released by prosecutor

"Bound-over" by prosecutor

} As appropriate

Identifying meaningful data elements is an essential first step in the development of meaningful statistics but this is obviously not enough to satisfy crime specific planning data needs. These data elements must be cross classified in such a way as to provide the kinds of data that can be used for planning purposes. The following tables, while not definitive, are examples of the kinds of tables which can be most useful to criminal justice planners.

The first table shows detailed crimes by geographic area. The second should provide some insight into the effectiveness of police arrest procedures. The third tables combines temporal and spatial characteristics with a description of different kinds of targets. Finally, Table 4 shows the relationship between crimes and arrests.

Many other relationships can and should be developed in each specific area to support the local planning process.

Table 1. CRIMES BY GEOGRAPHIC AREA – SUMMARY

Area of reported incident	Number of incidents					
	Stranger-to-stranger crime					Burglary
	Total	Murder	Rape	Robbery	Assault	
Total city						
Total Precinct A.						
Area 1						
Area 2						
.						
Area n'						
Total Precinct B.						
Area 1						
Area 2						
.						
Area n''						
.						
Total Precinct N (etc.)						

COMMENT: This table will show on a summary basis the distribution of crime in the city, and should provide an initial guide to the allocation of resources.

Table 2. ARRESTS AND PROSECUTION

Area	Stranger-to-stranger crime										Burglary	
	Total		Murder		Rape		Robbery		Assault		Number of arrests	Percent bound over
	Number of arrests	Percent bound over	Number of arrests	Percent bound over	Number of arrests	Percent bound over	Number of arrests	Percent bound over	Number of arrests	Percent bound over		
Total												
Area 1												
Area 2												
.												
Area N												

COMMENT: This table will provide insights into the real effectiveness of police activities.

Table 3. AREA PROFILES — STRANGER-TO-STRANGER CRIMES
(Prepare separately for each geographic area)

Time dimension	Robbery — Strongarm													
	On Street					Off Street								
	Total	Shopping center	Commercial area	Residential high density	Residential (other)	Other	Total	Liquor store	Filling station	Grocery store	Apartment building	Transit vehicle	Bar	Other
Total														
Mon.-Thurs. ...														
12-3 AM														
3-9 AM														
9 AM - 4 PM ..														
4-8 PM														
8-12 PM														
<u>Repeat for:</u>														
<u>Friday</u>														
<u>Saturday</u>														
<u>Sunday</u>														

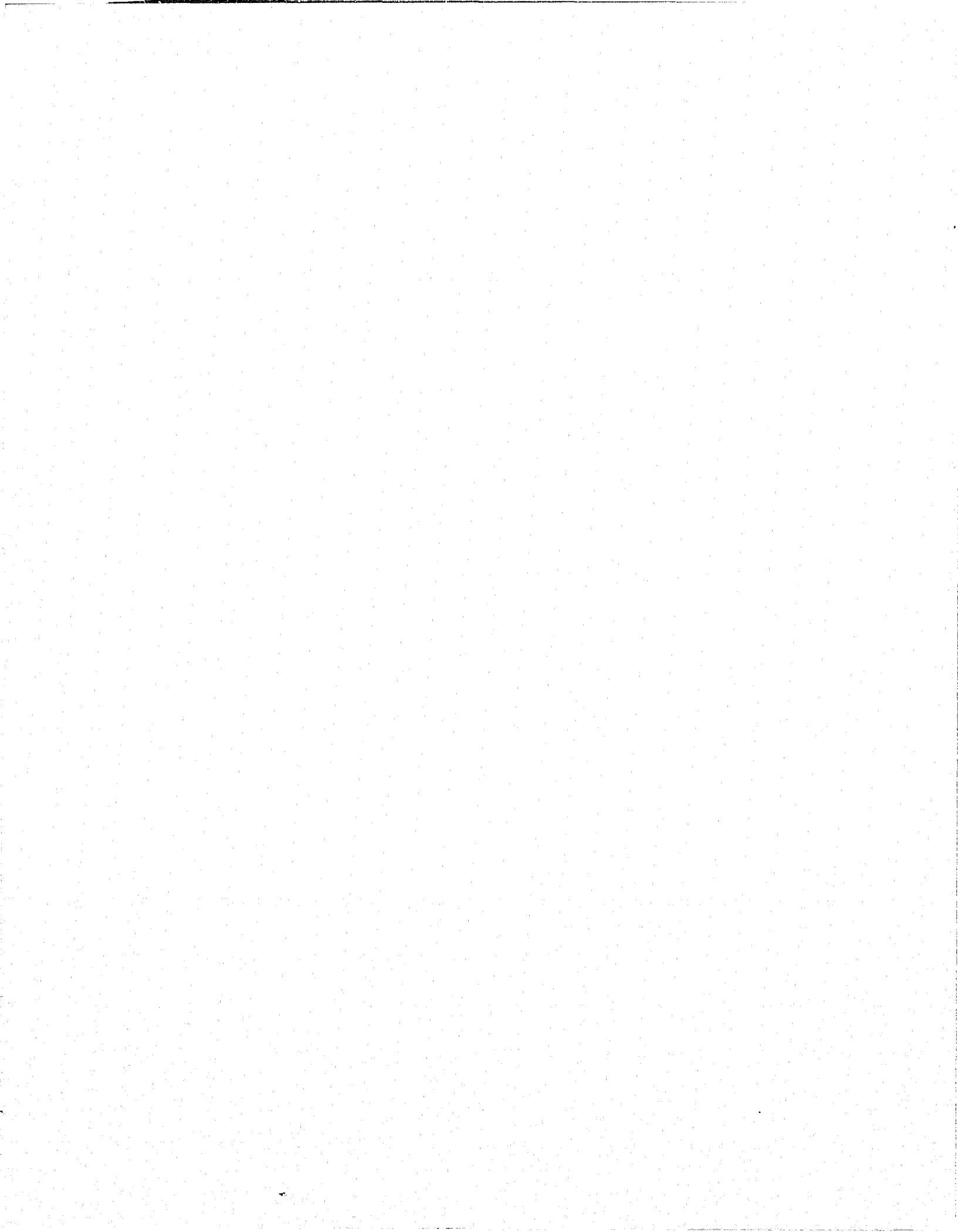
Repeat entire table for Hobbbery-Armed.

Repeat table for all other stranger to stranger crimes combined.

COMMENT: The area and time variables for this table should be reflective of crime patterns and general activity patterns in the specific target area.

Table 4. AREA PROFILE ARRESTS
(Tabulate separately for each area)

Area profile	Stranger-to-stranger crime										Burglary	
	Total		Murder		Rape		Robbery		Assault		Number of arrests	Percent bound over
	Number of arrests	Percent bound over	Number of arrests	Percent bound over	Number of arrests	Percent bound over	Number of arrests	Percent bound over	Number of arrests	Percent bound over		
White total												
Under 14 ...												
14-16												
16-18												
19-21												
21-24												
25-34												
35-54												
55+												
Black total												
(Repeat Age)												
Other ...												
(Repeat Age)												
<u>Job or School Status</u>												
Employed ..												
In school ...												
Not employed												
<u>Prior Record</u>												
Prior felony arrest												
Prior mis-demeanor arrest only												
No prior - or juvenile only												



END