U.S. DEPARTMENT OF JUSTICE
Bureau of Justice Statistics
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BLUEPRINT FOR THE FUTURE OF THE UNIFORM CRIME REPORTING PROGRAM

Final Report
of the UCR Study

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PREFACE

This report presents the recommendations of the Study of the National Uniform Crime Reporting (UCR) Program of the Federal Bureau of Investigation, conducted for the Bureau of Justice Statistics (BJS) and the FBI by Abt Associates Inc. Overseen by a joint BJS/FBI Task Force, the study began in September 1982. The first phase examined both the original program (as implemented in 1930, based on the plan of the Committee on Uniform Crime Records of the International Association of Chiefs of Police) and the current program. The second phase of the study has examined alternative potential enhancements to the UCR system and concludes with the set of recommended modifications presented in this report. Upon approval of these recommendations by the Department of Justice, the third and final phase of the study will design and implement the recommended changes.

Earlier reports document the first phase of the study. Foremost among these is the "Study of the National Uniform Crime Reporting Program of the FBI: Phase I Interim Report" (Poggio et al., 1984), which describes the findings concerning the current program. "A Listing and Classification of Issues Regarding the UCR Program of the FBI" (Rovetch et al., 1984) outlines the major issues regarding the current system. Two other documents relate specifically to a conference convened as part of this study. One, "First Steps Towards Phase II of the Study of the National UCR Program of the FBI" (Kennedy and Poggio, 1984) was prepared for the conference to stimulate discussion; the other, "On the Future of the UCR Program: Proceedings of the Belmont Conference" (June 1984), records the proceedings of the conference.

ACKNOWLEDGMENTS

This report benefited greatly from the contributions of many individuals and organizations. From its inception, the study was overseen by a Task Force composed of representatives of the Bureau of Justice Statistics and the Federal Bureau of Investigation. The members of the Task Force directed the focus of the study, provided enormously useful advice, and offered numerous constructive comments on earlier drafts of this and all other study reports. Each of the Task Force members also made important, unique contributions. From the Bureau of Justice Statistics, Paul White served both as Task Force Chairman and project monitor for the study, overseeing the myriad day-to-day decisions that crucially affect the outcome of any research endeavor. Benjamin Renshaw, Deputy Director of BJS and senior BJS member of the Task Force, provided critical support and a keen sense of the needs to be addressed by an enhanced crime-reporting program. Don Manson, System Specialist at BJS, has been particularly helpful to our consideration of a range of system design issues. From the FBI, Paul Zolbe, UCR Section Chief, contributed substantially to the study by offering complete and ready access to the UCR section staff and providing needed information including UCR reports, manuals, and data. Based on his nine years of experience managing the program, he offered valuable insights into the strengths and weaknesses of the current system and possibilities for future systems. Yoshio Akiyama, Chief Statistician and UCR Research and Analysis Unit Chief, offered a knowledgeable perspective on the conceptual aspects of both the current program and potential future programs.

The contributions of BJS to the study were a clear reflection of the continuing interests of Dr. Steven R. Schlesinger, Director of the Bureau of Justice Statistics. He provided both enthusiasm and essential support for the study.

Special recognition is due to FBI Director William H. Webster. He offered his continued support to this project, and without his support this project would not have been possible.

A deep debt of gratitude is owed to the staff of the FBI-UCR Section for the information and insight they have provided concerning the current UCR program, for their suggestions about changes to the program, and for their constructive review of the initial draft of this report. Their help was invaluable.

The Task Force and project staff received valuable guidance from the Steering Committee, chaired by Dr. Charles Friel. The members and observers, listed at the end of the Acknowledgments, played a key role in identifying critical methodological and substantive issues and in providing strategic direction for the project. Representing police and sheriffs' departments, state UCR programs, statistical analysis centers, other criminal justice agencies, the academic and research community, and the media, the Steering Committee was a source of comprehensive wisdom on the collection and use of UCR data.

The national staffs of the International Association of Chiefs of Police (IACP), the National Sheriffs' Association (NSA), and the Police Executive Research Forum (PERF) freely offered their ideas and experience. Bill Peterson (NSA) was particularly helpful in providing us the sheriffs' perspective on UCR. Greg Thomas (PERF) provided extremely useful suggestions for quality assurance and recommendations for collecting management and administrative data.

Special thanks are extended to each of the members of the IACP Committee on Uniform Crime Records. This committee was directly responsible for the study, having three times sponsored resolutions, unanimously approved by the IACP membership, that called for a review of the UCR Program. The Committee's continuing interest was expressed in many rounds of constructive review and comments on project plans and reports.

A similar debt of gratitude is due the NSA Committee on Uniform Crime Reporting. In joint meetings with the IACP Committee, the NSA Committee also provided useful comments on both study plans and reports.

The members of the Association of State UCR Programs and the state program representatives we met on site and at the 1983 and 1984 Uniform Crime Reporting Conferences held at Quantico, Virginia, contributed substantially to this report. They provided much information and documentation and patiently responded to endless questions about UCR operations and services.

Special thanks are due each of the participants at the Conference on the Future of the UCR Program, held at the Belmont Conference Center in Elkridge, Maryland, in January 1984. Besides the Steering Committee members, participants included additional representatives from law enforcement and the academic and research community. The conference was enormously helpful in selecting potential changes to the UCR Program to be considered and evaluated in the study.

Local law enforcement agencies also made key contributions to this study. Their candor and cooperation in response to the UCR survey attest to their dedication to the betterment of the law enforcement profession. Their responses were critically important in formulating the changes recommended in this report. Particular thanks are offered to the staff of the agencies with whom we met personally. They provided much valuable information concerning operation and use of the current system and offered many useful suggestions for change. Special thanks are also due those local law enforcement agency representatives attending the 1984 National UCR Conference in Quantico.

Several researchers should be acknowledged for their contributions. Through their work redesigning the National Crime Survey (NCS), Albert Biderman and James Lynch of the Bureau of Social Science Research provided insights on the integration of the NCS and the UCR. Doug Brown and Dennis Conly of the Canadian Centre for Justice Statistics are thanked for keeping us abreast of related activities there. Allen Pearson is gratefully acknowledged for all of the information and data he provided on the UCR audits conducted by the IACP.

Finally, we would like to express our gratitude to several individuals at Abt Associates who contributed to producing this report. Barbara Quinlan oversaw production of the report, and Ellen Kaplan-Maxfield and Mary-Ellen Perry diligently typed and retyped the manuscript.

For each person or group mentioned, there were many more who carried out perhaps less conspicuous but no less important roles. Each contributed in his or her own unique way to the completion of the work represented here. We are indebted to all of them for their encouragement and contributions of time and ideas.

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SUMMARY

The Uniform Crime Reporting (UCR) Program of the Federal Bureau of Investigation is the nation's primary source of information about reported crimes and arrests. Every month nearly 16,000 law enforcement agencies submit reports summarizing, by type of crime, the number of offenses, arrests, and clearances that occurred in their jurisdiction during the month. Once a year the FBI releases a summary of this information in a publication entitled Crime in the United States.

Begun as a voluntary reporting activity more than fifty years ago by the Committee on Uniform Records of the International Association of Chiefs of Police, the UCR program was soon transferred to the FBI. Since then, it has remained fundamentally unchanged except for a steadily increasing number of contributing agencies, now covering 97 percent of the U.S. population, and the development of state UCR programs which receive and process the data before sending it to the FBI.

While UCR data have been widely used by law enforcement agencies, researchers, government policy makers, and the media, many criticisms of the program have arisen from the same sources. Many think the system needs to be expanded to cover a wider range of offense types and provide more detailed information on the nature of criminal incidents. Some indicate that the system needs to provide greater analytic flexibility, while others suggest that published reports should have more analysis and interpretation. Many question the accuracy of UCR data. UCR statistics appear to disagree in some ways from those of related sources, such as the National Crime Survey, but the form of UCR data prevents meaningful comparison or reconciliation between different crime series. At the same time, data processing capabilities of state programs and large police and sheriffs' agencies have begun to outpace the antiquated methods of the UCR national program. Based on the extensive criticism and the rapidly changing data processing environment, the IACP three times called for a review of the UCR program. In response, the Bureau of Justice Statistics and the Federal Bureau of Investigation formed a joint task force, which in 1982 contracted with Abt Associates Inc. to determine what, if any, changes should be made to the current national UCR program.

The study encompassed all aspects of the program, including its objectives and intended user audience, data items, reporting mechanisms, quality control, publications and user services, and relationships with other criminal justice data systems. This report presents the study's recommendations for a new national UCR program.

The study relied on extensive outreach to obtain the views of all interested parties. A Steering Committee composed of leading criminal justice researchers and practitioners (see Acknowledgments) regularly reviewed the study's progress, as did the Joint UCR Committee of the International Association of Chiefs of Police and the National Sheriffs' Association. Moreover, we solicited the views of collectors and users of UCR data through site visits and surveys of law enforcement agencies and state UCR programs, interviews with criminal justice researchers, and a national conference of UCR experts. The law enforcement agency survey drew 3400 responses. From all these sources a remarkable consensus emerged on desirable improvements to be made.

Overview of the Recommended UCR System

The proposed new UCR program differs from the existing one in two fundamental ways. First, rather than sending only monthly summary statistics to the National Program, state or local agencies will submit individual records for each incident and each arrest that occurred during the month. This conversion to unit-record reporting provides the flexibility that was needed to incorporate additional data elements into the system, and it will enhance the accuracy and usefulness of UCR data. Second, two levels of reporting will be established: most contributors will provide basic offense and arrest information similar to that currently reported, while a comparatively small sample of agencies will report much more extensive information. All large agencies will be expected to participate in the second reporting level, together with a nationally representative sample of smaller agencies. Two-level reporting meets the needs for increased depth and scope of regional and national statistics about crime while minimizing the burden imposed on contributors and agencies that process the data.

Table 1 summarizes the distinctions between the two levels of reporting (in the columns labeled Level I and Level II components) and compares them with the current system. Aside from the change to submitting individual records of incidents and arrests, Level I reporting is substantially the same as the present UCR program: only minor changes are proposed in the types of offenses reported to the national program, the definitions of offenses, and the detailed data elements. Level II reporting is expanded to cover many types of offenses not previously included in the UCR program, over twenty new data items will be added for each offense, and additional information about Level II component agencies and their jurisdictions will be collected annually. Nearly all the information planned for inclusion in Level II reporting is already collected by major city, county, and state agencies with advanced crime data processing capabilities.

In addition to the changes shown in Table 1, the proposed new system includes improvements in procedures for assuring the quality of UCR data, an expanded series of publications, enhanced analysis capabilities and user services, and better compatibility with National Crime Survey data and Offender-Based Transaction Statistics. Details of the changes are given in the itemized discussions of the recommendations, in the sections that follow.

The benefits of the new system will be readily apparent to legislators and other government officials, members of the public, criminal justice researchers, the media, and the contributing law enforcement agencies. The recommended UCR system will provide law enforcement and the public with a far more compelling and accurate local, regional, and national statistics on crime conditions and the activities of law enforcement agencies in relation to crime. It will permit UCR information to be combined with information from other sources, thereby presenting a more complete picture of crime and the criminal justice system's response to crime than ever before possible. This will include the ability to identify the actual extent of injury and loss and the risk of victimization, to distinguish crimes that are preventable and defensible through police action, and to identify the circumstances of crimes and hence the potential for defensive actions by the public and police.

Equally important, the enhanced UCR program will reestablish the leadership of the national UCR program in the continued development of state and local crime reporting. The tools and descriptive publications developed for the national program, and the local police information systems and software needed to support them, could

Table 1

COMPARISON OF CURRENT AND RECOMMENDED UCR SYSTEMS

Characteristic	Current system	Recommended system	
		Level I component	Level II component
Target percentage of agencies	100	93-97	3-7
Type of reporting	summary	unit-record	unit-record
Offense types for which offense data are collected	criminal homicide, forcible rape, robbery, assault, burglary, larceny-theft, motor-vehicle theft, and arson	criminal homicide,[a] forcible sexual offense, robbery, assault, burglary, larcent-theft, motor-vehicle theft, and arson	all offenses
Handling of attempted crimes	included in counts; not distinguished from actual (completed) crimes[b]	include in counts; distinguish from actual crimes	include in counts; distinguish from actual crimes
Use of Hierarchy Rule	yes	no[c]	no[c]
Classification of offense	Part I and Part II offenses as defined by the UCR Program	current Part I definitions, with sharper definitions of aggravated assault and rape category broadened to include all forcible sexual offenses; refined Part II definitions	current Part I definitions, with sharper definitions of aggravated assault and rape category broadened to include all forcible sexual offenses; refined Part II definitions; detailed data allow alternative classifications as well
Collection of detailed incident data	limited	limited, but including type of victim (individual, business, or other) and resident/nonresident status	extensive, including victim type, victim characteristics, victim-offender relationship, use of force/weapon, type of weapon, nature/extent of injury, day of week/time of day, type of location, resident/non-resident status of victim
Cross-referencing of cleared offenses to arrests[d]	no	yes	yes
Agency and jurisdictional characteristics	number of employees; population size	number of employees; population-at-risk data	extensive set of characteristics

[a]Negligent manslaughter is excluded.

[b]Except for attempted rapes and attempted forcible entry for burglaries; attempted homicides are counted as aggravated assaults.

[c]Except to determine the primary offense, which is recorded first.

[d]An offense is cleared by arrest when at least one person is arrested, charged with commission of the offense, and turned over to the court for prosecution.

readily be extended so that local departments or state agencies could provide detailed information on the extent and nature of crime risks in local neighborhoods. In fact, a significant benefit and use of this expanded data base would be in local crime prevention and avoidance (e.g., local crime watch programs). The more extensive data can and should permit police to furnish citizens with basic knowledge about the quality of life in their neighborhoods, thus fostering community crime prevention and avoidance programs and enhancing police/community relations.

Finally, the system is inherently flexible. It maintains a basic consistency with the current system, allowing continued understanding of trends over time, while vastly increasing our understanding of crime conditions. It permits different users to count and categorize crimes in ways they find meaningful, to collect additional information in response to emerging issues without requiring permanent or costly changes to routine data collection practices, and to explore a myriad of details about crime and law enforcement. It can readily be tailored by state and local agencies to meet their special needs for crime data or crime analysis.

Reporting Levels and Format

The two fundamental changes to the UCR system -- conversion to a two-level, unit record reporting system -- are reflected in the following recommendations. (Recommendations are numbered according to the chapter in which they appear in the report.)

Recommendation 3.1: **Convert the UCR system to a two-level reporting system under which most agencies report basic offense and arrest information similar to that currently reported, while a comparatively small sample of agencies report much more extensive information.**

Recommendation 4.1: **Convert the entire UCR system to unit-record reporting in which local law enforcement agencies submit reports on each individual criminal incident.**

Recommendation 4.2: **Convert the entire UCR system to unit-record reporting in which local law enforcement agencies submit reports on each individual arrest.**

Level I reporting assures that basic statistics are available for all jurisdictions, while Level II reporting provides much more detailed information about regional and national crime patterns.

The conversion to unit-record reporting has far-reaching implications. It provides the flexibility needed for nearly all the recommendations that follow, greatly enhances the usefulness of the data collected by the UCR program, and is expected to increase substantially the accuracy of the data.

Level I Reporting

The nine recommendations discussed in this section cover the changes that are proposed for data elements in Level I reporting. Some of them, as noted, apply also to Level II reporting.

Recommendation 5.1: (Level I only) **Retain data collection for Part I offenses only, but eliminate negligent manslaughter altogether and broaden the rape category to include all forcible sexual offenses in Part I.**

The original designers of the UCR selected relatively few crimes--called Part I crimes--for which the National Program collected information on the number of offenses. The basic criteria used to select these Part I crimes were the seriousness of the crime, the similarity of rates of occurrence throughout all geographic regions of the country, the frequency of occurrence, and the likelihood of coming to the attention of police. The current list of Part I crimes (criminal homicide, forcible rape, robbery, aggravated assault, burglary, larceny-theft, motor-vehicle theft, and arson) is similar to that established in 1930.

Some have criticized the inclusion of petty larceny, negligent manslaughter, and arson as Part I offenses, and the exclusion of serious crimes such as sexual offenses (other than rape), child abuse, drug offenses, terrorism, kidnapping, blackmail, and extortion.

Petty larceny is distinguished from grand larceny using thresholds for the value of property stolen such as $100 or $250. However, the threshold used varies from state to state and has changed over time. Although petty larceny indeed appears not to meet the criteria for inclusion as a Part I offense, we recommend retaining collection of petty larceny data. No uniform national cut-off point between petty and grand larceny can be easily established, and collecting data only for grand larceny would create many problems of adjusting crime data for inflation.

Data about negligent manslaughter are included in the current UCR program only as an edit check for homicide data, and the National Center for Health Statistics has information on negligent manslaughter thought to be at least as accurate as the UCR data. For these reasons, and to avoid unnecessary burdens on contributors, we recommend discontinuing the collection of negligent manslaughter data.

The inclusion of arson, designated a Part I offense in response to a congressional mandate, is controversial. The survey conducted for this study showed that a slender majority of police support its continued inclusion. Although arson does not meet most of the stated criteria for Part I offenses (especially because its detection depends heavily on investigative practice), the seriousness of the crime has triggered demands for better data. Thus, we do not recommend a change to the status quo, which would require a reversal of the congressional mandate.

We have recommended that the current Part I rape offense category be broadened to include all forcible sexual offenses in order to respond to the contemporary demand for better and expanded data in this crime category. In addition to female rape, UCR reporting will include rape by instrumentation, rape of males, and other sexual assaults. A code would be used to indicate the type of

forcible sexual offense, one code indicating (nonstatutory) rape of females in order to permit continuity with past data.

No other changes are proposed to the categories of crimes to be included in Level I reporting. Serious Part II offenses need not be included, because they will be adequately covered by the Level II component. Level II data will satisfy public needs for national information on all serious offenses and will also provide local agencies with a basis of comparison for their own statistics. Level I agencies that so desire could collect Part II offense information and compare their Part II rates with national or regional rates or with rates of similar jurisdictions participating in the Level II component.

Recommendation 5.2: (Levels I and II) **Distinguish attempted from completed offenses.**

The current UCR system's handling of attempted offenses is frequently criticized. It is an issue both of data collection and of analysis and presentation. The current reporting system distinguishes completed from attempted rape and completed burglaries from attempted forcible entries; attempted homicides are classified as aggravated assaults. Attempts are not distinguished for other Part I offenses, but are included in the crime counts along with crimes actually committed. Perhaps the most important consequence is that the resulting crime statistics give the impression that serious crime occurs more frequently than it actually does. Seventy-five percent of law enforcement agencies agreed that attempted crimes should be reported separately from actual ones, and we concur.

Recommendation 5.3: (Levels I and II) **Report other distinct offenses occurring within a criminal incident, in addition to the most serious offense as determined by the Hierarchy Rule; retain the Hierarchy Rule to determine the most serious offense for each victim within a criminal incident.**

According to the Hierarchy Rule used in the current system, only the most serious offense involved in a criminal incident is reported. If, in one incident, a man is murdered, a woman is raped, and both are robbed, only the homicide is reported. The need for such a rule stemmed from the inherent limitations of a summary reporting system.

This rule has been heavily criticized. Those who object to the Hierarchy Rule consider it simplistic to count only the most serious offense, noting that it loses information, obscures the actual number of offenses reported, and hides the connection between loss and injury offenses. Those who support the rule consider it critical to be able to characterize a given criminal event in a clear and simple way.

Police departments are rather sharply divided in their views on the Hierarchy Rule. One quarter prefer retaining the rule in its present form. On the other hand, more than half of departments think that no hierarchy rule should be used--all counts of each offense for each victim should be tallied. (The remainder prefer a modification to the current rule.)

We recommend that all offenses for each victim involved in a criminal incident be reported. By virtue of the flexibility of a unit-record system, this can be accomplished without diminishing the ability to provide a simple and unambiguous classification of a criminal event.

Recommendation 5.4: (Levels I and II) **Redefine aggravated assault more explicitly in terms of the use of weapons and the extent of injury.**

A frequently-raised issue concerning the current classification of offenses is the difficulty and ambiguity in distinguishing aggravated from simple assault. According to the UCR Survey, more than half of law enforcement agencies agree that "aggravated assault should be defined in terms of actual injury without regard to intent," and another 19 percent neither agree nor disagree with the statement. We recommend that an assault be defined as aggravated if either a weapon is present or the victim sustains injuries involving broken bones, loss of teeth, internal injuries, or loss of consciousness.

Recommendation 5.5: **Collect additional information about homicides.**

For homicides, agencies currently submit the Supplementary Homicide Report (SHR), a unit record containing information about the crime, the victim, the offender(s), the victim-offender relationship, the weapons used, and a narrative description of the circumstances of the homicide. Because of its importance, we recommend that additional information be collected for homicides. Specifically, we recommend that Level I agencies report, for every homicide, the data elements that are reported by Level II agencies for offenses generally. Thus, all agencies would report information not currently collected on type of location, time of day, and Zip code of victim, as well as all of the data elements currently collected on the SHR. In addition, we recommend coding circumstances at the local level where the most detailed information about the incident is available. Making the coded data available for research would greatly facilitate analyses involving the circumstances of homicide.

Recommendation 5.6: (Levels I and II) **Distinguish among crimes against businesses, crimes against individuals or households, and crimes against other entities.**

Currently, no distinction is made between incidents in which the victim is an individual (or household) and incidents in which the victim is a commercial establishment. Such information is necessary for understanding the nature of local, state, and national crime patterns and also for reconciling UCR with National Crime Survey data. Two-thirds of all local law enforcement agencies support such a change, and most of the remainder are neutral. Further, this distinction is generally quite simply made. Thus, we recommend distinguishing among crimes against businesses, crimes against individuals or households, and crimes against other entities (such as public buildings).

Recommendation 5.7: (Levels I and II) **Distinguish crimes against residents of a jurisdiction from crimes against nonresidents, in order to be able to adjust for large influxes of nonresidents either as daytime business populations or as tourists.**

An issue frequently raised by law enforcement agencies in jurisdictions with large tourist populations is the resulting inflation of their crime rates as a result of the influx of tourists; a similar argument can be made for cities with large daytime business populations. The problem arises because crime rates are calculated as the ratio of crimes reported in a jurisdiction to the resident population size. Thus, while the numerator includes reported crimes against nonresidents, the denominator excludes nonresidents. To address this issue, we recommend including a data element indicating the victim's resident/nonresident status and computing resident crime rates in which only residents are included in both numerator and denominator.

Recommendation 5.8: (Levels I and II) **Collect value of property stolen by dollar value and provide for the value to be indicated as missing for cases in which it is not known.**

Value of property stolen is currently collected in three broad categories; however, exact dollar values are needed to complete total values in these categories as well as 11 property class categories and 28 offense class categories. Because many have questioned the accuracy of property value data, consideration was given to either eliminating collection of this element entirely or collecting it in categories. The former was rejected because it was thought important to have some information, albeit imperfect, on the extent of losses suffered. The latter was rejected because it was considered advantageous to have data collection under Levels I and II as parallel as possible, and collection of exact dollar values is necessary under Level II for several reasons.

Unit-record reporting makes it possible to provide specifically for missing property values. In this way, the extent of missing values would be known and adjustments could be made.

Recommendation 5.9: (Levels I and II) **Record related incident numbers on each arrest report and submit reports on exceptional clearances, in order to increase the accuracy of clearance data.**

Clearance data are often viewed as among the least reliable information in the UCR data. (A crime is "cleared" when at least one person is arrested, charged with commission of the offense, and turned over to a court for prosecution.) Clearance rates may vary widely across law enforcement agencies, across divisions within a single agency, or over time in a single agency, without reflecting any meaningful differences in performance. Further, most observers believe that clearance reporting is easily manipulated through management actions. As a result, clearance statistics are not accepted as valid performance measures by many knowledgeable users of UCR data.

To increase the accuracy of clearance statistics as well as expand the possible analysis of such data, we recommend that, for each reported arrest record, the corresponding incident number(s) be shown. Further, we recommend that, for each exceptional clearance, a separate record be submitted identifying the corresponding incident number and the basis of the exceptional clearance (e.g., suicide of offenders or deathbed confession).

These recommendations, together with the recommendation for unit-record reporting, should increase the reliability of clearance statistics and clarify their interpretation. By merging data files, it will be possible to assure that no more than one clearance is recorded for any particular reported crime. Clearances could no longer be claimed for crimes not reported. The number of clearances claimed per arrest could be tabulated and analyzed. Analysts could examine the extent to which multiple arrests are made for single crimes and the extent to which arrests for one kind of crime (e.g., possession of burglar's tools) are used to clear other types of crimes (e.g., robberies, burglaries, and larcenies). Submission of exceptional clearance records would allow examination of the reasons for such clearances and the extent to which they are used. It also would likely reduce any misuse of this category.

Level II Reporting

While the Level I component, like the current UCR system, will provide crime statistics on virtually all local law enforcement agencies in the United States, it provides no information on many offense types and only limited data describing the nature of the criminal incidents that are included. Additional information is needed to provide a more comprehensive view of the incidence of crime in this country as well as a means for examining the nature of crime generally. The Level II component is designed to provide this information.

The primary objectives of the Level II component are twofold:

- to provide national and regional estimates of the incidence of all crimes reported to the police and of the nature and circumstances of crimes, victims, and offenders; and
- to provide crime statistics on both individual agencies and representative groups of agencies, which individual law enforcement agencies can use as a basis for comparison with their own statistics.

Recommendation 6.1: **Seek participation in the Level II component from all agencies serving populations in excess of 100,000 and a sample of at least 300 smaller agencies.**

One of the key features of the proposed Level II component is its ability to provide accurate national and regional estimates while being implemented by a relatively small fraction of agencies. The Level II agencies will be chosen in such a way that their crime statistics are nationally and regionally representative. Participation in the Level II component should initially be sought from all of the approximately 300 city and county agencies serving populations over 100,000 and from

a sample of at least 300 other agencies. Because of the concentration of offenses in large jurisdictions, these agencies would report more than one-half of all offenses in the United States. Level II data will yield national and regional estimates that could be used by all law enforcement agencies for comparisons with their own statistics. Estimates will also be made by jurisdiction size. Crime statistics for agencies participating in the Level II component will be available individually, so that nonparticipating agencies might be able to compare their crime statistics directly with those of a particular participating agency of their choice.

Recommendation 6.2: (Level II only) **Collect Part II, as well as Part I, offense data and use more detailed offense-type categories than the current categories.**

A second fundamental difference between the Level I and Level II components is the collection of counts of offenses for Part II as well as Part I offenses. While we have not recommended changes for the Level I component in this regard, we recommend collection of counts for all Part II offenses in the Level II component.

Further, we recommend that the offense type categories used be more detailed than the current Part II categories. In particular, many of the offense types included in the existing miscellaneous category should be given separate categories (e.g., kidnapping, blackmail, extortion, and bribery). Also, some of the existing categories might be broken down into more detailed categories (e.g., illegal manufacture of deadly weapons might be distinguished from illegal carrying of deadly weapons).

Recommendation 6.3: (Level II only) **Collect detailed incident data describing the nature of the criminal incident, including victim and offender characteristics, victim-offender relationship, use of force, nature and extent of injury, and type of location.**

Table 2 lists our recommendations for data elements to be included in the Level II component. A fundamental feature of the Level II component is the inclusion of detailed incident data describing the nature of the criminal incident and the characteristics of the victim.

Users of UCR data strongly support the inclusion of such detailed data. In the survey of law enforcement agencies, 76 to 90 percent of agencies indicated they found these data to be useful.

Most notable among the recommended elements are the array of victim characteristics--the victim's age, race, sex, and ethnic origin and the victim's relationship to the offender. This information is critical to those interested in examining offenses against particular subpopulations such as children or the elderly.

Also recommended for inclusion are elements describing the nature of any confrontation between victim and offender--use of force and/or weapon, type of weapon, and extent of injury. This information is necessary to understand the extent

Table 2

RECOMMENDED LIST OF DATA ELEMENTS FOR LEVEL II COMPONENT

Incident/Offense Record

* * Agency identifier (ORI code)
* * Incident number
* * Additional offense records indicator[a]
* * Record type (initial/update/deletion)
* * Primary offense type
* * Offense status (complete/attempted/unfounded)
* * Secondary offense type[b]
* * Date of incident
* * Circumstance code (homicides only)(e.g., barroom brawl, lover's quarrel, drunkenness, revenge, etc.)[c]
* Time of incident
* * Location type (e.g., private residence, gas station, convenience store, etc.)
* Type of forcible sexual offense (rape of female/rape of male/rape by instrumentation/etc.)
* * Type of theft (e.g., pocket-picking, purse-snatching, shoplifting)
* Number of premises entered
* * Method of entry (forcible/unlawful without use of force/attempted forcible)
* Type of property loss (none/theft/damaged/other)
* * Type of property stolen/damaged[d]
* * Number of vehicles stolen
* * In-use status (for arson only)
* * Value of property stolen/damaged[e] (dollar value)
* * Value of property recovered (dollar value)
* * Victim type (individual/business/other)
* * Number of victims
* Age of victim[b]
* Race of victim[b]
* Sex of victim[b]
* Ethnicity of victim[b]
* * Resident status of victim (full-time resident/part-time resident/nonresident)
* * Use of force/weapon (e.g., handgun, rifle, knife, strongarm, etc.)
* Nature and extent of injury (e.g., death, broken bones, internal injuries, loss of teeth, etc.)
* Zip code of victim
* Number of offenders
* Age of offender[b,f]
* Race of offender[b,f]
* Sex of offender[b,f]
* Ethnicity of offender[b,f]
* Relationship of victim to offender[b,f]
* * Clearance status (not cleared/cleared by arrest/cleared exceptionally)
* * Juvenile clearance status

Arrest Record

* * Agency identifier (ORI code)
* * Identification number of the arrest record
* * Corresponding incident number(s) (if different from identification number)
* * Record type (initial/update/deletion)
* * Type of arrest (taken into custody/cited/summoned)
* * Level of arrest (felony/misdemeanor/etc.)[g]
* * Primary offense type
* * Secondary offense type[b]
* * Date of arrest
* * Age of arrestee
* * Race of arrestee
* * Sex of arrestee
* * Ethnicity of arrestee
* * Police disposition (for juvenile)(codes 1 to 5 in UCR Handbook, p. 62)

Exceptional Clearance Record

* * Agency identifier (ORI code)
* * Identification number for the clearance record
* * Incident number of case cleared (if different from identification number)
* * Basis for clearance (codes 1 to 10 in UCR Handbook, p. 10)

*Asterisk indicates inclusion in Level I component.

[a]Indicates whether an additional record exists for this incident.

[b]Repeat up to some maximum number.

[c]A narrative description of the circumstances of homicide would also be submitted.

[d]Includes vehicle type and arson property classification as in UCR Handbook.

[e]Includes recovery of locally stolen property recovered by any jurisdiction.

[f]As reported by victim or witness.

[g]The coding must allow for arrests that will later be determined to be a felony or misdemeanor, and for distinguishing between fingerprintable and other arrests.

of violence. Together with victim-offender relationship data, it will enable investigation of the nature of the interaction between victim and offender--analyses never before possible with UCR data.

Several other elements are also included. Some, such as time of day and date, from which day of week can be derived, describe details of the incident. Zip code of victim is included to permit geographic analyses of crime as, for example, the proportion of crime in major metropolitan areas perpetrated against residents of the central cities.

Two important classes of data elements are not included--elements describing the extent to which drugs were involved in the offense and elements useful particularly to local operations. In spite of their importance, the former were excluded because of the subjective judgments often required (e.g., determining whether an offender was using drugs). Instead, we urge that special studies be undertaken at the earliest opportunity to develop better methods of understanding the extent and nature of drug-related crime. Data elements useful for local operations will be included in the system design, with particular items chosen at the option of local agencies.

Recommendation 6.4: (Level II only) **Collect data periodically describing the characteristics and policies of each reporting law enforcement agency and assemble these data together with demographic, socioeconomic, and physical characteristics of the jurisdiction, which should be obtained from other sources such as the U.S. Census Bureau.**

Level II data will be substantially more useful if characteristics of participating agencies and the jurisdictions they serve are readily available from the National UCR Program. We have recommended that agency characteristics, such as agency type, number of employees by rank, gender and full-time status, annual operating budget, type of shift assignment, and use of formal case screening, be obtained by an annual survey of law enforcement agencies. Data on these characteristics will permit observation of changes in police practice over time and comparisons among agencies in similar jurisdictions. We also recommend that jurisdictional characteristics, such as demographic composition, land area, number of households, number of cars, and number of commercial establishments, be assembled from existing sources to compute population-at-risk crime rates (e.g., rapes per 10,000 females and burglaries per household) and to examine sources of variation in crime and arrest rates due, for example, to changes in demographic composition.

Recommendation 6.5: **Design the National Program to allow for a variety of levels of state program participation in Level II.**

Some states with UCR programs might want all agencies within the state to collect Level II-type data. Other state programs wanting to make accurate state-level estimates, but lacking the resources to include all agencies, might augment the national sample of agencies sufficiently to enable them to prepare desired state-level estimates. Such a state-level sample might include, for example, all agencies serving

populations in excess of 10,000 and a sample of smaller agencies. Still other state programs might ask only those agencies selected nationally to submit Level II data, but would be willing to collect these data from local agencies. In all three of these cases, the state program would process the data for state use and forward it to the national level as well. Some other states might be unwilling to process Level II data at all. In these states, Level II data would be sent directly to the National Program. Likewise, in states without state UCR programs, data from local law enforcement agencies would be sent directly to the National Program. Ideally, all states would eventually operate under one of the first two options so that state-level estimates would be available nationwide.

Quality Assurance

Four key findings emerge from review of UCR audit and quality assurance procedures at the federal, state, and local levels. First, accurate and consistent reporting is essential to the UCR Program. Second, there is widespread concern about the accuracy of UCR data--concern that is shared by the FBI, state UCR programs, local law enforcement agencies, researchers, and other UCR users. Third, despite this concern, nobody knows how accurate UCR data actually are, which seriously compromises their utility and authority. Fourth, the UCR program can overcome these problems through a program of increased quality assurance.

Recommendation 7.1: (Levels I and II) **Institute routine, ongoing audits of samples of participating UCR agencies in order to establish the extent of error in the system on a continuing basis.**

We have recommended that state and national programs routinely audit local agencies, using procedures developed by the International Association of Chief of Police (with certain modifications). The principal purpose would be to measure the extent of error in reported offenses, clearances, and arrests, although the use of audits might also encourage agencies to report honestly and accurately. Only one-quarter of departments responding to the law enforcement agency survey disagreed with a statement that contributing agencies should be audited on a confidential basis.

Recommendation 7.2: (Levels I and II) **Develop a code of professional standards for reporting systems.**

The National Program has long provided agencies with descriptions of basic record systems and procedures for compiling of UCR reports. We recommend that such descriptions be formalized by the National Program, in conjunction with the International Association of Chiefs of Police and the National Sheriffs' Association, in the development of a code of professional standards for reporting systems together with a timetable for adoption by local agencies.

Recommendation 7.3: (Levels I and II) **Develop improved feedback to agencies through self-administered proficiency tests, periodic reports on common audit errors, and regular reports to individual agencies on the extent of edit discrepancies in their UCR submissions.**

The National UCR Program could improve the quality of UCR data through increased training and review, building on current quality assurance procedures. Specifically, we recommend that the National Program offer a basic UCR test, to be self-administered by local agency staff, machine-graded by the National Program, and the results returned to the local agency. We also recommend that the National Program offer update quizzes, which could be scored by local agencies themselves to test staff proficiency. Third, we recommend issuing periodic reports on common errors and problems that are identified in agency audits. Finally, the National Program, in collaboration with state programs, should periodically provide local agencies with analyses of their errors as identified in edits performed at the state and national levels.

Recommendation 7.4: (Levels I and II) **Strengthen state UCR program quality assurance, including expansion of local agency audits conducted by state programs.**

Since their inception, state programs have played a key role in quality assurance. We recommend continuing and expanding this role. First, state programs, by their nature, can undertake much more extensive data cleaning than could the National Program, querying reporting agencies to resolve apparent errors. Second, state programs can detect the need for and offer training in problem areas particular to the state, most obviously those resulting from idiosyncrasies of the state's penal code. Finally, state programs should also conduct audits much more frequently than they do now. Indeed, state program staff should probably conduct most of the routine audits discussed in Recommendation 7.1.

Relationships with Other Data Systems

The Uniform Crime Reporting system collects information about police operations--the crimes reported to the police and the arrests made by the police. A complete criminal justice information system clearly requires more. Additional data are obtained from the National Crime Survey (NCS), which turns to households to determine the extent of unreported crime and to collect detailed information on victims, and from various Offender-Based Transaction Statistics (OBTS) systems, which draw together arrest, prosecution, and court disposition and sentencing information. The following recommendations are concerned with the relationships between UCR and these other data systems.

Recommendation 8.1: **Develop the UCR, the NCS, and OBTS systems as independent programs providing complementary criminal justice statistics for multiple purposes. The strengths of each of these data systems should**

be continued and enhanced, rather than compromised to achieve face comparability.

The proposed new UCR Program will not, in itself, substitute for the types of information that are now provided by the NCS and OBTS systems. We have consequently recommended that these three programs be developed as complementary systems providing criminal justice statistics for multiple purposes.

Recommendation 8.2: **Structure the UCR and NCS data so as to permit reconciliation of the two.**

The UCR data structures described earlier have been designed to permit a high degree of reconciliation with National Crime Survey data. To the extent that both the UCR and the NCS cover the same crimes against the same populations, we have assured that the new UCR data will make it possible to ascertain the estimated count of crimes that would presumably be counted according to the rules of the NCS, and the count of crimes that would presumably appear only in the UCR. For example, presently analysts can say that the UCR counts more automobile thefts than does the NCS because the UCR includes thefts of automobiles owned by businesses; they cannot determine separately the number of thefts of business automobiles, a figure that will be known in the future UCR system.

Each of the recommended changes is desirable from the perspective of the UCR system alone. The features of the proposed new system which also serve the purpose of reconciling the UCR and NCS data structures include the following:

- distinguishing commercial victimizations from personal and household crimes;
- clarifying the separation between simple and aggravated assault;
- including greater information about victims and allowing for data about multiple victims in a single incident; and
- distinguishing burglary with and without theft.

Recommendation 8.3: **Develop data structures and associated audit procedures with an eye toward eventual analytic integration of the estimation of crime rates and trends from UCR and NCS data.**

The strategy of integrating the NCS and UCR data sources, not recommended for the immediate future, differs from reconciliation. Integration would entail using data from both sources together to produce unified estimates of the volume of crime in various categories. Possible methods for integrating the data sources have not yet been sufficiently developed, in our view, to justify near-term plans for publishing integrated figures. However, the new UCR data structures and associated audit procedures should be developed with an eye toward permitting

development and eventual implementation of methods for integrating the calculations of crime rates and trends. Much confusion about the interpretation of crime statistics would be alleviated if the federal government could generate and publish estimates of crime rates that are compatible with the data from both UCR and NCS.

Recommendation 8.4: Design the UCR system to allow linkage of police records to the prosecution and court records collected by OBTS systems.

Information on dispositions is important as a measure of arrest effectiveness and as a key variable for evaluating the effect of law enforcement on rates of criminal activity.

We recommend that the UCR system be designed to enable case-by-case linkage between police offense and arrest records and OBTS prosecution and disposition data. These linkages would be made by researchers, and are not now recommended as part of the ongoing compilation of UCR files. The collection of arrest identification numbers, corresponding offense identification numbers for arrests, and the level of arrest (felony/misdemeanor/fingerprintable, etc.) will support this objective. Further, even without linking any records, collecting information on the level of arrest would enable meaningful comparisons to be made between UCR and OBTS aggregate data. For example, the UCR count of felony arrests for theft could be compared with the number of convictions for felony theft from OBTS.

Publications, Analyses, and User Services

Police, researchers, and other UCR users all expressed the need for more explanatory and interpretive discussion in Crime in the United States. Police pointed to the need to identify comparable local jurisdictions and to discuss differences in crime rates and clearances; researchers pointed to such issues as the need to document the reporting populations covered by various published tables and from year to year, in order to aid comparisons across published tables and over time.

Recommendation 9.1: Create six publication series, including:

- **an annual report that is basically factual but more textual and interpretive than the current report;**
- **quarterly releases of crime counts and trends;**
- **annual compilations of statistics for local jurisdictions, similar to those currently in Crime in the U.S.;**
- **a series of computer-generated special reports to individual agencies or groups of similar agencies;**
- **a series of occasional publications analyzing special issues about crime, primarily directed at researchers; and**
- **a series to provide for publication of methodological details and technical documentation.**

Currently, the major publications of UCR data are Crime in the United States and similar compilations of state-level information by state UCR programs. The proposed new UCR system offers opportunities for much more extensive and complex tabulations and analyses. We recommend a series of six publications taking into account the need to serve a variety of audiences; the need to provide crime statistics at the national, regional, and local level; differences in data availability between Levels I and II; the need to provide both factual information and guidance as to interpretation; and the need to establish a limited set of standard publications, while providing a vehicle for special reports.

Series 1. The first series will provide a broad overview of crime in the United States. Recognizing that this is the only series many readers would consult, we recommend greater use of both statistical analysis and interpretive narrative than in the current Crime in the United States. This series will improve upon the national and regional information in Crime in the United States by including analyses of victim characteristics, extent of injury and loss, and location, based on estimates from Level II data.

Series 2. The second series will be quarterly press releases based on reports from Level II agencies. Largely factual tabulations with only minor commentary, the press releases would include current quarter and year-to-date counts and rates for the major crime categories used in the Series 1 report, and comparisons with past years.

Series 3 and 4. The third and fourth series will provide listings of data for agencies and jurisdictions. The Series 3 publication would be a listing of offense counts, clearances, and arrests for all jurisdictions, using Level I-type data. The Series 4 publications would be computer-generated printouts containing more detailed information about individual agencies or jurisdictions than the Series 3 publication. These would be available for each jurisdiction or agency, but most recipients would generally be provided the printouts for only a small number of jurisdictions of their choice.

Series 5. The fifth publication series will be the vehicle for special analyses. Generally intended for specialists, these reports would rely heavily on Level II component data and on special studies based on samples of cases. Topics addressed could range from basic criminological research to policy studies concerning issues at local, state, or national levels.

Series 6. The final publication series will document the technical detail for the other series. It would include, for example, a publication detailing the methods used to impute missing values in other series.

Recommendation 9.2: Issue UCR reports at least once a year jointly with a corresponding report from the National Crime Survey, and occasionally issue joint publications.

Currently, Crime in the United States is released separately and on a different date from reports of NCS results. Many users of crime statistics, providers of UCR data, and federal officials have complained that the uncoordinated release of findings is confusing and even embarrassing.

We recommend that at least annually there be a joint release of separate publications from the UCR Program and NCS explaining UCR-NCS comparisons; occasionally, a joint publication should be released describing overall trends for general readers.

Recommendation 9.3: Provide a continuing analysis capability for reconciliation of UCR and NCS data, evaluating seriousness scoring, and preparing periodic publications, special studies, and technical documentation.

The proposed UCR publications clearly require greater ongoing analysis than is now undertaken to produce Crime in the United States. Analytic capability will also be needed to carry out a proposed series of studies on the use of seriousness scoring, and to analyze the relationships and reconcile differences between UCR and NCS results on a continual basis.

Recommendation 9.4: Support continued and enhanced user services, including a user data base with files linked over time, the capacity to draw samples of offenses for analysis either by the UCR staff or by outside researchers, and response to public queries.

User services under the National UCR Program will support the requests of law enforcement, researchers, government entities, and others. Indeed, the availability of unit records and the increased complexity and detail in the two-level system is likely to increase both the frequency and the scope of the requested services.

Implementation and Costs

Implementation of the proposed new UCR system will involve a number of tasks for each level of the system--local, state, and national. For the local level, we have proposed development of generic systems (both manual and automated), including prototype incident and arrest report forms and system operating manuals. These systems could be installed by local agencies, or existing software could be revised. Local personnel would need to be trained. We have similarly proposed development of generic (automated) systems for state programs.

For the national level, software will be developed to construct and maintain the data base and to perform analyses. Additional implementation activities include developing prototype publications, refining the Level II sample, and modifying the IACP audit procedures as necessary.

The estimated costs of implementation, considering only those costs that the National Program might be expected to fund (in whole or in part), are at least nine million dollars, not including any costs of installing or revising local-level systems or training the local agency staff. The estimated costs are expressed entirely in 1984 dollars and include no inflation adjustment. Because of uncertainties involved in making these cost estimates, and because system development often incurs unforeseen difficulties, this cost estimate should be viewed as a minimum.

While developing and implementing the recommended system will require a substantial commitment of resources, we believe that the benefits to those who use UCR data, and ultimately to the public, should justify the costs many times over.

Chapter 1

INTRODUCTION

The Uniform Crime Reporting (UCR) Program of the Federal Bureau of Investigation (FBI) was begun more than 50 years ago by the International Association of Chiefs of Police (IACP). The IACP created its Committee on Uniform Crime Records in 1927. Headed by Commissioner William P. Rutledge of Detroit, with technical staff funded by the Rockefeller Foundation, the committee developed the system's reporting rules and forms over the next three years. Actual data collection was begun by the IACP in January 1930, with participation from agencies in 400 cities. By September 1930, the system had grown to over 800 agencies and was transferred to the FBI under enabling legislation passed the previous June. By 1933, some 1,658 police departments, as well as a number of sheriffs' and state police agencies, were participating in the system.

Since then, the system has grown considerably in coverage and refinement. By 1938, the system included 4,283 agencies. This figure remained essentially the same until the first state UCR programs were initiated during the late 1960s. Under the state programs, participation has grown to almost 16,000 agencies covering 97 percent of the population. Nevertheless, it is still basically the same system that it was 50 years ago. The Part I (Crime Index) offenses, for which the FBI collects data on reported incidence, are largely those defined by the original IACP system, although statutory rape has been dropped and arson added. The 21 categories of Part II crimes, for which UCR contributors report only arrests, are also largely unchanged. Collection of data on traffic and parking violations has been discontinued, while categories have been added for narcotics offenses, vandalism, curfew violations, and runaways.

The stability of the UCR system is a tribute to the foresight and care of the original IACP Committee on Uniform Crime Records. While important changes and extensions have occurred over the past 50 years, the current system would seem completely familiar, though impressively comprehensive, to a member of the Rutledge Committee.

What would not be familiar to a visitor from the 1927 committee are the revolution in data processing capacity and the amount and variety of data collected by some local departments and state UCR programs for their own purposes. The fact of the enormous growth in data processing capacity is now so commonplace that it is sometimes difficult to realize how substantial and how recent this revolution is. The U.S. Census began using computers in 1951, but this was still basically a card-counting operation. Computer capacity large enough to allow processing of Census tapes did not arrive until the 1970 Census. Today, it is apparent that similar processing capacity will soon be available in desktop personal computers.

Along with this revolution in data storage and processing, criminal justice information systems have proliferated. Many larger departments are computerized, with the potential to maintain a wealth of detail on offenses, arrests, police activity, and manpower. Some state programs have begun to collect data additional to UCR information, including detailed breakdowns of offense types, victim descriptions, and, in some cases, individual case record data and disposition and sentencing information. Other data bases have been constructed based on victimization surveys and on the compilation of offender-based records that track cases through the

criminal justice system. This development is unquestionably uneven. Indeed, the variation in the breadth and depth of information from place to place may well be larger today than it was in 1927. The capacity to link different systems is frequently limited or nonexistent. But the amount of information and its detail have grown enormously.

There has also been an expansion in the use of UCR data. Although the system was designed for law enforcement agencies, other users form a significant portion of today's UCR audience. Researchers, the media, community groups, federal, state, and local governments, and criminal justice practitioners other than law enforcement officials all now use UCR data.

Recognizing the changes in processing capacity, information collection, and use of data, the IACP has three times called for review of the UCR system. In response, the Bureau of Justice Statistics and the FBI formed a joint BJS/FBI Task Force on Uniform Crime Reporting, which in 1982 contracted with Abt Associates to conduct a full-scale review of the UCR system. As developed by the BJS/FBI Task Force, the study has three phases. Phase I was devoted to an examination of the original system and the current system. Phase II has examined alternative potential enhancements to the system, culminating in the recommendations presented in this report. Following approval of the recommended changes, Phase III provides for development and implementation of the system, including determination of hardware requirements, development of forms, instructions, and software, testing, and, finally, implementation.

The recommendations of this report reflect a remarkable consensus on the direction for a future UCR program. Indeed, it seems safe to say that they would be warmly endorsed by the original designers as well. The limitations of the current system reflect the limitations of technology at the time of its design. The recommended system reflects the vastly increased capacity of modern police information and data processing systems. It would immediately increase the depth and scope of the UCR program, providing substantially more accurate and useful information about crime in the United States and detailing law enforcement agencies' responses to crime problems in ways never before possible. It would reestablish the leadership of the National UCR Program in the continual development of state and local crime reporting systems. Equally important, by fundamentally revising the structure of UCR reporting to reflect improved police information and data processing capabilities, the new system could be implemented without overburdening contributing agencies and would indeed lay the basis for orderly evaluation and development of the program over the coming decades.

The benefits of the new system would be readily apparent to legislators and other government officials, members of the public, criminal justice researchers, the media, and the contributing law enforcement agencies. The recommended UCR system would immediately provide law enforcement and the public with a far more compelling, and in all likelihood more accurate, description of local conditions. This would include the ability to identify the actual extent of injury and loss and the risk of victimization, to distinguish crimes that are preventable and defensible through police action, and to identify the circumstances of crimes and, hence, the potential for defensive actions by the public and police.

At the same time, the recommended UCR system would provide far more information on the administration of law enforcement and allow for far more powerful comparisons of the effectiveness of alternative policies and resources. Further, the

recommended Program would allow UCR information to be combined with information from other sources, thus presenting the effectiveness of law enforcement within the context of the total criminal justice system.

Moreover, and equally important, the enhanced UCR Program provide the basis for continued development of state and local crime reporting. Thus, for example, the tools and descriptions developed for the National Program, and the local police information systems and software needed to support them, could readily be extended so that local departments or state agencies would provide detailed information on the extent and nature of crime risks in local neighborhoods.

In fact, a significant benefit and use of this expanded data base would be in local crime prevention and avoidance (e.g., local crime watch programs). The more extensive data can and should permit police to furnish citizens with basic knowledge about the quality of life in their neighborhoods, thus fostering community crime prevention and avoidance programs and enhancing police/community relations.

Finally, the system would be inherently flexible. It would maintain a basic consistency with the current system, allowing continued understanding of trends over time while vastly increasing our understanding of current conditions. It could be used to collect additional information to address emerging issues without requiring permanent and costly changes to the basic system. It could be readily expanded by state and local agencies to meet their special needs.

1.1 Study Objectives and Approach

The basic objective of the study was to determine what, if any, changes should be made to the current National UCR Program. All aspects of the system were considered, including:

- the goals and objectives of the system and the intended user audience;
- data collection, including reporting mechanisms, editing and quality control, accuracy of the data, and contributor workload;
- use of the data by law enforcement agencies, other criminal justice system practitioners, researchers, the media, and others;
- publications, user services offered by the FBI, and the FBI's own analytic program; and
- the relationship of the UCR to other systems, with particular focus on the relationship between UCR and the National Crime Survey and the relationships between the National Program and state UCR programs.

The study itself relied on extensive outreach to obtain the views of all interested parties. Progress was regularly reviewed by a Steering Committee composed of leading criminal justice practitioners and researchers, including law enforcement executives, a prosecutor, state UCR program directors, a statistical analysis center director, researchers, a representative of the media, and representatives of the Inter-

national Association of Chiefs of Police, the National Sheriffs' Association, and the Association of State UCR Programs.[1] In addition, the study staff worked closely with the Joint IACP/NSA Committee on Uniform Crime Records, which not only played a major role in reviewing and developing the study plan, but also made important contributions to identifying key issue areas and developing a national survey of law enforcement agencies.

Major study activities included:

- a review of the literature, including publications either using UCR data or critically assessing the UCR;
- in-depth interviews with staff of selected state UCR programs and local law enforcement agencies, government officials, researchers, and media representatives in nine states;
- site visits to all units in the FBI-UCR Section to review data processing, quality control, training, report publication, and dissemination practices;
- a mail survey of state UCR programs;
- collection and review of complete documentation for local, state, and national UCR programs;
- telephone interviews with criminal justice researchers to ascertain how they use UCR data and what enhancements they would recommend;
- a review of requests for service made to the National UCR Program;
- a review of other data systems, including the National Crime Survey and the Crime Classification System being developed by the Police Executive Research Forum;
- a national conference held at the Belmont Conference Center in Elkridge, Maryland, of experts in collection and use of UCR data, including representatives of local law enforcement agencies, law enforcement membership organizations, statistical analysis centers, other criminal justice agencies, the research community, and the National Crime Survey Redesign Consortium; and
- a national mail survey of local law enforcement agencies, including both contributors and noncontributors of UCR data, to which more than 3,400 agencies responded. The survey's 22-page questionnaire asked for opinions on the accuracy and utility of UCR data, criticism of the current UCR Program, suggested modifications of the program, the utility and difficulty of supplying certain additional types of data, and the current and planned availability of computer systems to process UCR data.

[1] See Acknowledgments for a list of Steering Committee members.

1.2 Organization of the Report

The remainder of this report presents and discusses our recommendations for changes to the current UCR Program. Chapter 2 summarizes the issues raised about the current program. These cover all aspects of the system, including its scope, data elements and definitions, analysis, presentation and interpretation of data, and reporting and accuracy.

Chapter 3 presents an overview of the recommended system. This chapter describes the two components of the system--called Level I and Level II--and compares them with the current system. Most agencies would contribute to the Level I component, which would collect much the same information as does the current system, but with several important changes.

Chapter 4 provides a detailed discussion of one of the most important recommendations in this report--conversion to unit-record reporting, in which individual records of both incidents and arrests are submitted, rather than the summary counts used in the current system. The chapter considers the advantages and disadvantages of such a system, including issues of local contributor workload and costs, and describes the transmission of data under such a system among local agencies, the state programs, and the National Program.

Chapters 5 and 6 describe the Level I and II components of the recommended system, addressing such issues as offense types for which counts are collected, distinguishing attempted from actual offenses, use of the Hierarchy Rule, definitions of offense categories, collection of additional data elements, collection of dollar values for stolen property, improving clearance data, and collection of data on agency and jurisdictional characterization. Chapter 6 also discusses the selection of agencies for participation in the Level II component.

Chapter 7 presents recommended changes in quality assurance procedures. These include use of routine audits of participating agencies, agency self-certification of minimum reporting-system standards, increased feedback to local agencies, and strengthening of state program quality assurance measures.

Chapter 8 describes the relationship of the UCR system to two other systems--the National Crime Survey (NCS) and Offender-Based Transaction Statistics (OBTS) systems. It discusses development of the UCR and the NCS data structures and related audit procedures to permit reconciliation and eventual analytic integration of the two. It also discusses designing the UCR so as to permit linkage of UCR data to prosecution and court data in the OBTS systems.

Chapter 9 principally discusses recommended publications under the proposed system. It also includes discussion of an analytic program associated with the National UCR Program and the provision of user services by the program.

Chapter 10 outlines the tasks necessary for implementation and operation of the system. It offers a schedule under which implementation might be undertaken and provides estimates of the costs of implementation and operation.

Four appendices provide supplementary material. Appendix A describes the methodologies used to conduct site visits, interviews and surveys. Copies of the data collection instruments are included as attachments to Appendix A. Appendix B describes technical aspects of integrating the UCR and the NCS. Appendix C provides a detailed breakdown of the estimated costs of implementing and operating the recommended system. Appendix D describes the sample design for the proposed Level II component.

Chapter 2

ISSUES RAISED ABOUT UNIFORM CRIME REPORTING

The findings and recommendations in this report reflect information and advice from numerous UCR contributors and users. The issues raised by these sources have been detailed elsewhere.[1] This chapter summarizes them to assist the reader in understanding the rationale for changes and improvements that are recommended in subsequent chapters. The issues are presented here without comments or judgments. Most of them are criticisms of the current system, but some are tributes.

2.1 Scope of the Program

Numerous aspects of the UCR Program's scope have been debated throughout the program's history, and we encountered strong feelings about each in the course of our site visits and interviews. Even today, there is still disagreement over the appropriate audience for the UCR, the theoretical underpinnings of the program (then and now), whether reporting should be mandatory, and the scope of reported offenses.

In terms of the appropriate user audience, many of those interviewed for this study believed that the UCR system should focus primarily on the needs and interests of contributors, i.e., local law enforcement agencies. These critics asserted that the current system is neither useful to the field officer nor understandable to police chiefs and, further, that the feedback mechanism is too slow to enhance law enforcement. Others saw a broader audience for the UCR. Some thought that a major objective of the UCR Program should be to support academic research and that the system's capacity should be enhanced to serve these needs. Others thought the program should provide analysis meaningful to the public and to interested agencies in the public and private sectors. Finally, some sources suggested that the UCR Program address rural as well as urban needs.

An interesting range of observations was made with respect to the theoretical foundation of the UCR Program. Some raised the issue that the system had been constructed without reference to an underlying criminological theory. Others noted that the current system assumes a constancy between the reported and unreported crimes and between Index crimes and other offenses. Some claimed that the Uniform Crime Reports were never intended to be a complete description of criminal activity; they thought the UCR should be viewed as reports of citizen contacts with police rather than as an accurate indicator of crime itself.

Opinions are sharply divided as to whether there should be mandatory reporting to the National Program. Our survey suggests that about half of all law

[1] A comprehensive enumeration of issues from all sources other than the law enforcement agency survey is given by E.L. Rovetch, E.C. Poggio, and H.H. Rossman, A Listing and Classification of Identified Issues Regarding the Uniform Crime Reporting Program of the FBI (Cambridge, MA: Abt Associates Inc., January 1984). The results from the survey are described separately by J.M. Chaiken and Y. Akiyama, The Uniform Crime Reporting Study: 1984 Survey of Law Enforcement Agencies (Cambridge, Mass.: Abt Associates Inc., forthcoming).

enforcement agencies feel less than universal participation presents little or no problem. Some interviewees who are proponents of mandatory reporting noted that voluntary participation constrains the FBI in the amount of information it can request, since cooperation may be dependent on not overtaxing contributors. Others thought that reporting should not be mandated, claiming that mandating creates animosity and that a good voluntary system could elicit data of equal quality. Moreover, respondents from local agencies and state programs noted that, if a federal system required participation, the federal government would have to reimburse contributors for the expenses they incurred.

With respect to the scope of reported offenses, some law enforcement agencies and researchers indicated there should be some way within the UCR system to account for the "dark number" of unreported crimes. Others (but not a majority) thought that the data base should include crimes committed on federal property, crimes handled by the private crime-control industry, and/or crimes entering the system through non-law-enforcement agencies (e.g., federal regulatory agencies). Inclusion of crimes reported by regulatory agencies would address another problem mentioned by some, namely that crime types currently reported in the UCR do not include white-collar crimes.

A strong consensus has arisen, especially among local law enforcement agencies, for reporting additional offense types to the UCR Program. At the present time, only selected offenses (those known as Part I offenses,[2] plus simple assault) are reported to the FBI; for Part II offenses other than simple assault, only data about arrests are currently reported.

Suggestions were often made to include specific additional offenses on the Part I list. Among those frequently mentioned were rape of males, sexual abuse of children, other sex crimes, sale of child pornography, other child abuse, kidnapping, sale or possession of drugs, blackmail, extortion, and terrorism. However, rather than single out particular offense types, a majority of law enforcement respondents urged that every offense reported to their agency be included in Uniform Crime Reporting. Those who oppose universal inclusion of offenses point to the difficulties of establishing and maintaining common definitions across states, especially when some forms of behavior are legally proscribed in some states but not in others.

2.2 Data Elements and Definitions

Issues surrounding the data elements and definitions currently employed in the UCR tend to reflect the special interests of diverse user groups. The discussion that follows presents issues raised regarding Part I and Part II crimes, data elements collected under the current system, additional elements that could be collected under a revised system, the ability of law enforcement agencies to provide new data, classification and scoring, and unfoundings and clearances.

[2]The Part I offenses are criminal homicide (including murder, nonnegligent manslaughter, and manslaughter by negligence), forcible rape, robbery, aggravated assault, burglary, larceny-theft, motor-vehicle theft, and arson.

2.2.1 Distinction between Part I and Part II Offenses

With minor exceptions, designating an offense as Part I means both (1) that data are collected on the number of reported offenses of that type, and (2) that the offense is included in the Crime Index.[3] Consequently, when someone indicates that a specific offense should be Part I, it is often difficult to distinguish whether the meaning is that offense data should be collected, or that the data should be collected and the counts should be included in the Index. Our law enforcement agency survey explicitly distinguished between the possibilities of reporting the offense and including it in the Index, but most respondents made no distinction--where respondents wanted a class of offenses reported, they usually also wanted them to be included in the Index.

Several sources pointed out that labeling some offenses as Index crimes suggests that non-Index crimes are less serious. Consequently, publication of the Crime Index may mislead the public about the true extent and seriousness of crime. Some sources cited the simple fact that most victims of crime have been victimized by Part II offenses. Further, they noted that Part II crimes are important to small departments that comprise the bulk of local enforcement agencies, and that Part I offenses are not necessarily the most relevant aspects of a department's day-to-day operations.

A number of suggestions were made concerning the distinction between Index and non-Index crimes, ranging from eliminating it altogether to replacing it with any of three alternatives: a distinction between crimes against persons and crimes against property; a distinction between statutory and regulatory offenses; or a distinction between felony and misdemeanor offenses as locally defined. Many felt very strongly that the current Index should be retained in order to preserve the time series. Others suggested eliminating the calculation of any crime index but disaggregating the data to allow the present version of the Index (or any other time series) to be created. A number of sources felt that the debate about the Index as a representation of the crime problem is largely a problem for the media, which tend to use aggregate figures, and less of an issue for researchers, who work with disaggregated data.

Some critics believed that the Index offenses are too broadly defined. One source attributed the various definitional problems to a decision, early in the history of the UCR, to cover the range of definitions used in various states.

Nearly universal objection was raised to including attempted crimes in the same category as completed crimes. Over three-quarters of law enforcement agencies believe attempts should be counted separately for all crime types.

2.2.2 Offense-Specific Issues

A number of offense-specific issues were raised for crimes now designated as Part I. Larceny was a popular target. One of the most frequent suggestions was to include only thefts where the property loss exceeded some minimum amount. Eighty

[3]The exceptions are: (a) the number of simple assaults is reported, but simple assault is neither considered Part I nor included in the Index, and (b) negligent manslaughter is defined to be Part I but is not included in the Index. From time to time the definitions have been changed, so that the relationship between "Index Crime" and "Part I Crime" has not always been the same.

percent of law enforcement agencies agreed with this proposition. The favorite cut-off point was $500, but higher cut-offs were recommended by many. Eighteen percent of law enforcement agencies recommended cut-offs of $1000 or higher. Additional suggestions for clarifying larceny included reporting purse snatching as robbery or a separate offense, distinguishing petty larceny from shoplifting, and identifying "fad" components (e.g., theft of car stereos) that evidence large year-to-year changes.

Another oft-cited problem was the difficulty of distinguishing between simple and aggravated assault. One suggestion was to hinge the definition not on the presence of a weapon or on intent, but on actual injury (56 percent of law enforcement agencies concurred). Another suggestion was to disaggregate aggravated assault statistics. For example, 83 percent of law enforcement agencies agreed with the suggestion from many researchers that family disputes should be distinguished from other assaults. Other interviewees called for more information on the types and extent of resulting injuries. Some sources noted that there is substantial variation in the definition of assault on an officer.

Many users would like to see more detailed information on homicide, specifically,

- first and second degree, stranger-to-stranger versus familial, and child abuse cases;
- distinguishing all self-defense killings from others[4];
- eliminating negligent manslaughter cases;
- collecting for all homicides the information on intent and other features that is now included in the UCR report for law enforcement officers killed and assaulted (LEOKA); and
- presenting additional detail in the Supplementary Homicide Report (SHR).

Some suggested that departments report, as a separate section of the SHR all homicides committed by police officers, whether justifiable or not. A final suggestion was to link homicide data with National Center for Health Statistics data.

Arson was another popular topic for debate. Many interviewees (but under ten percent of law enforcement agencies) called for excluding it from the Index, citing several reasons: (1) arsons are not always reported to the police; (2) identification as arson involves subjective judgment; (3) arson is often accompanied by some less serious offense; (4) arson offenses are often uncovered through proactive police operation; and (5) arson does not come to the attention of police in a timely manner. Alternative approaches for collecting arson data were recommended, such as collecting arson statistics from fire departments or publishing the data in a special report like the Bomb Summary instead of in Crime in the United States. There was

[4]At present, justifiable homicides are limited to killing of a felon, either by a peace officer in the line of duty or by a private citizen during the commission of a felony.

also a general concern about the difficulties of obtaining good arson data: many police departments do not have responsibility for arson cases; some fire departments are not municipal agencies but volunteer organizations; and many cities simply do not have arson data. Nevertheless, majority opinion appeared to be that arson should stay in the Uniform Crime Reporting Program because the statistics are valuable despite their limitations.

Many would like to see disaggregations of robbery into stranger-to-stranger versus familial, and into hijackings versus other robberies. Some pointed out that robbery could be considered a crime against persons rather than a property crime.

Suggestions for auto theft included eliminating joyriding from the counts, distinguishing between unauthorized use and attempted auto theft, and deleting or redefining the "7X" category,[5] since thefts and recoveries may not balance.

Recommendations for burglary included distinguishing burglaries of residences, residential outbuildings, and commercial establishments. Some sources asked for information on type of nonresident dwelling and for a means of linking burglary data with insurance claims data.

Several issues were raised concerning offenses included in Part II arrest data. Some thought drunkenness and vandalism should be deleted. One source saw no reason to include arrests for "suspicion." The use of a catch-all category for miscellaneous offenses was also questioned.

2.2.3 Current Data Elements

Several issues were raised concerning data elements collected in the current UCR Program. Property lost data were often criticized on the grounds that determining value is difficult and that values are often inflated for insurance purposes. Moreover, the current system is unable to link property stolen in one jurisdiction with property recovered in another.

Concerning juvenile data, one source suggested replacing the UCR age limit with a state's statutory age limit. Definitions of juvenile offenses were characterized as too broad and vague, and juvenile dispositional data as incomplete. For some, dispositional data served no purpose, but others found the data useful if broken down by offense. Some would delete minor status offenses (e.g., curfew, loitering, runaway) from the Uniform Crime Reports; others saw these offenses as critical to understanding delinquency.

Several issues were raised about ethnic origin data. Ethnic origin is hard to determine; officers often assign ethnicity on the basis of the offender's last name. Many officers simply omit the item because it does not matter to them. Another source felt strongly that the Japanese/Chinese/Pacific Islander distinction should be reinstated, since Japanese and Chinese (but not Pacific Islanders) are nonwhite categories with lower crime rates than whites, and such distinctions provide important clues to understanding criminality. Still another suggested using locally relevant categories, such as Eskimo in the Northwest. Problems in the instructions and training

[5]The 7X category distinguishes between the location (jurisdiction) of a motor vehicle when stolen and its location when recovered.

for coding ethnic origin were also noted. Finally, one interviewee requested a study to examine the completeness and accuracy of race/ethnicity coding.

2.2.4 Additional Data Elements

Many interviewees suggested collecting additional data in a revised UCR Program. It should be noted, however, that conservative observers warned against collecting more data, predicting that expansion to a more complex system could decrease utility and accuracy of the data.

A striking difference of opinion emerged between researchers and law enforcement agencies concerning the kinds of data that should be added to the UCR system. Researchers generally emphasized information that would help understand the nature and occurrence of crime, whereas law enforcement agencies emphasized information that would help them perform their jobs better.

For example, many researchers indicated a need for additional data on victims and offenders, including demographics, extent of injury and loss to victim, victim-offender relationship, and income and employment status of both. Others desired crime analysis data: time of day, day of week, geo-codes, type of location, weapons, and modus operandi information. Still others wanted more detailed drug data, specifically on drug trafficking, number of drug-related offenses, drug enforcement, narcotics, drug-related arrests, and types and amounts of drugs seized or in possession of arrestees. On the other hand, one interviewee thought the UCR already collected drug data in too much detail.

Respondents to our law enforcement survey were asked to indicate the usefulness of 30 different items of information that might be included in a future UCR system. Their answers are summarized in Table 2.1 according to the percentage of agencies considering the information "very useful." They gave top ratings to some data items already collected by the UCR system (e.g., type of offense and arrestee's sex), some items already collected for selected types of incidents (e.g., weapons and use of force), and details concerning arrestees and the disposition of arrestees' cases. Information about victims, especially their race, relationship with the offender, and residence status, was given lower priority by law enforcement agencies than information on arrestees. (However, less than one-third of agencies indicated any data item as being "not useful.")

Researchers and other UCR users also recommended expanding the program to include other criminal justice system data, such as case filing by the prosecutor (with reason for not filing), prosecution, disposition and sentencing, and corrections data, as well as information on prior record, recidivism, and criminal justice system cost. Such data could be collected on a sample basis. Offender-based transaction statistics (OBTS) were viewed as highly desirable. One source suggested a system with two parts: one to report crime counts, and a second to track each case following arrest. It should be recognized that, although these sources would like to see these additional data, not all saw the UCR as the appropriate vehicle for reporting them. Some sources vehemently opposed collecting these data as part of the UCR Program. One observed that it is not a proper function of UCR as long as the program is based on police reporting, and that a "BJS Integrated Series" including dispositional data would be more appropriate. One source thought an OBTS-type system would not

Table 2.1

USEFULNESS OF SELECTED DATA ELEMENTS

Data element	Percentage of agencies			
	Very useful	Somewhat useful	Not useful	Total
Type of offense	61	29	10	100
Offense information presented for arrests	57	33	10	100
Type of weapons used at incident	57	34	10	100
Prosecution charge	54	36	10	100
Time of offense	52	35	13	100
Disposition of prosecution	51	39	10	100
Offender age on arrest report	50	37	13	100
Offender sex on arrest report	48	37	15	100
Sentence of arrestee	48	40	13	100
Use of force at incident	47	39	14	100
Type of property loss	45	43	12	100
Offender race on arrest report	45	37	19	100
Officer time on crime-related calls	44	38	18	100
Value of property lost	43	41	16	100
Nature of location of offense	43	41	16	100
Number of victims	43	44	14	100
Officer time spent on patrol	42	37	21	100
Calls with officer dispatched	41	36	23	100
Number of calls for service	41	34	25	100
Age of victims	39	45	16	100
Sex of victims	39	44	17	100
Officer time on noncrime calls	39	40	21	100
Geographic location of incident	38	37	25	100
Officer time in court	37	40	23	100
Officer time on administration	35	38	27	100
Race of victims	34	43	23	100
Call codes indicating whether call is apparently crime related	33	36	31	100
Victim-offender relationship	31	48	21	100
Residence status of victims	29	42	29	100
Type and extent of injuries	28	48	24	100

Source: UCR Survey of Law Enforcement Agencies, conducted by Abt Associates Inc., 1984.

Note: Responses are weighted to reflect estimates for all law enforcement agencies in the United States. (See Appendix A for details.)

work, since UCR is a year-of-offense system whereas OBTS is a year-of-disposition system.

Administrative data about police department operations and calls for service were in general not considered as valuable as most other suggested additional data items. The most highly ranked administrative information for law enforcement agencies was "officer time spent on crime-related calls" (44 percent indicated "very useful"). Yet, as noted earlier, a sizable majority of agencies considered every data item suggested on the questionnaire to be either "very useful" or "somewhat useful."

2.2.5 Ability of Law Enforcement Agencies to Supply New Data Elements

The feasibility and cost of adding data elements to future UCR reports is greatly influenced by the extent to which the data are already being captured in computer-readable form at the local level. Consequently, The UCR Survey asked law enforcement agencies to describe the computers they presently have or plan to have for handling crime reports, and the availability of particular data items on either computer records or manual reporting forms.

The survey showed (see Table 2.2) that most large agencies (those serving jurisdictions over 100,000 population) already have computers installed to handle crime records, and that within two years all but a handful will have such computers. Adoption of computers by mid-sized agencies (serving 10,000-100,000 population) is substantially less extensive, but large increases are planned for the next two years: over half, and perhaps up to 62 percent, will have computers available for crime reports by 1987. Most small agencies neither have nor plan to have computers for this purpose.

Because the number of small agencies is large, overall only about 11 percent of agencies now have computers for crime reports. However, the bulk of the nation's crimes are reported by large or mid-sized agencies. Moreover, some state UCR programs keypunch the paper offense report forms sent to them by local agencies. Taking these factors into account, we estimate that at least 68 percent of all crime reports are now converted into computer-readable records, and that without any changes in the UCR Program at least 88 percent of all crime reports will be routinely available in computer-readable form by 1987.

Agency responses to questions about the particular data items that are already available to them are summarized in Table 2.3. The items are ordered according to the percentage of agencies saying they already tabulate the item or could "easily" obtain it from their computer files or manual files. For comparison, the rank order of the same items from Table 2.1 (usefulness) is shown in the far-right column of Table 2.3.

The table reflects wide range of availability for these data items. Fewer than one-quarter of agencies have data on "officer time on administration," while nearly three-quarters of agencies have "arrestee's sex" readily available. Some of the items suggested as most useful, especially details of the offense or the arrestee's characteristics, are commonly available already. But items about the disposition of arrestees' cases, while judged by law enforcement agencies as very useful to have, are not readily available. Fortunately, many of the items considered important by researchers, such as number of victims and ages of victims, are readily available to more than half of all agencies.

Table 2.2

PERCENTAGE OF LAW ENFORCEMENT AGENCIES WITH COMPUTER AVAILABLE FOR CRIME REPORTS

Computer availability	Population of jurisdiction								
	Over 100,000			10,000-100,000			Under 10,000		
	Number	Percent	Cumulative percent	Number	Percent	Cumulative percent	Number	Percent	Cumulative percent
Have computer now	217	79	79	948	23	23	274	3	3
Specific computer chosen, install within 2 years	18	7	86	1,249	30	52	1,810	22	25
Plan within 2 years	8	3	89	407	10	62	685	8	33
Not now or within 2 years	32	11	100	1,585	38	100	5,566	67	100
Total	275	100	-	4,189	100	-	8,335	100	-

Source: UCR Survey of Law Enforcement Agencies, conducted by Abt Associates Inc., 1984.

Note: Special agencies and noncontributors to the UCR Program are omitted from the table.

Table 2.3

AVAILABILITY OF DATA ELEMENTS AT LOCAL LAW ENFORCEMENT AGENCIES

Data element	Percent of Agencies: Having already or easily available	Percent of Agencies: Having already	Rank order of availability[a]	Rank order of usefulness[b]
Offender sex on arrest report	72	37	1	8
Offender age on arrest report	72	37	2	7
Type of offense	71	46	3	1
Offender race on arrest report	70	36	4	12
Offense information presented for arrests	69	38	5	2
Time of offense	64	38	6	5
Value of property loss	62	32	7	14
Type of property loss	61	31	8	11
Number of victims	61	25	9	16
Type of weapons used at incident	60	33	10	3
Sex of victims	60	25	11	20
Number of calls for service	57	44	12	19
Use of force at incident	56	32	13	10
Age of victims	55	23	14	21
Nature of location of offense	54	30	15	15
Calls with officer dispatched	52	36	16	18
Race of victims	52	22	17	26
Geographic location of incident	50	37	18	23
Residence status of victims	48	20	19	29
Prosecution charge	40	18	20	4
Type and extent of injuries	40	18	21	30
Call codes indicating whether crime-related	39	26	22	27
Victim-offender relationship	37	17	23	28
Disposition of prosecution	32	15	24	6
Officer time on crime-related calls	31	18	25	13
Officer time on patrol	31	16	26	17
Sentence of arrestee	30	14	27	9
Officer time in court	28	15	28	24
Officer time on non-crime calls	28	17	29	22
Officer time on administration	25	13	30	25

Source: UCR Survey of Law Enforcement Agencies, conducted by Abt Associates Inc., 1984.

Note: Responses are weighted to reflect estimates for all agencies in the United States.

[a]Based on percentage having already or indicating easily available.

[b]Based on percentage of agencies indicating data element is very useful.

2.2.6 Classification and Scoring

Several important issues were raised about the classification and scoring of offenses. A substantial controversy in classification revolves around the Hierarchy Rule, which is used in multiple-offense situations to score a single offense--the highest-ranking offense on the FBI's ordered list of Part I crimes. Some sources recommended eliminating the Hierarchy Rule, others wanted to change it, and still others wanted to keep it as is. Those objecting to the rule said it is simplistic and misleading and causes information loss. They claimed that small contributors are entitled to credit for everything they do, and that the public and media object to the rule. Several sources suggested counting the most serious offense for each victim as an alternative. This issue is discussed in some detail in Chapter 5.

A few sources suggested a major revision to the current classification system. In order to provide contributors with relevant management and policy information, they recommended abandoning legal classifications in favor of more generic definitions, categorizing crimes by "impact" as they are in the Crime Classification System now being developed by the Police Executive Research Forum. It was thought that such a scheme would help the public understand the meaning of crime counts and help police departments allocate resources based on relative danger.

Many noted problems resulting from state variations in the definitions of offenses. Mismatched definitions are thought to introduce measurement error. For example, theft from an auto is burglary in California and may consequently be classified as such in a local agency, even though it should be classified as theft in the UCR. Some thought that training could resolve such problems. Alternatively, some suggested that offenses could be classified according to state penal codes at the local level, but reclassified for the UCR at the state or federal level.

The most frequently cited issue regarding scoring concerned the Hotel Rule, under which a series of related offenses that are likely to be reported by a single person, such as a set of burglaries from several hotel rooms in a single hotel, are scored as a single offense. Those objecting to the use of this rule argued that it applies different standards to comparable situations, and especially that it undercounts crimes in big cities with numerous large buildings.

The problem of overlapping jurisdictions, which may result in duplicate reporting, was often cited. As one solution, one local law enforcement agency recommended reporting by the agency that handles the incident, rather than by the jurisdiction where the offense occurs.

2.2.7 Unfoundings and Clearances

Two sources raised questions about the unfounded category. One recommended that it be better defined. A second suggested eliminating it altogether, arguing that, if a citizen thinks a crime has occurred, it ought to be counted.

Clearance data, and particularly their quality, were a common cause of concern. Many users thought the data are not credible, too poor to be of any use, and worthy of deletion. One researcher suggested evaluating the data before they are published. Some police departments objected to the counting rules; specifically, they suggested, for example, that a case should not be counted as cleared if only one of the several offenders involved is arrested, as this does not reflect the true workload.

Ideas for improving the clearance data included allowing a range of law enforcement agency dispositions for cases administratively cleared (e.g., when a warrant is issued) and for cases not assigned because of low solvability factors. One police department noted that large proportions of uncleared cases in communities with a significant tourist or transient population give an unfair slant to the statistics. One researcher asked for more detailed clearance data; another wanted to link clearances and arrests, noting that an incident-based system is needed to perform such analyses.

2.3 Analysis of Data

Nearly all UCR user groups voiced a strong desire for more analysis of UCR data, albeit of many different types and for different purposes. Sources were nearly unanimous in calling for more special studies and analyses of the UCR data, especially of trends--by specific crime, by crime and region, and by race and gender for arrests. Law enforcement agencies, in particular, requested information that would help them compare crime among jurisdictions, taking into account local population and other conditions. Researchers wanted a means of checking the FBI's estimation procedures.

Several suggestions were made concerning the analysis of age, sex, and race data. One source thought the UCR should not show race at all, but instead should use a model to correlate various characteristics with committing an offense. Another asked for a breakdown of arrests by race(s) of victim and perpetrator. Many researchers reported that the lack of full age/sex/race breakdown is a real problem.

Many sources recommended weighting crimes by seriousness, stating that unweighted aggregate crime rates can be very misleading. A majority of law enforcement agencies supported the idea of weighting crimes as an adjunct to crime counts. Some objected to giving equal weight to attempted and completed crimes. Some thought the purpose of a weighted index would be narrower; others noted that unweighted and weighted statistics generally produce very similar trends and other results.

Another topic of concern was the population base. Using the intercensal estimates can be problematic; for example, underestimates of population growth in the late 1970s created an inaccurate picture of increases in crime rates. Some sources said crime rates should be computed based on the population at risk (e.g., number of women for rape) rather than the entire population. Additional changes could include adjusting for tourism and including employees as well as students in campus populations. A majority of law enforcement agencies agreed with the idea of distinguishing crime rates against residents from others, and only 12 percent disagreed (the remainder were neutral). But less than one-quarter agreed that auto theft rates should be expressed per 100,000 vehicles, and under one-third believed that the number of women should be the population base for rape statistics.

2.4 Presentation and Interpretation of Data

There has been a wide variety of ideas for better ways to present UCR data. These range from alternative publications and user tapes to methods of clarifying the tables.

Many sources had comments about the presentation of UCR data. Most thought there are too many detailed tables and not nearly enough analyses, graphics, and narrative to explain the data, but the summary of offenses at the front end was praised as very useful. A number of alternative publication formats have been recommended:

- producing a shorter version of Crime in the United States;
- publishing two volumes: a narrative reader and a statistical digest;
- developing an easily digested front section and putting detail in later sections;
- publishing several regional volumes rather than a single national report;
- producing one report to address police and public needs, and another to respond to researcher needs; and
- producing reports by size of department to allow for discussion of more relevant issues.

In general, however, users felt that reports have improved over the years, particularly in terms of their methodological documentation and use of graphics.

Several issues were raised about the presentation of data by geographic areas. Some sources found the relationship between geographic areas and reporting agencies confusing, since, for example, a given county may have several police departments. It was thought that the number of agencies reporting for each geographic area should be shown. One source thought geographic definition should coincide more clearly with Census definition. Alternatively, data could be aggregated by the reporting territory for the police agency and then by the census-defined Metropolitan Statistical Area (MSA). Yet another option might be to break down the data by sections of the city such as Census tract, neighborhood, or block. Or data could be aggregated at the state level, with breakdowns for large jurisdictions.

Most users criticized the crime clock, since it does not adjust for changes in the population. However, it does have a few supporters.

Rates were often considered preferable to raw frequency figures. Some sources suggested using NCS data to adjust for variation in reporting rates.

Many users criticized the use of different bases for different tables. One source noted the difficulty of following data from one series to the next, since different tables are based on different numbers of years (1, 2, 5, or 10). Others simply asked that the presentation be explicit about changes in the population base; one source pointed to the Census as a model for handling varying bases. Finally, it was observed that the bases used to construct rates tend to affect perception of crime, e.g., a rate of 2,100 per 100,000 may be perceived as more serious than 210 per 10,000.

Timeliness of the release of UCR data was an important issue. UCR feedback was criticized as too slow to aid individual police departments in carrying out their operations or to meet certain research needs. Recommended solutions included making raw data more readily available; doing trend analyses for data on hand at the end of each month; issuing regional editions as soon as all the necessary data are received; and simplifying the UCR to accelerate publication.

Some sources offered suggestions about distribution of Crime in the United States. Reports could be released to police agencies, who would in turn release them to the press. Alternatively, reports could be mailed directly to the media. The FBI could provide for early release of the report to academics/researchers, who are flooded with questions from the media but cannot comment until they have seen the report. Copies might also be distributed to the judiciary.

Researchers frequently indicated a desire for access to UCR data in machine-readable form. Some also noted the desirability of having micro-level data made available on tape and on-line, though this would be possible only with an incident-based system and not with the current summary system.

Several sources noted problems of comparison. This is particularly important because many users rely on the federal program as a primary reference tool for cross-state and cross-jurisdictional comparisons. But UCR data are thought not always to be comparable over time, across jurisdictions, or across states, a problem attributed both to real differences in population, socioeconomic factors, and police characteristics, and to differences in reporting procedures and lack of training. Further, offenses known to police cannot be matched to clearances and arrests, since the former are presented by municipality, whereas the latter are presented by metropolitan areas. One local law enforcement agency asked for more information on communities to facilitate comparisons with other jurisdictions. Several sources--including a number of local agencies, state UCR programs, and media representatives--recommended that the UCR provide a ranking of cities according to crime rates.

2.5 Reporting and Accuracy

A number of issues were raised concerning the reporting of UCR data. Some agencies indicated reporting was burdensome. It was suggested by some that reporting be incident-based rather than summary-based, and by others that data be reported only from a sample of agencies. The accuracy of reporting was also a major issue. Sources of inaccuracy were noted, as were methods for improving the quality of the data collected.

Some local law enforcement agencies found reporting to be burdensome. They claimed that offense reports are often incomplete, coding is time consuming, departments have too few staff to complete the forms, and some of the forms have internal problems. Reporting is further complicated by the fact that UCR is a support service within an operational unit of each agency, and therefore is assigned a low priority.

Many of those who collect and/or use UCR data indicated a strong preference for an incident-based system over the current summary-based system in which, they said, the data are too highly aggregated and too much information is unnecessarily lost. Proponents of incident-based reporting said that it provides a logical approach to addressing specific attributes of a victimization, allows better

responses to special requests, and would make the UCR more accurate. On the other hand, incident-based systems can be expensive: on-line transactions are costly, as are changes to software. Some suggested that at least a sample of anonymous individual-level data should be made available for analysis. Others recommended that states use incident data and report summary statistics to the federal system.

From responses to the UCR survey, we estimate that approximately 40 percent of law enforcement agencies already provide incident records to their state programs. Only 15 percent of these considered incident reporting to be more difficult than their previous summary reporting, and 47 percent said it is easier. Even among agencies reporting by the summary method, only one-quarter thought incident reporting would be more difficult.

Several sources argued that the UCR should switch from a census to a sampling approach, which they claimed would provide more accurate data and reduce cost.

The accuracy of UCR data is thought to vary by state (those with state programs are generally considered to have more reliable reporting) and by jurisdiction within a given state (with differences due to reporting, arrest, and recording policies and procedures). Besides underreporting, errors are said to result from misclassification, lack of uniformity in applying definitions, and, for on-line agencies, data entry errors. Some sources blamed high staff turnover for problems in data quality; others blamed the assignment to UCR responsibilities of civilians who are unfamiliar with law enforcement. One proffered solution was to hold one person in each department, most likely the UCR section head, accountable for the numbers and to require his or her signature on the reports. Overall, however, the quality of UCR data was felt to have improved steadily over the years.

Many sources viewed underreporting as a major problem. Crime is believed to be underreported by both victims and police. Reasons for police underreporting may include political or fiscal considerations, police administrative procedures, dispatchers' omitting certain incidents from the system, individual officers' reporting decisions, and misclassifications. Certain offenses are thought to be particularly vulnerable: rape (because of citizen nonreporting), larcenies (because stores decline to prosecute shoplifters), and simple assaults (if the disturbance is resolved at the scene with no continuing danger). One respondent saw little evidence of downgrading, asserting that people are too busy to juggle the figures.

Training was another important issue. Many noted the importance of training programs for those working on the UCR. Some thought there should be minimum training requirements for UCR clerks and certification requirements for UCR section heads. Others thought police officers should be trained to write offense reports, and chiefs should be trained in the meaning of UCR data and their utility as a planning tool. Still others suggested training for potential users (including, in particular, the news media) to understand the UCR.

Many observers have recommended periodic audits of UCR data. Some thought there should be a mandatory audit system at the state UCR level. Others noted that auditing could be performed on a sampling basis. One source suggested that the FBI audit the large police departments, perhaps a sample of 10 percent per year. Others thought audits should be conducted by each agency as part of its internal inspection program, while others thought they should be done by qualified outside groups. Police departments could be offered fiscal incentives to participate in

audits. Or, as an alternative to audits, more validation studies could be conducted to estimate the types and extent of errors in UCR data. Law enforcement agencies concurred that contributing agency reporting systems should be reviewed and certified to assure that they meet basic standards (59 percent agreed and another 26 percent were neutral). Forty-one percent agreed that audits should be conducted on a confidential basis; 32 percent were neutral on this point.

2.6 Other Issues

UCR contributors and users also offered opinions on the UCR Program's organizational location, suggestions for an advisory board or research center for the UCR, and concerns about the program's funding.

With regard to organizational sponsorship of the UCR, some would move it to the Bureau of Justice Statistics, claiming that the FBI lacks credibility because of the professional nature of the FBI's relationship with local police departments. Moving the UCR to BJS, they asserted, would reduce the emphasis on police-generated crime statistics, foster a broader criminal justice system focus, and pave the way for integrating the UCR with victimization studies. Others claimed that FBI sponsorship is critical to police participation.[6]

The suggestion was made to establish an advisory board to the UCR Program, with representatives of both large and small agencies or of various user groups. Another suggestion was to create a federally funded research unit associated with the UCR Program. Such a unit would serve as a clearinghouse for information on UCR data and assistance in using the data. A related suggestion was to assign responsibility for interpreting UCR data to a national crime research unit or academy of criminology.

Finally, a number of funding issues were raised. Some people thought that, since the UCR is a national program, some of its funding should come from the national level. State funding is said to be fragile and in need of supplements from the federal government. One source noted that at least some state programs are reluctant to accept federal funds, either for fear of becoming dependent or because too many strings are attached. At the same time, state UCR programs may find it hard to get state money if they are seen merely as a conduit to the federal program. One state program respondent suggested that the federal program buy information from state and local agencies. Particular concern was expressed about the means of funding modifications to the system. Some said that state and local agencies will need financial support to implement changes in the federal system.

The information obtained from interviews and surveys greatly assisted the process of developing recommendations for the National UCR Program described in the chapters that follow. The new system responds positively to most of the criticisms summarized here. Even in cases of conflicting opinions, it was often possible to design the new system so that different users will be able to analyze the collected data in such a way as to obtain their desired array of crime statistics. Not every critic of the current UCR system will be satisfied, but the design does reflect careful attention to the opinions of UCR contributors and users.

[6]The issue of organizational sponsorship at the federal level is not addressed in this study.

Chapter 3

OVERVIEW OF THE RECOMMENDED UCR SYSTEM

The National Uniform Crime Reporting Program was originally created to serve local law enforcement agencies by providing them with a widely accepted, national program for consistent reports on crime and law enforcement in the United States. Since its inception, the program has come to serve multiple purposes its creators may not have foreseen. The UCR data help meet the need of law enforcement agencies to report to the public on local conditions and trends in crime and arrests. The data are also used to compare conditions in different areas and jurisdictions, to provide state and national statistics on crime, and as a basis for operational, policy, and academic research into the nature and causes of crime and the effectiveness of law enforcement. In addition, the very existence of a national reporting program fosters further development of state and local police information systems.

Almost no one would deny the importance of any of these uses for UCR data. Nor do they need to be ranked. Although some would emphasize one aspect of the system more than another, all of these uses are fundamentally consistent with one another--the product of an effective national program of uniform crime reporting. Further, there is widespread recognition that the UCR has already made an enormous contribution in each of these areas. Even so, there is a clear consensus among users and contributors on four general areas for improvement to the current system.

First, the system should be expanded. Users of all types desire more information on Part II offenses than the data on arrests currently available. They also would like having more detailed data about criminal incidents, including victim characteristics, victim-offender relationship, type of location, time of day, day of week, use of force or weapon, and extent and nature of injury. Some want additional information about agencies and the jurisdictions they serve. This might include agency characteristics such as type of agency, annual budget, type of shift assignments used, and number of calls for services received, as well as jurisdictional characteristics such as demographic composition, number of households, and number of commercial establishments.

Second, the system should be flexible. The Hierarchy Rule provides a good example. Some users of UCR data like the current Hierarchy Rule; others would prefer that no hierarchy rule were used; and still others would like a hierarchy rule based on the most serious offense for each victim. Likewise, some users prefer the current unweighted Crime Index; others would prefer a weighted index using seriousness scores. Among those preferring seriousness scoring, different users might want to apply different sets of seriousness weights. The original system addressed these issues and made reasonable choices; a problem arises because not everyone would make the same choices. The only way to address such issues seriously is to design a system that permits users to apply their rule of choice.

Greater flexibility is also needed to allow the UCR to accommodate special studies. For example, the current UCR data provide no basis for examining the offense of parental kidnapping. The only way to develop information on parental kidnapping would be to change the reporting system, including new reporting forms, training and notification to contributing agencies, and data base modification. By the time this process was completed, the interest in parental kidnapping might have long

since subsided. Under some alternative kinds of systems, it would be relatively easy to retrieve additional information for a special study without modifying the UCR reporting system itself.

Third, the UCR Program must assure consistent and uniform reporting across jurisdictions and over time. This requires stronger quality assurance, including systematic audits to assess and document reporting accuracy.

Fourth, analysis and publication should be strengthened. Exact requirements depend on the specific need of the user, but include more extensive analysis and interpretation, fuller documentation of data collection and editing, and more extensive user services.

Finally, accomplishment of these objectives must be balanced against the requirement that the reporting burden on contributing agencies be reasonable. Such a balance is not possible without major structural changes to the UCR system.

The system we propose rests on two fundamental changes in the UCR Program. The first of these is implementation of a two-level reporting system.

3.1 Convert the UCR system to a two-level reporting system under which most agencies report basic offense and arrest information similar to that currently reported (Level I), while a comparatively small sample of agencies report much more extensive information (Level II).

Two-level reporting meets the needs for increased depth and scope of reporting while minimizing the burden imposed on contributors and on the state and national UCR programs. Level I is needed to provide a basic set of statistics for all jurisdictions and a geographically comprehensive data base. Level II is needed to provide much more extensive and detailed information.

The reporting requirements of the Level I component would be readily met by contributors to the current system. The sample of Level II agencies would be dominated by larger agencies, many of which already collect and automate the required data. Thus, the Level II component would impose relatively modest reporting burdens while providing critical information on the nature and extent of criminal offenses, victimizations, and police arrests and clearances.

The Level II reporting must be based on a sample of agencies. This is necessary to enable the use of Level II information to reflect actual patterns and levels of criminal activity and to assure that the Level II reports include a wide array of jurisdictions that local agencies can reasonably use for comparison. A basic sample of agencies for Level II would include most larger jurisdictions and a sample of smaller jurisdictions to permit estimation of national and regional patterns and trends in crime. Given the importance of the Level II data, state UCR programs should expand this sample to provide the basis for state-level estimates. Indeed, states may well wish to convert entirely to Level II reporting.

The second fundamental change--discussed in the next chapter--is conversion to unit-record reporting. This simply means that contributing agencies no longer submit summaries of the number of offenses and arrests in various categories. Instead, they submit a brief report for each offense or arrest. As discussed in later

chapters, this conversion to unit-record reporting is the keystone of a more flexible and expanded UCR Program with reasonable reporting burdens for contributing agencies. Indeed, once the conversion has been accomplished, there is reason to believe the agencies will not only find the UCR Program more useful, but, in many cases, will find their reporting burden is reduced.

Table 3.1 summarizes the differences between the current system and each of the proposed components. These differences are discussed briefly in the remainder of the chapter.

3.1 Level I Component

The Level I component is in many ways similar to the current system in the scope of information collected. Most agencies, probably 93 to 97 percent, would contribute to the component. The major differences from the current system are as follows.

First, as already noted, the Level I component would use unit-record reporting, in which records are submitted on individual criminal incidents and on individual arrests. This would replace the current system in which agencies report only summary totals of offense and arrest counts by category. As discussed in Chapter 4, this conversion to unit-record reporting provides a substantial increase in the power and flexibility of the UCR Program with only modest costs to federal or state governments or local contributing police agencies.

Second, as in the current system, the Level I component would include offense reports on Part I offenses only and arrest data on both Part I and Part II offenses. However, all other forcible sex offenses would be reported in addition to rape, and negligent manslaughter would be excluded. Also, attempts would be distinguished from actual occurrences, whenever such a distinction is meaningful. Aggravated assault would be redefined to distinguish more clearly between aggravated and simple assault.

Third, the current system's Hierarchy Rule, by which only the most serious offense occurring within a single incident is counted, would be essentially eliminated under the proposed system--all counts of all offenses against each victim would be included in the reporting. However, the Hierarchy Rule would still be used to determine the primary offense, listed first in the reporting. Thus, the Level I component would retain the current system's capacity to characterize an event in terms of a single crime, while providing greater flexibility in measuring total crime.

Fourth, two pieces of information would be added to reports on offenses in the Level I component. First, information on the type of victim would be collected, distinguishing among individual or household, business, and other victim types. Second, a data element would be added to distinguish offenses against residents from those against nonresidents, thereby allowing calculation of crime rates for the resident population, especially in jurisdictions with large influxes of tourists or daytime business commuters. Conversion to unit-record reporting would allow these data items to be added with minimal increase in contributor burden.

Fifth, the value of property stolen and recovered would be reported as under the current system, except that provision would be made to record "unknown" in appropriate cases.

Table 3.1

COMPARISON OF CURRENT AND RECOMMENDED UCR SYSTEMS

Characteristic	Current system	Recommended System	
		Level I component	Level II component
Target percentage of agencies	100	93-97	3-7
Type of reporting	summary	unit-record	unit-record
Offense types for which offense data are collected	Part I offenses	Part I offenses[a]	Part I and Part II offenses
Handling of attempted crimes	included in counts; not distinguished from actuals[b]	include in counts; distinguish from actuals	include in counts; distinguish from actuals
Use of Hierarchy Rule	yes	no[c]	no[c]
Classification of offense	current Part I and Part II definitions	current Part I definitions, with sharper definitions of aggravated assault and rape category broadened to include all forcible sexual offenses; refined Part II definitions	current Part I definitions, with sharper definitions of aggravated assault and rape category broadened to include all forcible sexual offenses; refined Part II definitions; detailed data allow alternative classifications as well
Collection of detailed incident data	limited	limited, but including type of victim (individual, business, or other) and resident/nonresident status	extensive, including victim type, victim characteristics, victim-offender relationship, use of force/weapon, type of weapon, nature/extent of injury, day of week/time of day, type of location, resident/nonresident status of victim
Collection of value of property stolen and recovered	records dollar values	record dollar values; include provision for recording "unknown"	record dollar values; include provision for recording "unknown"
Cross-referencing of cleared offenses to arrests	no	yes	yes
Agency and jurisdictional characteristics	number of employees; population size	number of employees; population-at-risk data	extensive set of characteristics[d]

[a]The rape category is broadened to include reporting of all forcible sex offenses; manslaughter is excluded.

[b]Except for attempted rapes and attempted forcible entry for burglaries; attempted homicides are counted as aggravated assaults.

[c]Except to determine the primary offense, which is recorded first.

[d]See Table 6.4.

Sixth, in contrast to the current system, a cleared offense would be linked to the arrest (or exceptional clearance) by which the offense was cleared. This would be accomplished by recording the incident identification number on the arrest record or exceptional clearance report. This approach should eliminate a number of problems in reporting clearances under the current system and lead to more accurate clearance data.

Finally, a few additional jurisdictional characteristics would be collected under the Level I component. These data would be collected from sources such as the U.S. Census Bureau, not individual law enforcement agencies, and would include information on demographic composition as well as the number of households, commercial establishments, and automobiles in the jurisdiction.

3.2 Level II Component

The Level II component represents a substantial expansion of data collection over and above the current system. However, only about three to seven percent of agencies, principally the larger ones, would be asked to contribute to this component.

As for the Level I component, reporting would be on a unit-record basis; each incident and each arrest would be reported individually, rather than on a summary basis as under the current system.

In the Level II component, Part II offenses as well as Part I Offenses would be reported. For each reported offense, a substantial amount of detail about the criminal incident would be collected, including victim characteristics, victim-offender relationship, type of location, time of day and day of week, use of force or weapon, and extent and nature of injury. As with both the current system and the Level I component, arrest data would be collected on both Part I and Part II offenses. The information reported on arrests would be the same under the Level II component as under the Level I component.

The handling of attempts, use of the Hierarchy Rule, classification of offenses, and cross-referencing of clearances to arrests also would be the same under the Level II component as under the Level I component. Attempted offenses would be distinguished from actual occurrences. The Hierarchy Rule would be essentially eliminated, in the sense that all offenses involved in a given incident would be reported. The current Part I and Part II definitions would remain the basis of classification, though all forcible sexual offenses would be included in Part I, and aggravated assault would be defined more explicitly. The detailed data collected under the Level II component would also allow other classification schemes to be used, such as the Crime Classification System being developed by the Police Executive Research Forum. Cleared offenses would be cross-referenced to corresponding arrest (or exceptional clearance) records.

Values for property stolen and recovered would be reported as dollar values, as under the current system. However, provision would be made to record "unknown" in cases where the property value is not known.

Finally, an array of agency and jurisdictional characteristics would be collected under the Level II component. Through an annual survey of law enforcement agencies participating in this component, information would be collected on agency type (e.g., municipal police, sheriff with full police responsibilities, sheriff with jail

and court responsibilities, county police, state police, transit authority, etc.), annual operating budget, salary ranges, type of shift assignment (fixed/rotating), type of patrol unit staffing (one or two officers), use of foot patrol, and number of calls for service, as well as other characteristics. Jurisdictional characteristics would be obtained through sources such as the U.S. Census Bureau or state agencies, and would include such items as the jurisdiction's demographic composition, number of households, number of commercial establishments (by type), and number of automobiles.

3.3 State Programs

State programs play an essential role in the recommended system. As both a primary user and an essential review and processing point in the network of data flow from local agencies to the National Program, they are critical to data collection and analysis. Indeed, they would be responsible for much of the increased quality assurance under the recommended system discussed in Chapter 7. In addition, state programs are aware of changes in state law and/or local conditions that might affect UCR reporting, and they can provide a level of feedback and interactive data editing with local agencies that would be impossible for the National Program.

Equally important, states play a key role in developing criminal justice policy in the United States. State UCR programs and Statistical Analysis Centers are critical to expanding and applying UCR data collection and analysis to meet state-specific needs.

The remainder of the report discusses the details of our recommendations and the reasons behind them.

Chapter 4

UNIT-RECORD REPORTING

One of the major design issues for the UCR system is the choice between a summary reporting system and a unit-record reporting system. In the current summary system, local law enforcement agencies report counts of offenses, clearances, and arrests, and totals of the value of property stolen and recovered in various categories. In a unit-record system, local agencies would submit separate records for each individual offense and arrest. Our recommendations are as follows:

4.1 Convert the entire UCR system to unit-record reporting in which local law enforcement agencies submit reports on each individual criminal incident.

4.2 Convert the entire UCR system to unit-record reporting in which local law enforcement agencies submit data on each individual arrest.

The type of record submitted under unit-record reporting could be either a machine-readable record, a coded reporting form, or a copy of an actual incident or arrest report.[1]

Conversion to unit-record reporting is the keystone of the new UCR system proposed in this report.[2] Indeed, it is safe to say that most of the enhancements suggested in later chapters could not be accomplished without this change. Accordingly, this chapter discusses the advantages and disadvantages included in simply converting the current UCR to a unit-record system. Later chapters show how further enhancements can build on unit-record reporting to create a more powerful and responsive UCR Program.

The basic advantages of a unit-record reporting system, discussed in Section 4.1, are increased reporting accuracy and vastly increased flexibility in collecting and presenting data. These advantages must be weighed against any increase in the reporting burden on local contributors or state and federal costs. In fact, as discussed in Section 4.2, law enforcement agencies appear to prefer unit-record reporting. Exploration of unit-record reporting under the current UCR, described in Section 4.3, explains why: conversion of the current UCR to unit-record reporting would not increase contributor burden; it would in fact be simpler for many agencies.

Unit-record reporting does require a material increase in data entry. The data flows required are described in Section 4.5. However, the additional data entry costs, described in Section 4.6, are not large. Indeed, as more departments automate, the additional entry costs promise to become almost trivial.

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[1] Submission of a copy of an actual report is not recommended for the national program. It would be used only where state programs prefer this approach.

[2] The term incident-based reporting is often used to describe what we refer to as unit-record reporting. We have used the latter expression since it is as applicable to arrest reporting as to incident reporting.

4.1 Advantages and Disadvantages of Unit-Record Reporting

There are a number of potential advantages to a unit-record reporting system. In particular, unit-record reporting is expected to increase the accuracy of reporting, to provide much greater flexibility in using and analyzing data, and to allow the collection of additional information at modest costs.

The current system has frequently been criticized with regard to data accuracy, and preliminary evidence from an analysis of audit data suggests that there is in fact substantial underreporting of Index offenses (see Section 7.5.6). Thus, a principal objective of the current redesign effort is to improve the system's accuracy. Unit-record reporting might increase accuracy in several ways:

- Using a computer rather than a clerk to perform the necessary additions should improve the accuracy of these computations.

- Including an identification number on each record makes it possible to reconcile and correct what has been recorded in ways not possible (or possible only with great difficulty) under the current system.

  Suppose, for example, that a UCR records clerk received a phone call while tallying a stack of offense reports directly on the monthly Return A form. After completing the phone call, the clerk forgot whether the assault incident on top of the stack had already been tallied and included with the 20 other assaults with a knife or cutting instrument. To resolve this problem under the current system, the clerk would have to go back through all of the cases for the month.

  In one of our site visits, a UCR clerk related how she maintained a tally of offenses as needed for UCR reporting and compared it at the end of each month with an independent tally maintained by one of the detectives. She indicated that if the two differed she would simply change hers to match his. There was no simple way to reconcile differences on a case-by-case basis.

  With unit-record reporting, inclusion of the incident number eliminates these problems. To determine whether the assault had been included in the first example, the clerk would simply look to see whether a report had been recorded with the incident number of the assault case. In the second example, the clerk would match the two tallies by incident number to find the source of error.

- More detailed edit checks can be performed with unit-record reporting. For example, edit checks could be used to detect such errors as classifying an incident as a pocket-picking when the type of property stolen was recorded as office equipment. Under the current system, such errors are not detectable because the nature of larceny (pocket-picking in this case) and the type of property stolen are recorded independently.

- By allowing missing value codes for individual incidents where information (e.g., property value) is missing, averages can be computed without needing to make the assumption that missing values are zero.

- By linking arrests to cleared offenses through corresponding identification numbers, clearance data might be made more accurate. This does require, however, determination of these incident numbers in order to complete the arrest reporting form.[3]

- Finally, use of incident numbers on the records may improve accuracy by improving audit capabilities. Both internal and external audits would be able to verify the various reported data elements linking incidents reported under the system back to the original offense reports from which they were generated.

A second major advantage of a unit-record reporting system is its increased analytic flexibility. Unit records provide an immediate capability to analyze all variables included in each incident record. For robberies, for example, one could cross-tabulate weapon use by premise type, premise type by type of property stolen, or even weapon use by both premise type and type of property stolen. None of these tabulations is possible under the current system, even though each of the individual data elements is recorded. Similarly, for burglaries, one could cross-tabulate any combination of type of burglary (forcible entry, unlawful entry without force, or attempted forcible entry), residential status, time of day, and type of property stolen. Under the current system, only the cross-tabulation of residential status and time of day is available. With arrest records, too, more analytic capability is provided by unit-record reporting. Specifically, it would be possible to obtain any desired cross-tabulation of the age, sex, race, and ethnic origin of the arrestee, whereas under the current system only age by sex is available.[4] Further, unit-record reporting allows arrest information to be linked to previously recorded information on the offense(s) involved, one of the features most desired by contributing police agencies.

Unit records also provide greater flexibility in performing special studies. If, for example, it were of national importance one year to obtain more detailed information on robberies committed with firearms, it would be possible to select a sample of the records of such offenses reported to police and to request agencies to submit additional data on the sampled cases. This enables UCR to track emerging issues on a timely basis without requiring major changes to the data collection system.

As discussed in Section 4.3, unit-record reporting may also be somewhat simpler for local agencies. If this is true, it would be a major advantage, as it is highly desirable to reduce the burden on local contributors.

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[3] This topic is addressed at length in Chapter 5.

[4] Age and sex cross-tabulation currently available is restricted by the age categories used on the Age, Sex, Race, and Ethnic Origin of Persons Arrested forms.

Another critical advantage of unit-record reporting is that it allows the collection of additional information, resulting in significant improvements to the system. As discussed in detail in Chapter 5, such improvements include distinguishing attempted offenses from actual occurrences, business from personal victims, and nonresident from resident victims, as well as collecting additional offense information on incidents involving multiple offenses and/or multiple victims. These improvements could not be made under the current summary system without substantially complicating and increasing the reporting burden on local contributors. With unit-record reporting, such enhancements can be accomplished with only modest additional contributor burden.

Of course, these advantages must be balanced against the disadvantages of conversion to unit-record reporting. One possible disadvantage is interruption of the time series of criminal incident and arrest data, series of much utility to criminal justice researchers. Discontinuities in the series would be created if, as intended, use of unit-record reporting produced more accurate data. Presumably, most would prefer greater data accuracy to maintenance of the time series. Further changes in quality assurance measures recommended in Chapter 7 would also create series discontinuities, so conversion to unit-record reporting would simply be contributing to the discontinuity. But, as discussed in Section 9.3, steps can be taken to estimate the size of any such discontinuity and correct for it in evaluating trends. Thus, potential interruption of the time series should not be an obstacle to conversion to unit-record reporting.

Another potential disadvantage is delay in obtaining summary counts of offenses and arrests in agencies without computerized systems. With the current summary system, each agency has the summary counts it submits to its state program or to the National Program. If incident data are submitted, an agency would either have to compute its own summary counts or wait until summary reports are returned to it by the state or national program. A few states currently do return summary counts to individual agencies. In the near future, it is expected that most mid-sized and large departments will have enough computer capability to provide the summary counts internally. In small departments, the number of offenses and arrests is small enough that counts can be obtained manually by the local agency with little effort. Nonetheless, some departments may well desire periodic (monthly or quarterly) reports based on incident and arrest records they submit. If the state program does not provide such reports, the National Program may need to. Though meeting this need may increase the workload at the national level, it should not be an obstacle to unit-record reporting.

The greatest potential disadvantage could be cost; unit-record reporting may be more costly than summary reporting. This topic is explored in this chapter by examining the workload involved in coding data at local agencies and comparing data entry costs under summary and unit-record reporting. As the discussion in Sections 4.4 and 4.6 makes clear, costs are not an obstacle to adoption of unit-record reporting.

4.2 Preferences of Law Enforcement Agencies

According to the results of the UCR Survey of Law Enforcement Agencies, 39 percent of agencies contributing to the UCR already submit incident-based reports. These departments strongly favor unit-record reports. Forty-eight percent of these indicated that submitting unit records is easier than previous summary reporting; another 58 percent indicated that submitting unit records was equally

convenient. Only three percent thought it was much more difficult.

Even departments that are not now under a unit-reporting system now seem willing to try it. Thus, in addition to the 39 percent of departments now under unit-record reporting, another 17 percent of departments do not now use incident reporting, but believe it would be easier. Overall, then, a majority of departments already use or would find it easier to use some version of the system we are recommending. Further, another 29 percent of agencies do not now use unit-record reporting but believe that unit-record and summary reporting would be equally convenient. Among departments using summary reporting, 14 percent think unit-record reporting would be more difficult and another 11 percent think it would be much more difficult.

Somewhat surprisingly, small departments seem to have a slightly stronger preference for unit-record reporting than do large departments, although a majority of departments of every size approved the change. Table 4.1 shows the responses of law enforcement agencies by jurisdiction size.

The strong support from the smallest cities reminds us that, although we tend to think of automation as necessary for unit-record reporting, it is also a practical system in many nonautomated departments. The average police department serving a city under 10,000 reports fewer than 13 Index offenses per month. These agencies are probably correct in their judgment that submitting 13 records with a few items checked would be easier than completing the tally book and summary forms required for summary reporting.

Large jurisdictions with populations in excess of 100,000 are generally automated even if they do not submit incident data to the UCR Program. At the time of our survey, 86 percent said that they had data processing systems in place for crime records, and another 10 percent had plans to buy a computer within the next two years, for a total of 96 percent of all departments serving jurisdictions with over 100,000 people. Moreover, two-thirds of the mid-sized (10,000 to 100,000) departments also have or plan to have data processing systems within the next two years. (Twenty-eight percent have them already.) Thus, we see strong support and immediate feasibility for a total conversion of uniform crime reporting to a unit-record basis.

The system's eventual operating costs could have been a factor influencing desirability. The effects on total system cost depend on detailed decisions to be made as the new UCR is completed. In Section 4.6, we provide a calculation indicating that annual data entry costs would not be prohibitive for a unit-record system similar to the current system. Thus, the decisive factors, in our analysis, are issues of quality, rather than cost: the greater analytic power of unit-record reporting, and the potential improvements in reliability through reduced clerical burden and greater quality assurance capability.

4.3 A Unit-Record Reporting System Equivalent to the Current System

Table 4.2 describes what a unit-record system equivalent to the current summary system might look like. The system is equivalent in the sense that, aside from identification numbers, it collects precisely the same information. No consideration is given in this chapter to expanding of the information collected beyond that of the current system. For example, both systems collect information for robberies on

Table 4.1

ESTIMATED PERCENTAGES OF AGENCIES USING OR SUPPORTING UNIT-RECORD REPORTING

Use or prefer to use	Population of Jurisdiction			All agencies[a]
	Under 10,000	10,000-100,000	Over 100,000	
Currently use	40	36	29	39
Use or think easier to use	58	51	40	56
Use or think easier or same to use	90	77	60	85

Source: UCR Survey of Law Enforcement Agencies, conducted by Abt Associates Inc. 1984.

[a]Includes special police departments such as transit police and state police.

Table 4.2

RECORD SPECIFICATION FOR A UNIT-RECORD REPORTING SYSTEM EQUIVALENT TO CURRENT SYSTEM

Criminal Homicide[a]

Incident number
Type of homicide (murder and nonnegligent manslaughter vs. negligent manslaughter)
Number of victims
Number of offenders
Age of victim[b]
Sex of victim[b]
Race of victim[b]
Ethnicity of victim[b]
Age of offender[c]
Sex of offender[c]
Race of offender[c]
Ethnicity of offender[c]
Use of weapon[c]
Relationship of victim to offender[d]
Circumstances
Value of property stolen by type of property
Value of property recovered by type of property
Unfounded status (1 = unfounded; blank otherwise)
Clearance status (1 = cleared by arrest or exceptional means; blank otherwise)
Youthful clearance status (1 = if clearance involves only persons under 18 years of age; blank otherwise)

Rape

Incident number
Number of victims
Actual vs. attempted (0 = attempted; 1 = actual)
Value of property stolen by type of property
Value of property recovered by type of property
Unfounded status
Clearance status
Youthful clearance status

Robbery

Incident number
Use of weapon (1 = firearm; 2 = knife or cutting instrument; 3 = other dangerous weapon; 4 = strong arm)
Premise type (1 = highway; 2 = commercial house; 3 = gas or service station; 4 = convenience store; 5 = residence; 6 = bank; 7 = miscellaneous)
Value of property stolen by type of property
Value of property recovered by type of property
Unfounded status
Clearance status
Youthful clearance status

Assault

Incident number
Number of victims
Type of assault (1 = firearm; 2 = knife or cutting instrument; 3 = other dangerous weapon; 4 = hands, fists, feet, etc.--aggravated injury; 5 = other assaults, simple, not aggravated)
Unfounded status
Clearance status
Youthful clearance status

Burglary

Incident number
Type of burglary (1 = forcible entry; 2 = unlawful entry--no force; 3 = attempted forcible entry)
Residential status (1 = residence; 2 = nonresidence)
Daytime status (1 = day; 2 = night)
Value of property stolen by type of property
Value of property recovered by type of property
Unfounded status
Clearance status
Youthful clearance status

Table 4.2 (continued)

Larceny-Theft

Incident number
Type of theft (codes A to I)
Value of property stolen by type of property
Value of property recovered by type of property
Unfounded status
Clearance status
Youthful clearance status

Motor Vehicle Theft

Incident number
Number of stolen vehicles
Type of motor vehicle (1 = auto; 2 = truck or bus; 3 = other)
Value of property stolen by type of property
Value of property recovered by type of property
Type of recovered vehicle (1 = stolen locally, recovered locally; 2 = stolen locally, recovered by other jurisdiction; 3 = stolen in other jurisdiction, recovered locally)
Unfounded status
Clearance status
Youthful clearance status

Arson

Incident number
Property classification (A to J)
In-use status (0 = uninhabited, abandoned, or not normally in use; 1 = other)
Estimated value of property damage
Unfounded status
Clearance status
Youthful clearance status

Law Enforcement Officers Killed or Assaulted (LEOKA)

Incident number
Felonious act vs. accident or negligence (for officers killed only)
Type of activity (codes 1 to 11)
Type of weapon (codes A to E)
Type of assignment (codes F to L)
Personal injury status (0 = no; 1 = yes)
Time of day (0 = a.m.; 1 = p.m.)
Clearance status

Arrests (Adult)

Identification number
Classification of offense
Sex of arrestee
Age of arrestee
Race of arrestee
Ethnic origin of arrestee

Arrests (Juvenile)

Identification number
Classification of offense
Sex of arrestee
Age of arrestee
Race of arrestee
Ethnic origin of arrestee
Police disposition (for juveniles) (1 = handled by Department and released; 2 = referred to juvenile court; 3 = referred to welfare agency; 4 = referred to other police agency; 5 = referred to criminal or adult court)

[a]Note that the current system uses incident-based records on the SHR. Three variables (weapon, relationship of victim to offender, and circumstances) are recorded in narrative form on the SHR, but are here considered to be coded into categories.

[b]Repeat for each victim up to some maximum number.

[c]Repeat for each offender up to some maximum number.

[d]Repeat for each victim-offender combination.

weapon use, premise type, type of property, and the value of property stolen and recovered; it is only the manner in which the data are collected that differs.

We consider an equivalent system so that we can compare the burden on local contributors and system costs under unit-record and summary reporting. The hypothetical system discussed in this chapter should not be confused, however, with either of the two components of the UCR system that we actually recommend for implementation. These are discussed in Chapters 5 and 6.

The specification in Table 4.2 requires a different record type for each of the eight Part I offenses. In addition, another special record type is used in lieu of the current Law Enforcement Officers Killed or Assaulted (LEOKA) form to record incidents in which law enforcement officers are assaulted. Finally, two more record types (for adults and juveniles) are used to record arrests for all Part I and Part II offenses.

In order to be entirely equivalent to the current system, the specification in Table 4.2 provides for recording values for property stolen and recovered for each of 11 property types whenever property values are recorded. The reporting forms could be simplified substantially by including a single field in which to record the principal type of property data in addition to one field each for the values of property stolen and recovered.

4.4 Comparison of Summary Reporting with Unit-Record Coding

In this section, we compare reporting under the current summary system with reporting under a unit-record system. As an example, we examine the Part I offense that occurs most frequently--larceny-theft. The discussion considers only departments operating manual systems, as virtually all (if not all) automated departments already use incident-based systems. It is assumed that the department uses the Tally Book: Return A and the Supplementary Report of Offenses (henceforth referred to simply as the Tally Book). (If the Tally Book is not used, departments using a manual system would have to use something similar to produce the necessary summary counts.) Exhibits 4.1 through 4.4, reproduced from the Tally Book, are provided here for the convenience of the reader.

Such a department would use a procedure roughly as follows:

1) score a tick to record the offense in column 2 on the top of Exhibit 4.1;

2) score a tick in column 3 if the offense is unfounded;[5]

3) score a tick in column 5 if the offense is cleared and, if the clearance involves only persons under 18 years of age, in column 6 as well;

[5]Column 4 can be calculated on a monthly basis as the difference between Columns 2 and 3.

Exhibit 4.1

LARCENY-THEFT

1 Classification of offenses	2 Offenses reported or known to police (include unfounded and attempts)	3 Unfounded, i. e., false or baseless complaints	4 Number of actual offenses (column 2 minus column 3) include attempts	5 Total offenses cleared by arrest or exceptional means (includes col. 6)	6 Number of clearances involving only persons under 18 years of age
6. LARCENY-THEFT (Except Motor Vehicle Theft) TOTAL					

For an analysis of Larceny by value of property stolen, count the number of offenses and total value of Larcenies $200 and over, $50 to $200, and under $50 in value and enter in item 6 on the Supplement to Return A. Enter all attempted larcenies in "under $50" with a zero value.

	Agency Case Number	(A) $200 and over	(B) $50 to $200	(C) Under $50
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				

Exhibit 4.2

LARCENY-THEFT (TYPE OF THEFT)

6X CATEGORIES

Enter "$0" if nothing is stolen

	Agency Case Number	A Pocket Picking	B Purse Snatching	C Shoplifting	D From Motor Vehicles (Except E)	E Motor Vehicle Parts and Accessories	F Bicycles	G From Buildings Except (C and H)	H From any Coin-operated Machine (Parking meters, etc.)	I All Other
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										

Exhibit 4.3

VALUE OF PROPERTY STOLEN
(GROUPED AS TO TYPE OF PROPERTY)

Explanation: List under the appropriate heading the value of property stolen in connection with Part I Offenses. List only that property stolen from within your jurisdiction. When all entries from the month have been made, obtain a total for each column and transfer the figures to the Supplement to Return A. Page 1

Currency Notes Etc. A		Jewelry and Precious Metals B		Clothing and Furs C		Locally Stolen Motor Vehicles D		Office Equipment E		TVs Radios Stereos Etc. F		Firearms G		Household Goods H		Consumable Goods I		Livestock J		Misc. K	
Case #	Value	Case #	Value	Case	Value	Case #	Value	Case #	Value	Case #	Value	Case #	Value	Case #	Value	Case #	Value	Case #	Value	Case	Value

Exhibit 4.4

VALUE OF PROPERTY RECOVERED
(GROUPED AS TO TYPE OF PROPERTY)

Explanation: List under the appropriate heading the value of property recovered, which was stolen in connection with Part I Offenses committed in your jurisdiction. Exclude property recovered for other departments. Include property recovered by other jurisdictions which was originally stolen in your jurisdiction. When all entries for the month have been made, obtain a total for each column and transfer the figures to the Supplement to Return A, Page 1.

Currency Notes Etc. A		Jewelry and Precious Metals B		Clothing and Furs C		Locally Stolen Motor Vehicles D		Office Equipment E		TVs Radios Stereos Etc. F		Firearms G		Household Goods H		Consumable Goods I		Livestock J		Misc. K	
Case =	Value	Case =	Value	Case =	Value	Case =	Value	Case =	Value	Case =	Value	Case =	Value	Case =	Value	Case =	Value	Case =	Value	Case =	Value

4) score the value of property stolen under the appropriate monetary category (greater than or equal to $200, between $50 and $200, or less than $50) on the bottom of Exhibit 4.1;

5) score the value of property stolen under the appropriate type of theft category (e.g., pocket-picking, purse-snatching, etc.) in Exhibit 4.2;

6) score the total value of property stolen by type of property in Exhibit 4.3; and
7) finally, score the value of any property recovered by type of property in Exhibit 4.4.

In addition, the agency case number may be recorded repeatedly, as the UCR Handbook (1984) suggests, "to trace or double check for proper tallying." The Return A and Supplement to Return A used to report monthly summary offense counts under the current system can then be readily completed by tallying and totaling the entries on these tables and recording the resulting figures on the monthly reporting forms.

Alternatively, with a unit-record system that collected entirely equivalent information, one would record all data on a single form and perhaps on only one line of one form, as shown in Table 4.3. For each incident, one would record the incident number, the type of theft code (codes A to I, as shown on Exhibit 4.2), the value of property stolen (codes A to K, as shown in Exhibit 4.3), and the value of property recovered (also codes A to K). Check marks or x's would be used in the final three columns to indicate offenses that are unfounded, cleared, and cleared involving only persons under 18 years of age.

In both cases, the person recording the data needs to determine the same items--the type of theft, the type of property stolen, and the value of property stolen. Aside from the incident number, four variables need to be recorded on three separate pages of the Tally Book with the summary system, as opposed to only three variables on a single page with the unit-record system. This difference occurs because the summary system must enter property value twice in order to tabulate of property value by theft category and property value by type of property. Unit records do not require such duplication because all three pieces of information are linked to each other in the single record.

The unit record does require entry of the incident number, which makes the total required entries equal. However, while incident numbers are not strictly required for the summary system, the Handbook does suggest recording the case number four different times for larcenies. If the incident number were recorded whenever suggested with the summary system, it would be recorded three times; with the incident system it is necessarily recorded only once.

Finally, at the end of the month, four additions are required with the summary system, but none with the incident system. For the reporting of an offense, it thus appears that the unit-record system would be simpler than summary reporting for a department that operates a manual system.

Handling of unfoundings after recording of the initial incident should also be somewhat simpler under unit-record reporting. Under the current system, unfoundings are tallied in the top table of Exhibit 4.1 and added at the end of the month. There is

Table 4.3

LARCENY-THEFT INCIDENT REPORTING FORM

Incident number	Type of theft A = pocket picking B = purse snatching C = shoplifting D = from motor vehicle E = motor vehicle parts & accessories F = bicycles G = from building H = from coin-operated machine I = other	Stolen/ recovered	Value of property										Unfounded	Cleared	Cleared, under 18 only
			Currency	Jewelry and precious metals	Clothing and furs	Office equipment	TVs, radios, stereos, etc.	Firearms	Household goods	Consumable goods	Livestock	Miscellaneous			
		Stolen													
		Recovered													
		Stolen													
		Recovered													
		Stolen													
		Recovered													
		Stolen													
		Recovered													
		Stolen													
		Recovered													

Note: This form is a sample for discussion purposes only and is not recommended for actual use.

no linking of this tally with the tally of the original incident. However, the UCR clerk would also need to delete other tallies as appropriate according to the type of offense. For an unfounded larceny, it would be necessary to delete tally entries indicating the value category (bottom of Exhibit 4.1), type of theft (Exhibit 4.2), value of property stolen (Exhibit 4.3), and conceivably value of property recovered (Exhibit 4.4). With a unit-record system, unfoundings would be handled either by entering an unfounded code on the original incident report form or by creating an update record consisting only of the incident number and the unfounding code.

Consider the handling of clearances, one of the data elements of the current system most subject to criticism. Under the current system, clearances are recorded in the Tally Book in the table shown here at the top of Exhibit 4.1 as part of incident reporting. No specific method is provided to keep track of whether a given offense has been cleared, so as to prevent a subsequent arrest from clearing the offense a second time. Under unit-record reporting, clearances could be handled in an analogous fashion by recording them on the incident reporting forms in the same way that unfoundings are recorded. Those clearances known at the time of recording the incident could be noted on the incident reporting form; those occurring later would be entered into the system via an update record.

Alternatively, clearances could be identified based on arrest reporting, although exceptional clearances would have to be handled by some other means. With unit-record reporting of arrests that includes related incident numbers, clearances by arrest could be determined using a computer to count the number of unique incident numbers in each offense class. Exceptional clearances could be handled by means of a separate exceptional clearance record, similar to an arrest record, that would indicate related incident number(s). (The handling of clearances under the recommended system is discussed in Chapter 5.)

Recovered property would be handled similarly under the two systems. Under the current system, the value of the property recovered is recorded by type of property in the Return A Tally Book in the table shown as Exhibit 4.4. Provision is made for the incident number to be recorded, although this is not required. Under a unit-record system, property recovered shortly after the incident could be recorded on the same form. Recoveries occurring after the form had been transmitted would have to be handled through an update or correction of the incident record. Since property is usually recovered either soon or not at all, reporting would usually be as simple under the unit-record system as under summary reporting.[6]

Finally, consider the difference between the current summary arrest reporting system and a unit-record arrest reporting system. Under the current system, an agency that uses the Tally Sheets (Age, Sex, Race and Ethnic Origin of Persons Arrested) will record three tallies for each arrest--one to indicate the age category and sex of the arrestee, a second to indicate the race of the arrestee, and a third to show ethnic origin. The placement of these entries indicates the offense classification. For juveniles, an additional tally is used to record the police disposition (e.g., handled within department and released, referred to juvenile court or probation department, etc.). At the end of each month the tally sheets must be totaled and the totals transferred to the Age, Sex, Race, and Ethnic Origin of Persons Arrested reporting forms.

[6]If, as shown here, property recoveries were to be linked with offenses, then later recoveries would require looking up the original offense number.

Table 4.4 shows what a reporting form for a unit-record adult arrest reporting system might look like. Each arrest would be represented by a single record. Principal differences in recording are the inclusion of identifying numbers associated with each arrest and the linking of arrests to incidents by recording incident numbers on arrest reports (if the identifying number for the arrest is not also the incident number). Also, age (in years) would be recorded directly rather than coded into categories. Sex, race, and ethnic origin would be indicated by checking the appropriate column under each of the corresponding headings. (For juveniles, additional columns would be provided indicating police disposition.)

Aside from identification numbers, the same information must be determined in both systems--the offense classification and the age, sex, race, and ethnic origin of the arrestee. The unit-record system does require the additional recording of the arrest identification number. However, it does not require the monthly totaling of tallies both within cells of the form and across cells to obtain various totals across categories (e.g., of the sale or manufacture of drugs). Again, unit-record reporting appears to be somewhat simpler for local agencies than the current summary reporting system.

4.5 Data Entry and Transmission

The flow of data would be substantially different under a unit-record reporting system than under the current system and would depend on the type of state UCR program.

4.5.1 States with Automated UCR Systems

The entry and transmission of data in states with automated UCR programs are shown in Figure 4.1. Local agencies with manual systems could transmit data to their state agency on hardcopy incident/arrest coding forms (such as Tables 4.3 and 4.4), in which case the state agency would enter the data. Alternatively, local agencies could use direct entry into a state computer, if the state program provided this capability. Local agencies with automated systems would ideally submit data to their state programs in machine-readable form, either by sending a magnetic tape or floppy disc or via phone lines. Most large agencies would presumably submit a tape. Agencies using microcomputers could submit data on floppy discs, if the state program had the capability to read the disc, or via phone lines using a modem hook-up to the microcomputer. However, in small agencies with few reported offenses, it may be simpler and less costly to mail a hardcopy listing of individual offenses and arrests to the state agency, which would then reenter the data and send a copy to the National Program.

4.5.2 States with Manual UCR Systems

The entry and transmission of data in states with manual UCR systems are shown in Figure 4.2. In these states, the data processing is done by the National Program instead of at the state level, with feedback to the state program to meet its reporting requirements. As in states with automated state programs, local agencies with manual systems could send hardcopy or machine-readable data or they could direct-enter the data to the National UCR Program. Hardcopy or machine-readable data sent to these state programs would be forwarded to the national level for entry,

Table 4.4

ADULT ARREST UNIT-RECORD REPORTING FORM

Arrest identification number	Offense classification[a]	Age	Sex		Race				Ethnic origin		Related incident numbers
			Male	Female	White	Black	Am. Indian or Alaskan native	Asian or Pacific Islander	Hispanic	Not Hispanic	

Note: This form is a sample for discussion purposes only and is not recommended for use.

[a]Select one of codes 01a to 27 as shown on current Age, Sex, Race and Ethnic Origin of Persons Arrested form. Codes representing totals or subtotals (i.e., 18, 180, 185, and 19) should not be used.

Figure 4.1

DATA ENTRY AND TRANSMISSION: STATES WITH AUTOMATED UCR PROGRAM SYSTEMS

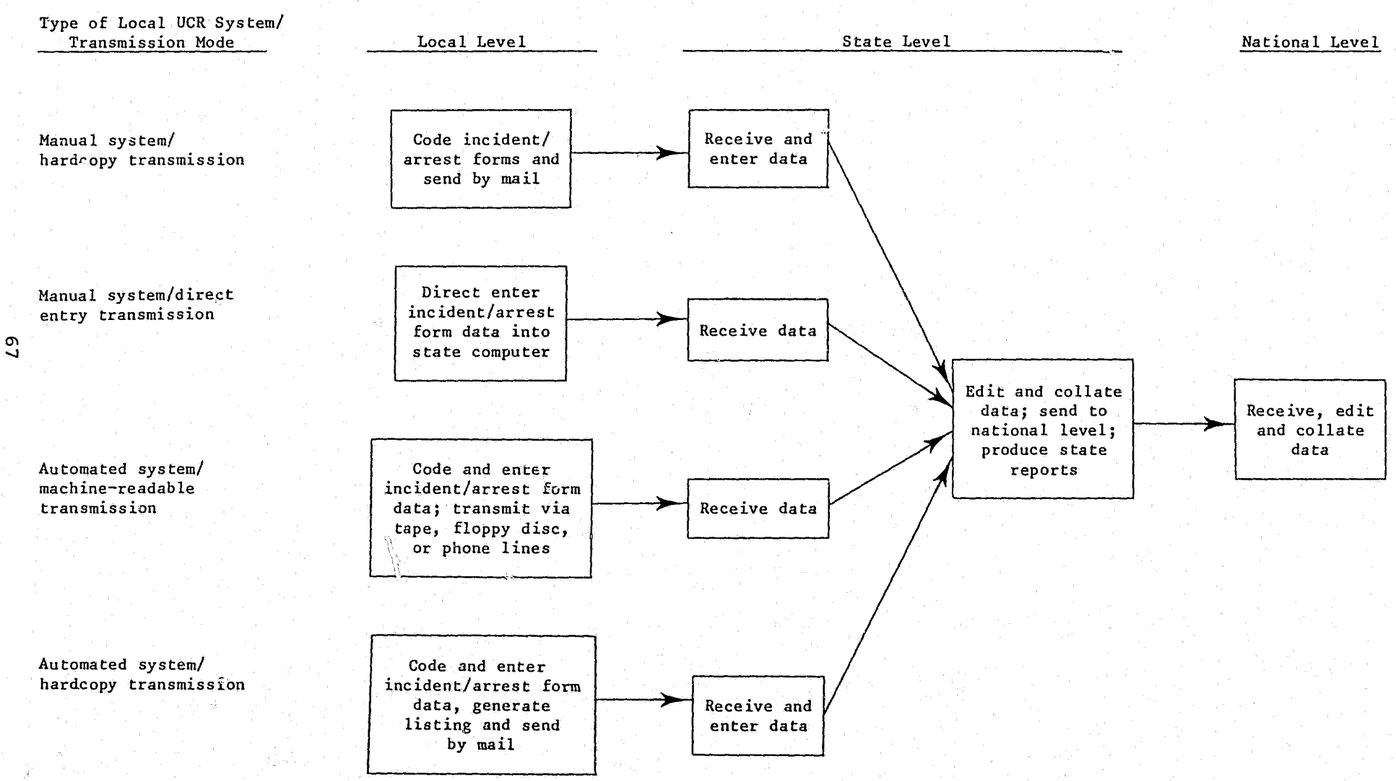
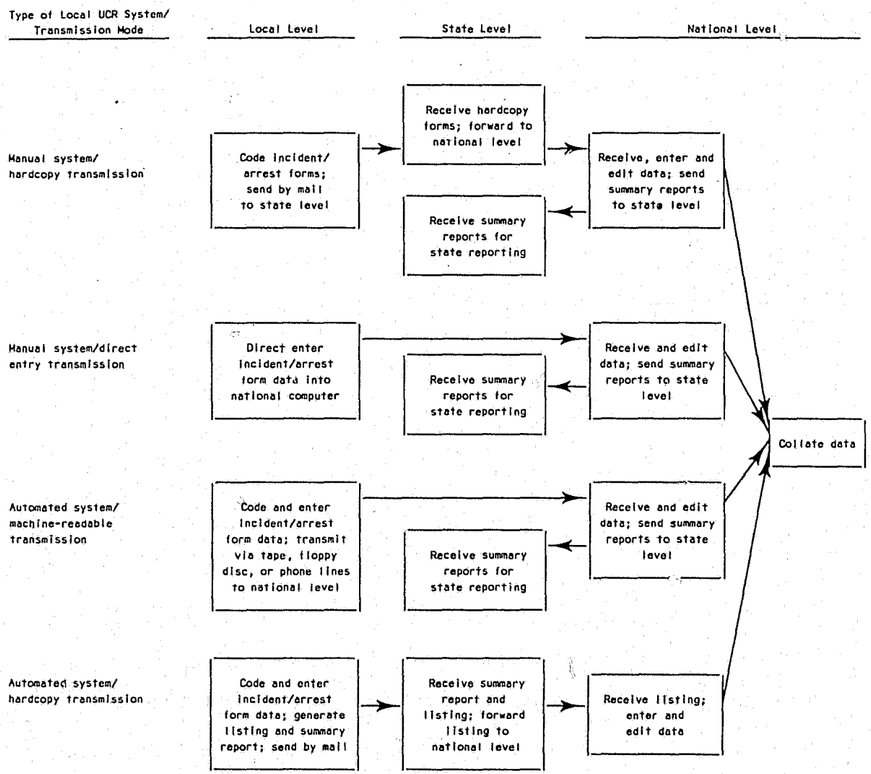


Figure 4.2

DATA ENTRY AND TRANSMISSION: STATES WITH MANUAL UCR PROGRAM SYSTEMS



and summary reports would be produced and returned to the state level for state reporting purposes. Direct entry at the local level, if this capability were provided by the National Program, would be entered into a national computer from which, again, summary reports would be produced and returned to the states. Local agencies with automated systems would generally transmit machine-readable data directly to the national level, which would have to produce and return summary reports to the state program. Again, for small agencies, it may be less costly for the agency simply to submit hardcopy computer listings of individual offenses and arrests and computer-generated summary reports. These would be sent to the state program, which would forward the listings of offenses and arrests (and perhaps a copy of the summary report as well) to the national level.

While unit-record reporting is feasible in states with manual UCR programs, we strongly recommend that the National Program take steps to encourage and facilitate the implementation of automated systems in these states. Automated state programs can provide more rapid feedback to contributors and improve data quality.

4.5.3 States without UCR Programs

In states without any UCR program (See Figure 4.3), local agencies would operate precisely as they would in states with automated UCR programs except that the initial transmission of data would be to the national rather than the state level. In these states, too, we strongly recommend that the National Program encourage and facilitate the implementation of automated state UCR programs.

4.5.4 Local Systems on Microcomputers

The above discussion provides three options for local agencies with systems on microcomputers--submission of a floppy disc, transmission via phone lines, and mailing of hardcopy printouts. Several options are provided because, at least with current technology, state programs and the National Program are not likely to have the capability to read floppy discs from all local microcomputers. Discs differ in many ways--size, density, bytes per sector, storage on one or both sides, and so forth--and disc readers can read only the one type of disc for which they were designed. Local agencies can use, and undoubtedly would be encouraged to use, one of perhaps several specific microcomputers for which the state and/or national program would maintain a disc reader. But under a voluntary system, some agencies will no doubt use microcomputers with discs that are not readable by their state agency. In such cases, the local agency can either transmit machine-readable data by phone, using a modem, or simply send hardcopy printouts generated by the microcomputer to the state program to be reentered by state UCR staff.

4.6 Costs of a Unit-Record System

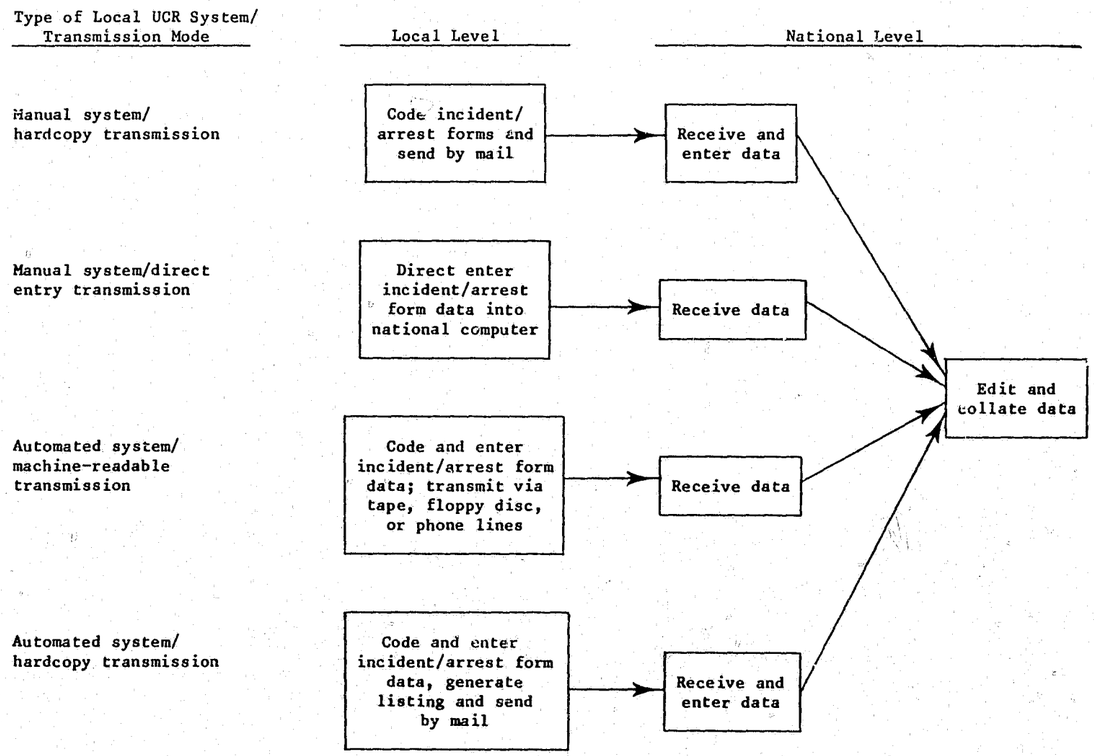
An important issue to be considered in choosing between a summary and a unit-record system is cost. In this section, we consider the cost component that was thought potentially to threaten the feasibility of a unit-record system--data entry costs. These costs were expected to be much higher under unit-record reporting because of the substantially greater number of data elements that need to be automated under such a system. As will be seen, however, these costs appear not to be as great as one might imagine, especially if one considers the marginal costs of entering

CONTINUED

1 OF 4

Figure 4.3

DATA ENTRY AND TRANSMISSION: STATES WITHOUT UCR PROGRAMS



data over and above those that would be incurred under the current system. In the remainder of this section, we examine both the total and the marginal costs of data entry under a unit-record system. For this purpose we use 1982 data without attempting to project the number of records to be handled in future years.

4.6.1 Total Data Entry Costs

The total cost of data entry for the unit-record system described in this chapter is estimated to be about one and one-half million dollars. This figure is obtained by first estimating the number of characters to be entered (see Table 4.5) and then examining the costs of entering and verifying the data (see Table 4.6). These costs would be shared, of course, among local agencies, state programs, and the National Program.[7]

Table 4.5 provides estimates of the number of characters to be entered for each type of record, including incident records, LEOKA records, arrest records, and records to modify previously submitted records. The first column indicates the approximate number of characters per record, which ranges from a low of 8 for assaults to a high of 25 for criminal homicide. The second column indicates the number of records of each type, based principally on Crime in the United States, 1982. The final column, which is the product of the first and second columns, shows that the approximate number of characters to be entered is about 400 million. Sixty-one percent of these are for arrest records and 36 percent are for offense records, the bulk of the latter being for larceny and burglary.

The cost of entering the characters is estimated in Table 4.6. Each of the 400 million characters must be entered and verified,[8] so that about 800 million keypunch strokes are required. At a keypunch rate of about 8,000 strokes per hour for a well-laid-out form, this would require about 100,000 hours. At a keypunching cost of about $15 per hour, this would result in a total data entry cost of about one and one half million dollars.

4.6.2 Marginal Data Entry Costs

The marginal data entry costs for the system described in this chapter--the costs over and above the entry costs that would be incurred whether or not the national system used unit-record reporting--would be far less than the total data entry costs. There are several reasons for this:

- Fourteen states have fully automated or partially incident-based systems, each of which includes all of the data elements needed for the system equivalent to the current system and described in this chapter.

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[7]No attention is given here to the division of costs among these entities, as our purpose is only to learn the magnitude of the total cost.

[8]One hundred percent verification is assumed throughout.

Table 4.5

ESTIMATED NUMBER OF CHARACTERS TO BE ENTERED IN A UNIT-RECORD REPORTING SYSTEM

Type of record	Estimated number of characters per record	Number of records 1982[a] (in thousands)	Approximate total number of characters (in thousands)
Incident/offense			
Criminal homicide	25	21	525
Rape	10	78	780
Robbery	10	537	5,370
Assault[b]	8	1708	13,664
Burglary	12	3,416	40,992
Larceny-theft	10	7,108	71,080
Motor-vehicle theft	16	1,048	16,768
Arson	12	87	1,044
LEOKA	14	56	784
Arrest	13	12,136	242,720
Update/modify	7	1,295[c]	9,100
Total	-	27,490	402,827

[a]Based on Crime in the United States, 1982, Tables 1 and 23 and p. 244.

[b]Includes both simple and aggravated assault.

[c]Number is based on the assumption that number of modifications is equal to 10 percent of number of offense records.

Table 4.6

ESTIMATED COST OF DATA ENTRY FOR A UNIT-RECORD REPORTING SYSTEM

Approximate number of characters to be entered initially	400,000,000 characters
Approximate number of characters to be verified	400,000,000 characters
Total number of strokes required	800,000,000 strokes
Data entry rate	8,000 strokes per hour
Required number of hours	100,000 hours
Approximate cost for keypunch operators	$15 per hour
Estimated total cost of data entry	$1,500,000

- Many local agencies, especially large ones, already enter data for their own automated systems, independent of any state or national program.

- The current summary system includes substantial data entry costs that would not be incurred were an incident-based system to be used.

Analysis of responses from the UCR Survey of Law Enforcement Agencies indicate that much incident information is already computerized. Of the approximately 12 million annual Part I offenses, at least 68 percent are currently computerized and an additional 20 percent are planned for computerization by 1987. These figures include automation of local agency hardcopy offense records by current state UCR programs (about four percent of offenses). Further, arrest records are computerized with approximately the same frequency as offense records, according to the survey results. Thus, within a very short period the vast majority of both offense and arrest records will be automated, and the marginal annual cost of entry of the nonautomated records would likely be less than 12 percent of $1,500,000, or $180,000.

4.7 Feasibility of a Unit-Record Reporting System

A unit-record reporting system offers a number of clear advantages. It should:

- increase data accuracy;

- provide more analytic flexibility;

- allow timely response to emerging issues through the conduct of special studies; and

- allow collection of additional data elements that substantially improve the system without making it overly cumbersome.

At the same time, the potential obstacles appear not to be serious. Data on floppy discs of types that a state program cannot read can be transmitted by phone line or on hardcopy listing to be reentered. The total cost of data entry, while not small, would certainly not rule out use of unit-record reporting. More to the point, the marginal cost of entering data not already automated by local agencies is likely to be quite small indeed, especially after a few more years of increasing automation.

In this chapter, we have considered a hypothetical UCR system, equivalent in information coverage to the current summary system, solely for the purpose of examining unit-record reporting. Once the decision to adopt unit-record reporting is made, a foundation is laid for further enhancement to the UCR. Thus, we now set aside simple conversion of the current system and move on to discuss further enhancements in the chapters that follow.

Chapter 5

UNIFORM CRIME REPORTING: LEVEL I

The proposed new UCR system would include two reporting levels. Level I agencies would contribute information similar to that collected under the current system, but in unit-record form. Level II agencies would contribute more extensive information--including the information required of Level I agencies. About 95 percent of agencies would report under the Level I system.

In this chapter we discuss data collection for the Level I component of the recommended UCR system. The primary objectives of the Level I component are twofold:

- to provide a basic set of accurate and comparable crime statistics for all jurisdictions in the United States; and

- to provide a geographically comprehensive national crime data base.

Our recommendations for data collection for the Level I component are to collect the same data elements as under the current system, but using unit-record reporting, and with the following additional modifications:

5.1 Retain data collection for Part I offenses only, but eliminate negligent manslaughter altogether and broaden the rape category to include all forcible sexual offenses in Part I.

5.2 Distinguish attempted from completed offenses.

5.3 Report other distinct offenses occurring within a criminal incident, in addition to the most serious offense as determined by the Hierarchy Rule; retain the Hierarchy Rule to determine the most serious offense for each victim within a criminal incident.

5.4 Redefine aggravated assault more explicitly in terms of the use of weapons and the extent of injury.

5.5 Collect additional information about homicides.

5.6 Distinguish among crimes against businesses, crimes against individuals or households, and crimes against other entities.

5.7 Distinguish crimes against residents of a jurisdiction from crimes against nonresidents, in order to be able to adjust for large influxes of nonresidents either as daytime business populations or as tourists.

5.8 Collect value of property stolen by dollar value and provide for the value to be indicated as missing for cases in which it is not known.

5.9 Record related incident numbers on each arrest report and submit reports on exceptional clearances in order to increase the accuracy of clearance data.

It is important to recognize that these recommendations are predicated on the adoption of both the recommendation to convert to unit-record reporting and the creation of the Level II system to collect information on Part II offenses and substantially more detailed incident data. Without unit-record reporting, adoption of the recommendations for the Level I component would be infeasible. It would be extremely difficult to modify the use of the Hierarchy Rule and to distinguish offenses against businesses versus individuals and against residents versus nonresidents under a summary reporting system. On the other hand, without the collection of Part II offenses and detailed incident data in a Level II component, we would want to expand the recommendations for data collection under the Level I component to include at least some of these data.

The recommendations on modifying the current system for the Level I component considered a number of factors. These included:

- workload burden and costs for local agencies, state UCR programs, and the National Program in terms of both changeover costs and increased operational costs;
- importance of the purposes for which the data will be used;
- availability of the data from other sources, in particular, the Level II component and the National Crime Survey;
- accuracy of data, specifically, whether modifications can improve the accuracy of data currently collected, whether potential new data elements can be accurately collected, and whether the data collected provide the best measure of the characteristic of interest; and
- effect on the time series, and, if a modification disrupts the time series, whether an adjustment can be easily made to correct for the resulting discontinuity.

In considering the availability issue, an important question is whether a data item is needed for nearly every local agency (or jurisdiction), which neither the Level II component nor the National Crime Survey (NCS)[1] can provide. Data are needed from all local agencies if the public wants to have the information about its own locale, or if the police or public want to be able to compare its own agency or locale with neighboring ones. Data might also be needed from all local agencies if occurrences are rare, in which case neither the Level II component nor the NCS would provide an adequate number of cases.

[1]The National Crime Survey is a continuous survey of a representative sample of housing units across the United States, containing about 126,000 individuals. Since its inception in 1972, the NCS has been conducted for the Bureau of Justice Statistics by the U.S. Bureau of the Census.

5.1 Choice of Offenses for which Offense Counts Are Collected

The original designers of the UCR selected relatively few crimes--called Part I crimes--for which information should be collected on the number of offenses. The basic criteria used to select these Part I crimes were the seriousness of the crime, the similarity of rates of occurrence throughout all geographic regions of the country, the frequency of occurrence, and the likelihood of coming to the attention of police. The current list of Part I crimes, shown below, is similar to that established in 1930; indeed, the only changes have been the exclusion of traffic fatalities from negligent manslaughter, the removal of statutory rape, and the addition of arson.

Part I Offenses[2]

Criminal homicide
Forcible rape
Robbery
Aggravated assault
Burglary
Larceny - theft
Motor vehicle theft
Arson

The list of Part I offenses is criticized by some for:

- inclusion of petty larceny, negligent manslaughter, and arson; and
- exclusion of serious crimes such as sexual offenses other than rape, child abuse, and drug offenses (now all classified as Part II offenses); and terrorism, kidnapping, blackmail, and extortion (none of which is currently classified as a distinct offense category).

As the 1958 UCR Consultant Committee chaired by Dr. Peter P. Lejins pointed out, the difficulty in separating Part I and Part II offenses arises from the fact that the classification into Part I and Part II has several different objectives. No single division (which would represent a compromise) can fully accomplish all of these objectives, so that any single division will be inadequate on some grounds. Specifically, the 1958 Committee suggested that the objectives sought in the current classification are:

- differentiation of offenses that generally become known to police, whether or not an arrest, is made from those that generally become known to police only if an arrest is made;

[2]With two exceptions, the offenses defined as Part I offenses, the offenses defined as Index offenses, and the offenses for which counts are collected are the same. The two exceptions are simple assault, for which counts are obtained but which is neither a Part I offense nor an Index offense, and negligent manslaughter, for which counts are obtained and which is a Part I offense but not an Index offense.

- selection of certain offenses to provide an index of overall criminality;
- separation of offenses into more and less serious ones; and
- separation of offenses into those that are especially important to police and those of lesser importance to police.

Clearly, the choice of offenses included in Part I would depend on which objectives were used. For example, criminal homicide would probably not be included on the basis of the second objective; it is simply too infrequent to have a material effect on any broad index. But it would certainly be included based on any of the other three objectives. Indeed, in addressing the criticisms that have been raised about the current classification into Part I and Part II, it should be recognized that an offense could be included in Part I--so that the UCR would collect counts for the offense--without including it in a crime index. Thus, the issues of deciding which offenses to tally and which to include in a crime index are at least partially separable. In this chapter, we are concerned with the former issue--which offenses should be tallied. The issue of which offenses to include in an index then becomes an issue of analysis and presentation.

Among offenses currently included in Part I offenses, only petty larceny, negligent manslaughter, and arson are controversial. Arson is the most recent addition to the Crime Index, in response to a congressional mandate. Although it fails some of the criteria for an index item--because its detection depends heavily on investigative practice--the seriousness of the crime has triggered demands for better data. Police opinion is sharply divided. Twenty-two percent of departments agree that "arson does not belong in the UCR, and should be reported elsewhere." On the other hand, 32 percent "strongly" disagree with that statement, and another 23 percent "disagree somewhat," making a slender majority of support for its continued inclusion. Given the support from law enforcement (albeit weak), we do not recommend a change to the status quo, which would require a reversal of the congressional mandate.

Collecting data about negligent manslaughter is viewed as a nuisance by some. It is included in the current program only as an edit check for homicide data; no counts of negligent manslaughter are published in Crime in the United States. Further, the National Center for Health Statistics has information on negligent manslaughter, thought to be at least as accurate as the UCR data, that can be used for edit checks. Thus, we recommend discontinuing the collection of negligent manslaughter data.

Although petty larceny is arguably inappropriate for inclusion as a Part I offense on the basis of any of the four objectives, we recommend that collection of petty larceny data be retained, primarily because of the difficulty of establishing a reasonable cut-off point over time.

Larcenies in which the value of property stolen is trivial may not come to the attention of the police unless an arrest is made. To the extent that such offenses are not consistently reported to police, they are not appropriate to include in an index. As long as nonreporting remains systematic, however, the rates can still serve for yearly comparisons. Certainly such offenses are neither particularly serious nor especially important to the police. From the National Crime Survey we know that in 1979 about

27 percent of reported larcenies involved property of less than $50 in value and 42 percent involved a property loss of less than $100. Thus, if larcenies of property of low value could be easily distinguished from those of property of high value, we would probably recommend that they be omitted from UCR reports.

Two problems arise in excluding petty larceny: establishing a cut-off value and classifying with respect to the cut-off. All states have statutory distinctions between petty and grand larceny, but these vary considerably from state to state. One could establish an arbitrary figure somewhere around the median state statutory figure. Respondents to the UCR Survey of Law Enforcement Agencies were asked to suggest a threshold to distinguish between major and minor larcenies. Figure 5.1 shows the distribution of their suggestions. Half the departments selected numbers between $200 and $500, but many suggested far higher thresholds. About one-seventh wanted to see the distinction drawn above $1,000.

Even if a cut-off were agreed on, there would still be the problem of adjusting for inflation. With inflation, more larcenies will tend to exceed a fixed dollar cut-off over time. Thus, there will appear to be a rise in the number of serious larcenies unless the cut-off is regularly adjusted--for example, by using the consumer price index (CPI). Unfortunately, any attempt to adjust for price changes exacerbates the second problem with larceny cut-offs--classifying with respect to the cut-off. It is difficult enough for local police to establish whether a larceny involves more or less than $50 worth of goods. To expect them to distinguish above and below $50 one year and then above and below $54 the next year (after the index has been adjusted for inflation) is at best awkward.

In principle, this problem could be overcome by analysis of the reported offenses. The National Crime Survey collects information on the distribution of reported larcenies by categories of value, and this information might be used to estimate the underlying distribution of value and the proportion above an adjusted-for-inflation cut-off point. Suppose, for example, the cut-off were $54. Offense counts could be collected only for larcenies above, for example, $50. Counts of larcenies of property above this value would be collected in categories, say $50 to $100, $100 to $200, and over $200. (Dollar values used frequently in state laws to distinguish petty larceny from grand larceny--e.g., 100, 250, 500, 1,000--might be advantageously used for some of the divisions between categories.) Data from the NCS, or perhaps from the Level II component, could then be used to estimate the number falling above $54 within the $50-$100 category, and this number would be added to the count of those falling entirely above the $100 mark. This sum would provide an estimate of the total number of larcenies involving losses in excess of $54.

This approach would reduce contributor workload in some jurisdictions, but it would have little effect in many. Automated departments that require a record for every larceny would continue to do so, electronically excluding those below the cut-off for UCR reporting.

More important, adjusting the cut-off by the CPI or any other price index will not really adjust for inflation. Inflation is not a simple rescaling of all prices by a constant factor. A sizable portion of the increase in the consumer price index since 1972 is directly due to energy costs. Fuel thefts occur, but not very often. Housing costs, another large component of the CPI, have even less consequence for larceny values. The three largest categories of theft are currency (for which the CPI would be just right), jewelry and precious metals (for which the CPI would usually have been too low in the 1970s), and consumer electronic goods (for which the CPI would often have been too high).

Figure 5.1

RECOMMENDED CUT-OFF FOR LARCENIES

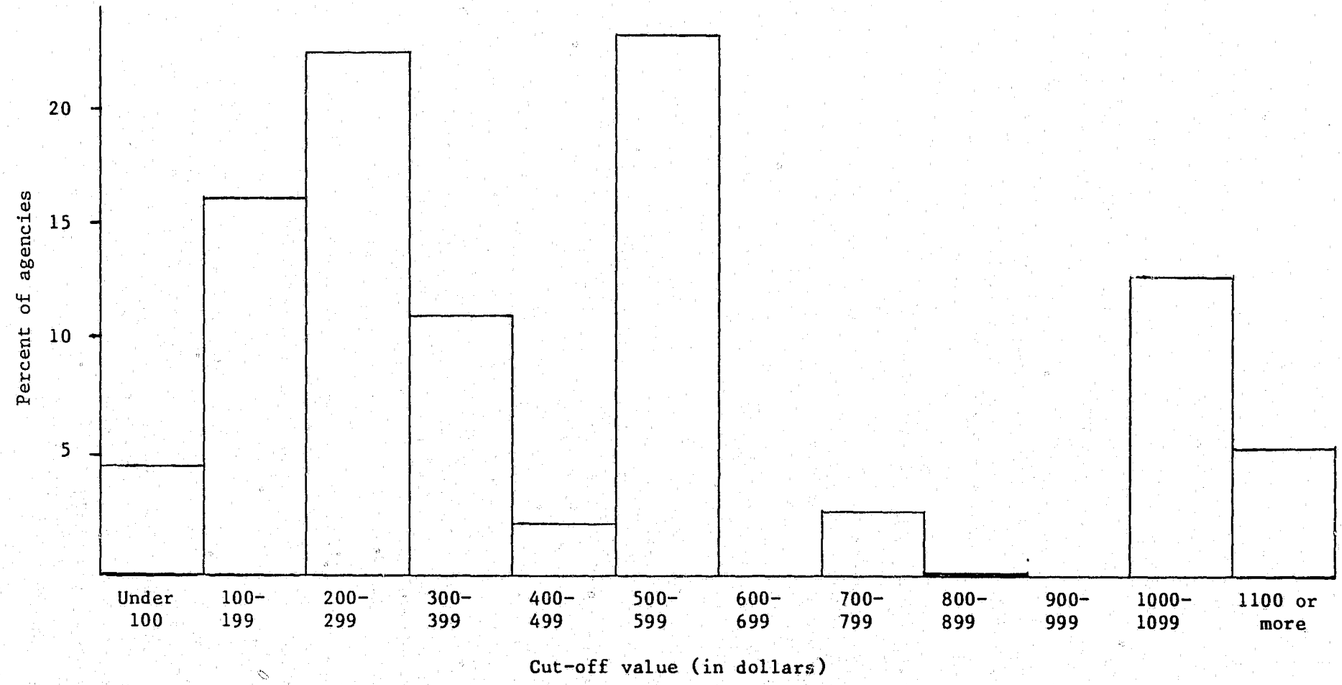


Figure 5.2 provides a simulated example using actual historical prices. Say that the values of stolen consumer electronic goods (radios, TVs, and so forth) are log-normally distributed and that roughly 75 percent of these values were above $50 in 1972. If the number of thefts were constant, the average values would have risen each year due to inflation in the prices of consumer electronic goods. These prices rose much more slowly than the total consumer price index (CPI). Thus, if the $50 cut-off had been inflated by the CPI, the number of electronic goods thefts counted would have fallen dramatically. As shown in Figure 5.2, for example, the number of counted electronic goods thefts would have fallen by about a third from 1972 to 1982, even if the actual number had remained constant.

Even assuming that one could determine an appropriate price index for the kinds of goods that are stolen, or could somehow use separate prices for each item, the adjustment process would still be extremely complicated, and this index would be sensitive to shifts not only in the average price of stolen goods but also in the distribution of these prices. As the nominal $50 cut-off drifts down the distribution, the curve becomes steeper, and an increasing fraction (eventually 100 percent) of marginal offenses must be excluded. This fraction depends strongly on the exact shape of the distribution, which will be known only approximately and may change over time, both because of price shifts and because of changes in the behavior of thieves. Addressing these methodological problems may be entirely appropriate for analysis. However, we question the feasibility or appropriateness of such adjustments for the index and recommend that the UCR continue to count all larcenies, regardless of value.[3]

The other major issue concerning the list of Part I offenses is the exclusion of many serious offenses. Certainly, inclusion of many of these would be appropriate to meet at least some of the objectives of the current classification into Part I and II. Terrorism and kidnapping, for example, would probably be considered appropriate for all but the second objective and, if a weighted index were used, would be quite appropriate for that objective as well. (Section 9.3.2 discusses potential use of a weighted index.)

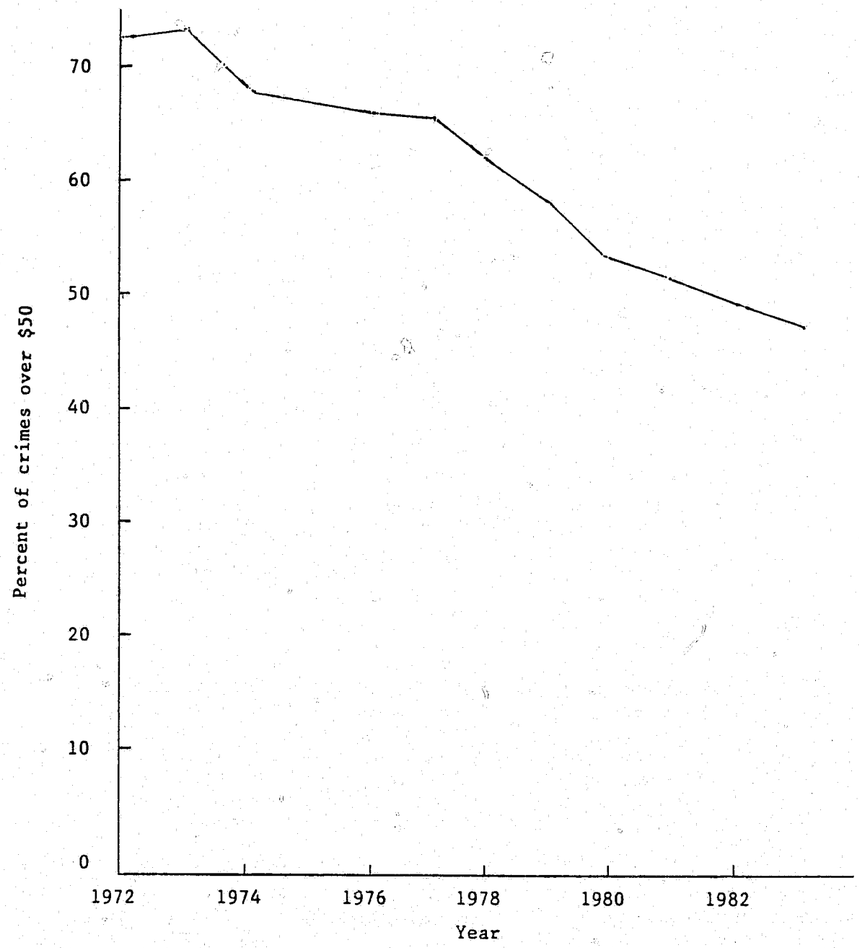
Though we think that national information on many of the Part II offenses is important, we do not recommend inclusion of Part II offense data in the Level I component. However, we do recommend inclusion of all of these offenses in the data collection for the Level II component. This would satisfy public needs for national information on these offenses and would also provide local agencies with a basis of comparison. Local departments that so desire could collect Part II offense information and compare their Part II rates with national or regional rates or with rates of similar jurisdictions participating in the Level II component.

We do recommend that the current Part I offenses be broadened to include all forcible sexual offenses, since many collectors and users of UCR data indicated interest in having such data. In addition to female rape, Part I would now include rape by instrumentation, rape of males, and other sexual assaults. A code would be used to indicate the type of forcible sexual offense, one code being used for (nonstatutory) rape of females in order to maintain continuity with past data collection.

[3]Nothing in this approach precludes analytic adjustments of published indices to distinguish large from lesser thefts. Indeed, such analyses would be encouraged, particularly if they also used extended incident data to measure changes in the patterns of goods stolen.

Figure 5.2

CHANGE IN THEFT INDEX WITH CPI-ADJUSTED CUT-OFF



NOTE: Hypothetical example using actual prices and a constant number of simulated thefts. Percentage is based on 5,000 log-normally distributed random numbers with median = $100 in 1972 dollars. Nominal value of thefts in each year is based on current prices for consumer electronic goods (radios, TVs, etc.). The $50 cut-off is adjusted each year by the consumer price index.

5.2 Attempts

An issue frequently raised regarding the current UCR system is the handling of attempts; it is an issue both of data collection and of analysis and presentation. Generally, attempts are classified and included in the crime counts along with crimes actually committed. The current reporting system distinguishes completed from attempted rape and completed burglaries from attempted forcible entries;[4] attempted homicides are classified as aggravated assaults. Attempts are not distinguished for other Part I offenses. Perhaps the most important consequence is that attempts are included in the crime counts, and the resulting rates give the impression that (reported) serious crime occurs more frequently than it actually does.

As with many of the limitations of the current UCR, this one was forced on the designers by the constraints of the summary data collection system. Attempts could be distinguished from completed offenses only by keeping an entirely separate summary total for attempts to commit each type of offense. With all reporting converted to a unit-record basis, this would no longer be necessary. A single check mark on the form could be used to indicate for each report whether the crime described was completed or only attempted, and we recommend that such a change be made.

Data from our survey indicate that a substantial majority of police departments support this change. Forty-two percent "agree strongly [that] in general all UCR crime categories should report attempted crimes separately from actual ones." Another 33 percent said they "agree somewhat," and 11 percent indicated that they neither agree nor disagree. Only 14 percent expressed disagreement, and most of those merely said they disagree "somewhat." Disagreement tended to be slightly stronger among the very largest departments (those serving populations over 100,000), but even here fewer than one-quarter disagreed. Our recommendation to collect this item for every offense thus seems congruent with the needs of both law enforcement and research users of the data.

5.3 Classification and Scoring Rules

Classification and scoring rules are the rules used to categorize and count criminal events. Classification is determining the proper crime category under which to report an offense; scoring is counting the number of offenses involved. For simple events there is no problem: if a man is stopped and robbed, one robbery has occurred. But what if the man is robbed and beaten, or two men are robbed, or one man is robbed and another robbed and murdered? The current UCR has adopted a series of rules to deal with these compound events. The key rules included are:

1. Hierarchy Rule: Classify a criminal event in terms of the most serious offense involved.[5]

[4] Identifying attempted burglaries other than by attempted forcible entry would not generally be possible.

[5] For applying the Hierarchy Rule, offenses are ranked as follows: criminal homicide, forcible rape, robbery, aggravated assault, burglary, motor-vehicle theft, and larceny-theft. The rule does not apply to the offense of arson.

2. Arson exception: If an event involves both arson and other Part I offenses, classify the event as both an arson and the most serious other Part I offense.

3. Basic scoring rule: If the classification is homicide, rape, or aggravated assault, count the number of victims; if the classification is robbery, burglary, larceny, or arson, count the number of distinct operations (incidents); and if the classification is motor-vehicle theft, count the number of vehicles.

4. Hotel Rule: Burglaries of hotels, motels, lodging houses, and commercial spaces, if under a single manager and if likely to be reported by the manager, are counted as a single offense.

5. Larceny Rule: Multiple related larcenies committed at the same time (e.g., theft from ten parking meters in a row) are counted as a single event.

While all of these rules have been criticized, the Hierarchy Rule has probably been singled out most often. Two problems are involved. First, the rule suppresses information on the nature of events. A rape-robbery is simply reported as a rape. Second, in some cases the interaction of the scoring and Hierarchy Rules produces extreme results. The beating of ten victims is ten aggravated assaults; if one of the victims dies it becomes a single murder. Police departments are rather sharply divided in their views on the Hierarchy Rule. Almost one-third asked to retain the rule in its present form. Another 18 percent asked that the rule be modified to record the most serious offense for each victim in a single criminal incident. These groups together represent half the responding departments supporting something like the present rule. Larger departments were more inclined to eliminate the Hierarchy Rule. More than two-thirds of these departments agreed with the statement that "No hierarchy rule should be used--all counts of each offense for each victim should be tallied."

Those who object to the Hierarchy Rule consider it simplistic to count only the most serious offense, noting that the current rule loses information, obscures the actual number of offenses reported, and hides the connection between loss and injury offenses. A state program staff member objected further that the rule does not allow small contributors to take credit commensurate with all the crimes they handle, and suggested that the media and the public would oppose use of the rule if they understood it. Those who support the rule consider it critical to be able to offer a clear and simple characterization of a given criminal event.

In fact, as we shall see, the need for these rules is partly a reflection of the limitation inherent in a summary reporting system, which by its nature can only tally a limited set of offenses. Accordingly, we propose to take advantage of the flexibility offered by unit-record reporting to report all offenses for all victims but still retain the ability of the current rules to provide a simple and unambiguous classification of criminal events. This is done as follows:

1. Each unit-record has a single incident number that applies to all offenses and victims involved in a given event.

2. Under this common incident number, a separate record is

entered for each victim, together with all offenses against this victim, listed in order of seriousness as determined by the Hierarchy Rule.[6]

Thus, the total incident may be classified and scored under current rules by looking at the number of counts of the most serious offense listed under the incident number. Alternatively, the incident may be classified in terms of each victim or the presence of a given offense, and so forth.

The major reason for proposing this procedure is not concern with total crime counts, but rather concern with providing more complete information on the nature of crimes. Indeed, the limited evidence available suggests that the current rules do not materially reduce total offense counts. The Oregon UCR program both collects information on all Part I offenses and applies the Hierarchy Rule in generating UCR reports. As shown in Table 5.1, the overall reported Index crime was 1.2 percent lower in 1983 than it would have been in the absence of the rule. Thus the Hierarchy Rule seems very unlikely to have any appreciable effect on comparisons of percentage differences, either from one year to the next within a jurisdiction or between jurisdictions in a given year. Suppose, for example, that in two jurisdictions there were no difference in crime rates computed without use of the Hierarchy Rule. In the first jurisdiction, however, one percent of incidents involved two offense types, and in the other jurisdiction, two percent of incidents involved two offense types. Crime rates computed using the Hierarchy Rule would then differ by only one percent in spite of the substantial 100 percent difference in the rate of multiple offenses between the two jurisdictions.

The current classification and scoring rules can, however, affect our understanding of some criminal events. To see this, complex incidents involving more than one victim or more than one offense may be divided into three classes:

Class 1: an incident in which a single person is the victim of more than one type of crime,

Class 2: an incident in which there are multiple victims of the same type of crime, and

Class 3: an incident in which there are multiple victims of different types of crime.

The need for the current rule under a summary system is clearest in Class 1 incidents. If we want to be able to add up individual Part I offenses to obtain an overall Crime Index, then it seems desirable to score only one crime per incident. Given that requirement, the obvious choice is to use the most serious of the crimes involved. Seriousness is then reasonably approximated by ranking the first seven Index Crime headings, rather than by any attempt to measure the seriousness of the specific incident.

[6]However, lesser included offenses would not be recorded. For example, the theft inherent in every completed robbery would not be recorded.

Table 5.1

EFFECT OF HIERARCHY RULE ON REPORTED OFFENSE COUNTS: OREGON UCR PROGRAM, 1983

Offense	Count without Hierarchy Rule	Count with Hierarchy Rule	Difference	Percentage difference
Murder	114	114	0	0.0
Rape	1,073	1,073	0	0.0
Robbery	4,527	4,455	-72	-1.6
Assault	23,893	23,893	0	0.0
Burglary	46,325	45,900	-425	-0.9
Larceny	98,471	97,383	-1,088	-1.1
Motor-vehicle theft	8,034[a]	7,430	-604	-7.5[a]
Total	182,437	180,248	-2,189	-1.2

Source: Personal communication from Stephen C. Kincaid, Supervisor, Oregon Uniform Crime Statistics, July 1984.

[a]The theft of a motor vehicle is always reported as a motor-vehicle theft even when taken as a burglary under the Oregon program. If taken in a burglary, the Oregon UCR program makes the vehicle the fruits of the burglary offense when reported to the National Program.

However, classifying Class 1 incidents in terms of a single offense can suppress important information on the nature of the event. Table 5.2 lists all possible pairs of Index offense types and suggests which pairs might be substantively important and why. The Supplementary Homicide Report (SHR) now requires a narrative description of the circumstances of the crime. Thus, the FBI is already collecting information on other Index crimes associated with homicide but dropped because of scoring rules. Precoding the SHR to identify associated crimes would facilitate exploratory analysis and would allow analysts to apply whatever scoring rule they preferred. We have recommended that this be done. (Recommendation 5.5, discussed below.)

In looking at crimes that occur in conjunction with rape, two kinds of questions are asked. First, are there aggravating circumstances involved, such as additional severe injury[7] or theft? Second, what can we learn about the setting or precipitating factors (e.g., rape of a burglary victim who happened to be home). In both instances, the importance of these questions is that they provide additional data about a criminal incident, not that we need to count all the larcenies. In a summary data collection system, there are severe limits to the amount of additional detail that can be collected. The current reporting system only distinguishes attempted from completed rapes, providing no other analytic data.

A similar observation applies to robbery, where the question is not whether an aggravated assault occurred, but whether a weapon was present (collected under the present system) and whether severe injury occurred. Robbery plus burglary usually means a burglar was confronted by the victim. Knowing about this combination is helpful in understanding how the robbery came about, but again the issue is one of additional crime attributes rather than miscounting. A combination of aggravated assault plus burglary may mean that the offender broke into the victim's house in order to commit the assault, or that he broke in for some other reason and a confrontation unexpectedly occurred. According to Table 5.1, about 1.4 percent of violent crimes (murder, rape, robbery, and assault) involved a burglary (and about 1 percent of the burglaries involved a violent crime). This is useful information, but we immediately interpret it as information about the violent crimes, not about burglary.

The final two possible pairs identified in Table 5.2 are motor-vehicle theft combined with burglary or other larceny. In both cases, the essential nature of the occurrence is unchanged by the joint occurrence of the two offenses. Somebody broke into a house and stole several things, one of which was a car, or somebody stole a car that contained something else of value. Again, these can be viewed either as additional data about a single crime or as additional crimes.

This discussion indicates the desirability of maintaining the ability to recreate something like the present Hierarchy Rule in analyzing the data. At a minimum this requires that the data collection system preserve some indication of relationship among the multiple crimes associated with a single incident. This would minimize disruption to the time series, since the analyst could retroactively apply the old rule to the new incident data. It might also alleviate some of the polarity indicated in law enforcement responses to our survey query on the Hierarchy Rule. The advantage of unit-record reporting is that, as described above, the reports can

[7]Since aggravated assault is implicit in forcible rape, listing other offenses will not include the extent of injury. Thus this aspect of rape is only captured by the injury information collected as part of the Level II component, described in Chapter 6.

Table 5.2

RELATIONSHIP BETWEEN OFFENSES IN A SINGLE INCIDENT

Offense type	Rape	Robbery	Aggravated assault	Burglary	Larceny	Motor-vehicle theft
Homicide	S	S	S	S	S	S
Rape		A	A	C	A	A
Robbery			A	C	X	A
Aggravated assault				C	?	?
Burglary					X	A
Larceny						A

KEY: A = aggravating circumstance
C = possible precipitating circumstance
S = currently collected on Supplementary Homicide Report
X = lesser included offense
? = difficult or impossible to distinguish from robbery

both capture the details of an event and permit a clear classification under the current classification and scoring rules.

Where more than one person is victimized in a single incident (Class 2 incidents), different items are counted, depending on the crime type involved:

Item Counted	Crime Type
persons	homicide rape aggravated assault
operations	robbery burglary larceny arson
vehicles	motor-vehicle theft

Each of these decisions represents a considered compromise with the requirements of summary-based reporting. However, with unit-record reporting, a greatly simplified counting system could be employed that preserves the time series but still allows analysis of the implications of alternative counting rules. As long as only one type of crime is involved, only one report is required, which includes as one of the descriptive attributes, "How many (persons, places, or vehicles, as appropriate) were involved?" The analyst could then count incidents or victims for any set of crimes, and the effect of alternative counting rules could be easily determined.

In examining these rules, it is useful to consider the different perspectives of the police and the public. From the police perspective, an incident involving the robbery of ten victims is a single incident to be investigated and processed. From the public's perspective, however, the fact that there were ten victims is an important reflection of an individual's risk of victimization. (Counting victims is also important for reconciliation and integration of UCR with NCS data.) The current rules are sometimes appropriate to the police perspective (e.g., the handling of robberies or the use of the Hotel Rule) but at other times appropriate to the public perspective (e.g., the handling of assaults). Both perspectives are legitimate and important, and the new data collection system would provide a capability to produce counts appropriate to either perspective.

Class 3 incidents involve both multiple victims and multiple offense types. Under current coding rules, if five people are shot and injured, five assaults are counted, unless one victim later dies, in which case all five assaults are unfounded and one homicide is scored. Multiple victims of different offense types are probably extremely rare, so the time series is probably not greatly affected by excluding aggravated assaults and rapes that occur in the presence of a more seriously victimized person. Nevertheless, it is hard to justify excluding them.

5.4 Classification Systems

Long usage has established widespread familiarity with the current classification system. Complaints about the current system tend to be objections to

specific implementation, not to general concept. One may object to ambiguities in the definition of aggravated assault, or to the fact that the robbery category covers a multitude of sins, but the general idea of counting assaults and robberies is rarely challenged.

In the UCR Survey of Law Enforcement Agencies, respondents were asked to respond to two general items about the current approach to classification. The general caption of the items was:

> Following is a list of criticisms that have been made of the current UCR Program. For each item, please indicate how serious a problem it is in terms of your use of UCR data.

One of the items on the list was "UCR categories are too broad to be useful." Forty-six percent of the respondents rated this as "No problem," the most positive of the available responses. Another 28 percent chose the next most positive response, saying it was a "slight problem." About one-fifth said it was "a problem (but not serious)," and only 6 percent rated it "serious" or "very serious." A slightly higher share of the negative responses came from very large agencies, but even here, over 70 percent of the respondents thought the problem slight or nonexistent.

The second item said, "There are too many gray areas involved in classifying crimes." This was perceived as a slightly more serious problem, but still one-quarter of the agencies said it was "no problem," and another third said the problem was "slight." Here also, the large departments expressed more concern than others. Overall, 13 percent thought the problem "serious," or "very serious." Among agencies serving populations over 100,000, 22 percent marked these responses. While we did not ask specifically about aggravated assault, many conversations have indicated that this is the source of most complaints about "gray areas" in classification.

Unit-record reporting allows consideration of alternative types of classification systems. As an example, we may consider the Crime Classification System (CCS) developed by the Police Executive Research Forum. CCS groups crimes in seven categories, shown in Table 5.3. As Table 5.3 also shows, these categories lump an even wider range of offenses than do current UCR categories and sometimes split crimes on a relatively unimportant basis. Homicide, for example, is classed either as injury only (as are assaults without theft) or as injury plus loss (as is robbery), depending on whether it can be determined that something was stolen. This situation is tolerable only because CCS uses unit-record reporting and includes the information listed in Table 5.4. Homicides can be identified through the level of injury variable or the UCR category. Rape can be found only by looking at the field designated "UCR category."

Some of the elements listed in Table 5.4 are designed primarily for local crime analysis and need not be considered for a national reporting system. The others are addressed in Chapter 6 of this report, which proposes their inclusion in the Level II component. For a data collection system with these additional elements, classifications like that of CCS are automatically possible. For systems without the additional information, they are insufficiently precise and cannot substitute for the current UCR classification. Accordingly, we have not recommended that the CCS elements be added to Level I reports.

Table 5.3

RELATIONSHIP BETWEEN CCS AND UCR CATEGORIES OF OFFENSES

CCS	UCR
loss only	burglary with theft, larceny, auto theft, arson, vandalism
threat only	assault (without injury)
injury only	homicide, rape, assault (without theft)
threat plus loss	robbery (without injury)
injury plus loss	homicide or rape (with theft) robbery (with injury)
regulatory	(various Part II offenses)
attempts	(any crime)

Table 5.4

CCS VARIABLES

Victim Characteristics	Offense Characteristics
Age	Crime category
Sex	Seriousness score
Race/ethnicity	Time of occurrence
Residence status	Place of occurrence
Level of injury	Geocode
Type of injury	UCR category
Medical treatment	Disposition
Victim/offender relationship	Weapon type
	Extent of force
	Type of property
	Value of property

Source: PERF, "Crime Classification System Issues Summary" (undated).

In 1976, SEARCH Group conducted a field test of another unit-record data collection system, which they called Attribute Based Crime Reporting (ABCR). The final version of the system required 28 separate items of information. This was designed to allow crime classification not only by UCR rules but also by the state penal codes (of several states in one system), the American Law Institute Model Penal Code, and the Uniform Offense Classification System used in NCIC's Computerized Criminal History files. The 28 attributes included in ABCR were sufficient to reproduce UCR classifications exactly in 66 percent of the crimes tested. Another 8 percent were assigned to the correct major category but disagreed in detail.

The ABCR system is quite complex and allows detailed coding of relatively rare events that may have special treatment under state statutes (e.g., train-wrecking or interfering with a fireman). A listing (not a definition) of attribute values requires five pages. The system's authors observed that even professional coders had some difficulty in learning the complete coding rules. No test of police officer coding was conducted. Several of the attributes involve long lists (20 to 72 items) of possible values from which more than one choice may be entered.

ABCR clearly includes far more detail than would be appropriate for use with the Level I component. Unfortunately, much of the detail is contained in fields that are also required for UCR classification, so there is no simple way to reduce the system to essentials. Thus, ABCR does not appear to offer a practical basis of offense classification.

Nevertheless, such an approach may well provide an important aid to classification. ABCR attempted to develop attribute codes that would allow a completely automated classification. However, two alternatives should also be considered. First, attribute data could be collected and used to distinguish ambiguous areas of classification (e.g., attempted burglary vs. vandalism). Second, the necessary attributes for each offense type category could be formally listed in the UCR Handbook to be used as a basis (particularly in difficult cases) for manual assignment of the offense type category. We propose that the potential use of ABCR and these other approaches be explored further in a field test during the development of the new UCR system.

Some clarifying changes in classification rules would enhance the reliability of the system as well as improve its comparability with the National Crime Survey. The ambiguity most frequently cited by researchers and local agencies is the distinction between aggravated and simple assault. Over half the police departments responding to our survey agreed with the recommendation that "aggravated assault should be defined in terms of actual injury without regard to intent." Combined with the 19 percent who neither agree nor disagree, three out of four departments would accept this change in classification definition. As with many other proposed changes, the responses of the largest departments were slightly more conservative than those of other agencies. A third of the departments serving populations over 100,000 disagreed with the proposal.

The basis of a definition is suggested by the National Crime Survey, in which assault is aggravated if it has any of the following characteristics:

- weapon present (not including "personal" weapons, such as fists, feet, teeth, etc.),
- broken bones,

- loss of teeth,
- internal injuries,
- loss of consciousness, or
- hospitalization of two or more days.

Some of the NCS criteria require more information than the police are likely to have, since they do not ordinarily follow-up on victims in marginal assault cases. In particular, police agencies are unlikely to know whether an assault resulted in hospitalization of two or more days--information that is readily available from the victim. In a few unusual instances the legal elements of aggravated assault may be present without producing any of the detailed injuries listed, but the number of such marginal cases is surely small, and the precision gained from avoiding local judgment is thought to be more than sufficient to compensate for any definitional departure. Thus, we recommend that the UCR define an assault to be aggravated if either (1) a weapon (other than a "personal" weapon) is present or (2) injuries sustained by the victim include broken bones, loss of teeth, internal injuries, or loss of consciousness.

With the exception of burglary, classification rules for other UCR Part I offenses require minimal judgment. Burglary poses a problem if theft does not occur. Legally, only intent to commit a theft or felony is required, but when the crime is not completed, intent may be difficult or impossible to judge.

Police departments strongly oppose the concept of counting all windows and doors broken in the absence of a witness as attempts at burglary. Only 13 percent agreed with that suggestion, while 45 percent strongly disagreed and another 29 percent disagreed "somewhat." Among the largest departments, feelings were even stronger. Four percent agreed, while 68 percent disagreed strongly. Unfortunately, the number of cases for which such judgments must be made is not inconsequential; in 1983, attempted forcible entries constituted 9 percent of the burglary category.[8] Simply eliminating the ambiguous categories would seriously damage the basic concept of the burglary definition.

To handle this, we recommend distinguishing between burglaries with and without theft. This is readily done in unit-record reporting. As Section 5.2 recommends, attempts are always to be distinguished from completed offenses. The non-theft completed burglaries are thus those involving arson, kidnapping, or some other felony that does not now affect Part I classification. This would also aid in reconciling and integrating the UCR and the NCS. (Burglaries with theft can be distinguished by the existence of an entry in a field designating the type of property stolen or by creation of a field especially for the purpose of indicating the actual occurrence of a theft.)

[8] Crime in the United States, 1983.

5.5 Adding Incident Data

Figures 5.3 and 5.4 show how law enforcement agencies assessed the usefulness of several data items that might be gathered for offenses. Few departments rated any of the items as "not at all useful," and the range of responses for the different items is surprisingly narrow. The item judged most useful--type of offense--got the support of 90 percent of the agencies; the item judged least useful--whether the victim was a resident--still got 71 percent. In general, data about the victim were less likely to be rated "very useful" than data about the incident. Only 28 percent thought that knowing types and extent of injuries was very useful, and only 29 percent gave this rating to knowing whether the victim was a local resident. However, over 70 percent rated it as useful, and 54 percent agreed that:

> Some way should be found to adjust local crime rates to take account of the fact that the rate of crimes per resident may include large numbers of crimes against nonresidents, such as commuters and tourists.

The categories receiving least support are those that are totally alien to the current UCR data collection system, such as a geocode for the location of the offense, victim injury, residence status, and relationship to offender. Even here, law enforcement agencies were generally favorable toward their collection.

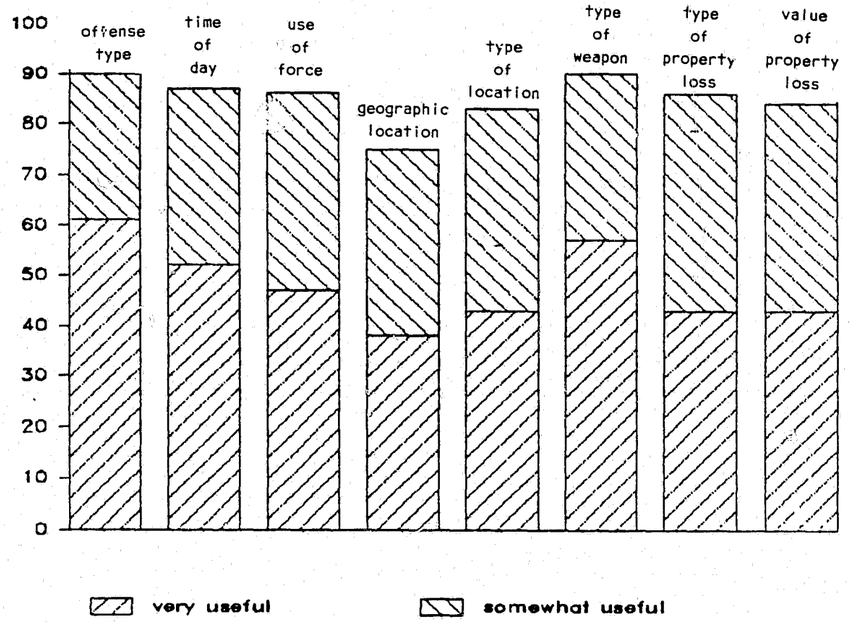
Some detailed incident data are collected under the current system (see Table 5.5). Many additional items of information about incidents are recommended for inclusion in the Level II UCR component and would become available to satisfy national and regional requirements for information about the nature of crime. Our recommendations for the Level II system (Chapter 6) include collection of the following:

- victim characteristics,
- victim-offender relationship(s),
- extent of injury to victim(s),
- type of victim (individual, business, or other)
- day of week/time of day,
- type of premises, and
- type of weapon.

The issue here is which, if any, of these characteristics should also be included in the Level I component. The main criteria applicable to selecting items in any of these categories for inclusion in Level I are whether they are so rare that they need to be collected from all agencies in order to get an adequate number of cases, and whether they are required for each agency in order to inform the public of local conditions or to compare crime problems in neighboring locales or jurisdictions.

Figure 5.3

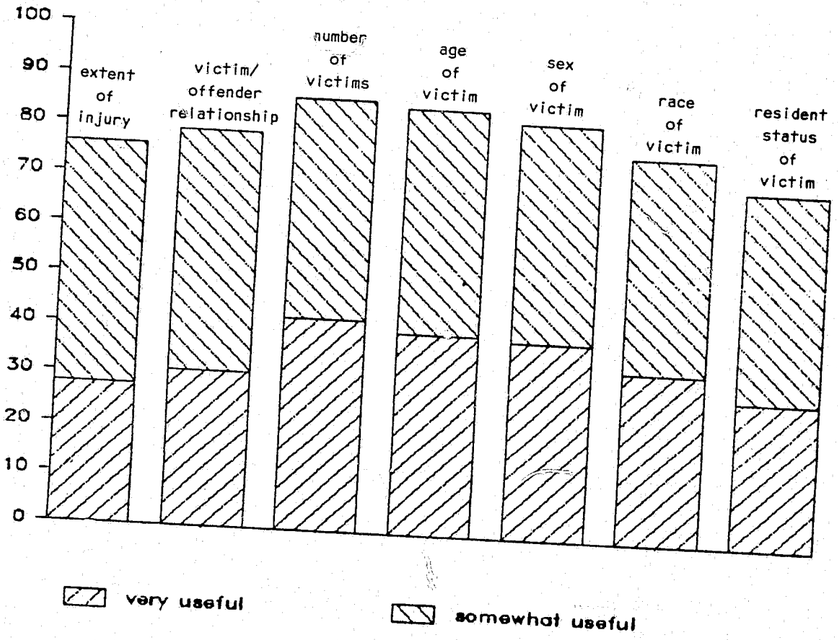
USEFULNESS OF INCIDENT DETAIL



Source: UCR Survey of Law Enforcement Agencies, conducted by Abt Associates Inc., 1984.

Figure 5.4

USEFULNESS OF VICTIM DETAIL



Source: UCR Survey of Law Enforcement Agencies, conducted by Abt Associates Inc., 1984.

Table 5.5

INCIDENT DATA COLLECTED UNDER CURRENT UCR SYSTEM

Item	Criminal Homicide	Forcible Rape	Robbery	Aggravated Assault	Burglary	Larceny	Motor-Vehicle Theft
Victim characteristics	yes						
Victim/offender relationship	yes						
Extent of injury	implicit				N/A	N/A	N/A
Individual vs. commercial	N/A	N/A	approxi-mately		almost	partly	
Day of week/ time of day					day/night/ unknown		
Type of premises			yes	other	residence/ non-residence	yes	
Type of weapon	yes		yes	yes	N/A	N/A	N/A
Drug information	some						
Attempt	N/A	yes			yes		

Source: FBI, Uniform Crime Reporting Handbook, 1984.

Except for homicide and crimes whose victims are not eligible for inclusion in the National Crime Survey (primarily foreign visitors and commercial victims), both the NCS and the Level II component would provide detailed information about victim characteristics, victim-offender relationships, extent of injury, and type of weapon. Since other agencies could certainly collect this kind of information if they chose, either by adopting the Level II component or by other means, no compelling reason for forcing local compliance by inclusion in the Level I component emerges, except for the following categories, which are discussed below:

- additional information for homicides;
- distinguishing commercial from household and personal victims;
- distinguishing crimes against nonresident victims;[9] and
- improving the codes used for "nature of larcenies."

5.5.1 Additional Information for Homicides

Agencies participating in the UCR Program now submit Supplementary Homicide Reports (SHRs), which are unit records containing information about the crime, the victim, the offender(s), the victim-offender relationship, and the weapons used. In addition, a narrative description of the circumstances of the homicide is included.

Because of its importance, we recommend that additional information be collected for homicides. Specifically, we recommend that Level I agencies report homicides using the more extensive set of data elements that will be reported by Level II agencies for offenses generally (see Table 6.1). Information on type of location, time of day, and zip code of victim, not currently collected, as well as all of the data elements currently collected on the Supplementary Homicide Report, would thus be collected on every homicide. In addition, we recommend coding circumstances at the local level where the most detailed information about the incident is available. By reporting the narrative description as well, both state and national programs could verify the coding. Making the coded data available for research would greatly facilitate analyses involving the circumstances of homicide.

5.5.2 Type of Victim

Distinguishing crimes against businesses from crimes against households and individuals is one of the most important steps that could be taken for reconciling UCR data with National Crime Survey data.[10] In addition, policymakers would better

[9]Although distinguishing nonresident victims will help reconcile NCS with UCR data, the main reason for making this distinction is to satisfy local needs. Aside from nonresidents, other types of victims are ineligible for inclusion in the National Crime Survey, such as children under 12 years old and certain military personnel and institutionalized individuals. The complexity of distinguishing such victims dictates against their separate identification in the Level I component.

[10]Chapter 8 discusses reconciliation of UCR and NCS data.

understand local crime patterns and problems if the available data showed trends in commercial crimes (and number of commercial establishments) separately from trends in crimes against households and individuals (and the corresponding numbers of households and population). Two-thirds of all police departments agree with this proposed change. Most of the remainder are neutral.

Reporting law enforcement officers have little difficulty determining if the victim of a crime is a business, and they already record this information for some--but not all--UCR crimes. We recommend that the Level I component add a code for the purpose of distinguishing commercial crimes. Specifically, we recommend inclusion of a data element for type of victim that distinguishes among crimes against individuals or households, crimes against businesses, and crimes against other entities (e.g., public buildings).

5.5.3 Distinguishing Crimes against Nonresidents

An issue that is frequently raised by law enforcement agencies in jurisdictions with large tourist populations is the resulting inflation of their crime rates. More than half the police departments agree that some adjustment is necessary. Their argument has merit. Crime rates are calculated as the ratio of crimes reported in a jurisdiction to the resident population size; thus, while the numerator includes reported crimes against tourists, the denominator excludes tourists.[11] In towns with few residents but with large numbers of tourists, the effect can be substantial. Myrtle Beach, South Carolina, for example, had a reported crime rate three times the national average in 1982.[12]

An analogous argument can be made for cities with large daytime business populations. Crimes against those working or shopping in the city but residing in the suburbs are included in the numerator of the crime rate, but the victims are excluded from the denominator, which includes only the city's residents.

Conversely, it should be recognized that to the extent crime rates are inappropriately inflated in these types of locations, victimization rates are inappropriately deflated elsewhere. In the areas in which the tourists reside and from which the daytime workers and shoppers commute, victimization rates are, in this sense, underestimated.

There are two possible approaches to resolving this problem. One is to adjust the denominator to reflect the average number of people at risk of victimization, taking into account numbers of commuters and tourists and the length of stay of tourists. This seems infeasible on a national scale. The second approach adjusts the numerator to include only reported offenses against residents. This approach is readily implemented under a unit-record UCR system by including a single additional data element--the resident or nonresident status of the victim, which may be

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[11] It should be noted that Crime in the United States does not explicitly calculate crime rates for individual jurisdictions but does show crime counts and population size.

[12] Crime in the United States, 1982.

combined with the item distinguishing commercial victims. We recommend that a data element be added to forms for reporting crimes, indicating the resident status (permanent resident, part-time resident, or nonresident) of the victim. Crime rates should be computed by adjusting the numerator at least for agencies with disproportionately large tourist (or daytime) populations, and possibly for all agencies.

Introduction of codes for residents and nonresidents should be handled with sensitivity to the possibility that some might view them as making unnecessary invidious distinctions. Nor is any purpose served by separately publishing counts of crimes against residents and nonresidents; the counts of crimes against residents would be used only for calculating crime rates per 100,000 residents.

5.5.4 Codes for "Nature of Larcenies"

The codes currently used for nature of larcenies are:

(a) pocket-picking

(b) purse-snatching

(c) shoplifting

(d) from motor vehicles (except e)

(e) motor-vehicle parts and accessories

(f) bicycles

(g) from buildings (except c and h)

(h) from any coin-operated machines (parking meters, etc.)

(i) all other

These do not constitute a classification system because of overlap among them. For example, bicycles can be stolen from buildings, motor-vehicle parts can be shoplifted, and coin-operated machines may be located in motor vehicles. For this reason, contributors must be provided with additional text explaining how to code larcenies that fall into two or more categories (the sequence of codes does not match the hierarchy specified in the instructions). Anyone attempting to write a precise analysis of larceny subcategories must use sentences like the following: "Thefts of things other than bicycles from buildings other than stores decreased by 5 percent in the year 1981-82." To avoid this difficulty, we recommend that the nature of larceny be captured in three separate data elements:

- type of property stolen,
- location type, and
- type of theft (e.g., pocket-picking, purse-snatching, shoplifting, etc.)

Under the present summary system, the first of these items must be used in entering the value of property stolen, although the summary system does not retain the information on number of incidents by type of property. With unit-record reporting, answering the question at once captures the data for both valuation and counting. Moreover, knowing about theft of bicycles and motor-vehicle parts is probably as important when the theft is accomplished by burglary or robbery as it is when only simple larceny is involved. The one item can serve for all crime types. The current data collection system gathers information about type of location for robbery and burglary, as well as for larceny. By using a single data element defined to encompass all of the various location types, we get a simpler system that captures more detail. The third and final item provides useful information on the circumstances and nature of the larceny.

5.6 Value of Property Stolen and Recovered

The value of property stolen in simple larcenies is currently collected in three broad categories (divided at $50 and $200). However, exact dollar values are needed to compute both the total values in these three categories and the Supplement to Return A, which requires a breakdown of the monthly total value of stolen property for each of 11 classes of target property and for each of 28 classes of offense (e.g., shoplifting, nonresidence burglary in the daytime, robbery of a gas or service station). These data are currently used to compute national average values of stolen property for each of these offense and property classes.

Figure 5.5 shows a frequency distribution of values of stolen property. The data for the figure were computed from the 1979 National Crime Survey and refer only to crimes reported to the police. The figure suggests several observations about stolen property values.

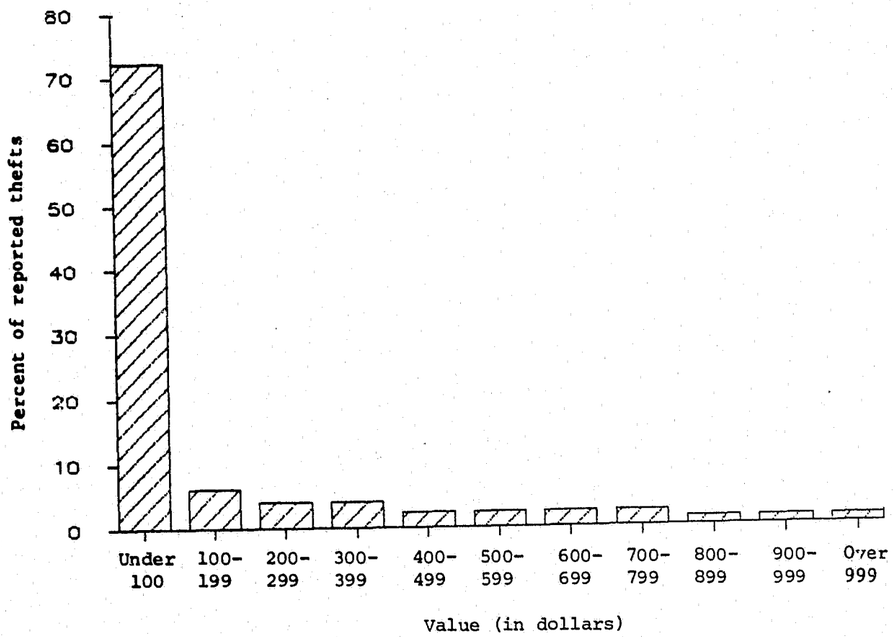
First, no summary data system could provide this information. Incident-level data are the only general means of establishing the shape of a distribution curve. In this instance, the shape of the distribution is of more than academic interest, since it graphically illustrates the extreme diversity of losses in theft incidents. Most of the thefts are relatively minor: almost three-quarters include losses of less than $100. (Attempts are excluded from these data.) A few of the thefts are extremely large. About one percent of them exceed $5,000 in value. One large theft represents as much property loss as several hundred small thefts.

The second observation is that no single measure of central tendency does a very good job of characterizing the data. The mean is dominated by the largest one percent of the values. (In this particular data base, the largest single observation contributes about seven dollars to the mean.) The median, on the other hand, is uninfluenced by the large thefts that account for most of the economic loss. For some applications, total value is the most interesting number. For others it is of practically no interest, and "typical" values are of primary concern.

Third, the distribution of values has a much larger fraction of outliers than a normal distribution. Therefore, much larger sample sizes are required to provide stable estimates of means. Because single large values can be so influential, extremely large numbers of observations are required to insure consistent counts of these extreme cases. Even with the large sample size of the National Crime Survey (over 5,000 cases of theft reported to the police), the standard error of the estimate of the average amount of property stolen is still about ten percent of the estimate.

Figure 5.5

VALUE OF PROPERTY STOLEN



Source: Bureau of Justice Statistics, Criminal Victimization in the United States, 1979.

This implies that, outside the 50 largest cities, most local jurisdictions have total stolen property values that fluctuate randomly and substantially from year to year.

The NCS provides some additional information about property values. Respondents are asked how they determined the values they report. The stated values differ systematically according to estimation method, with biases of as much as 15 percent for some classes of target property. Close examination of the exact stated values also indicates large clusters of responses at round numbers. (For example, the number of $10 thefts is about ten times as large as the number of $11 thefts.) About 5 percent of the NCS respondents were simply unable to provide a value for missing property, even in a context where approximate values were permissible.

All of this suggests inaccuracy in property valuation. Additionally, in reporting to police, victims may have incentives for inaccuracy if they think it will increase their insurance compensation or provide substantiation for a tax deduction. In fact, researchers, local agencies, and state UCR programs have all informed us that they seriously question the accuracy of property value data. Only a quarter of the police departments surveyed thought that the numbers were reasonably accurate, and of the largest departments, only 11 percent rated them this favorably. About half the departments (in each size category) said they thought property loss values "have lots of errors, but give a good idea of the general trend." Eleven percent of the largest departments, and 6 percent of the total respondents, said they thought the values they were reporting were "so inaccurate that we should not bother to collect them."

Further, property value information will inevitably sometimes be missing. Current UCR forms do not allow this to be recognized; they force a guess in every incident.[13] Treating missing data as zero violates the spirit of the coding rules. It is also the easiest solution, and one suspects that it occurs frequently. Since only total values are reported, no adjustment for missing data is possible. And, since the instructions require a value for every incident, it is not even possible to assess the extent of the problem.

Finally, some problems arise specifically due to the nature of the current summary system. The 28 offense categories for which property values are collected are subcategories of the first seven[14] Index offenses and thus implicitly bring with them all of the current classification and scoring rules. By the Hierarchy Rule, for example, property lost in a robbery accompanied by a murder will be attributed to the latter. Thus, the calculated average property value for robberies will not include all robberies.

Recovered property is even more problematic. The rules of valuation may change from theft report to recovery report, even if the property is not damaged. (If it is damaged, police are supposed to guess the post-damage value of the property.) Since only a fraction of stolen goods are recovered (a quarter according to UCR data), the inherent sampling instability is greater. The estimation problem is further exacerbated because a single recovery may involve stolen goods from several thefts.

[13]Except for burglaries at unknown hours.

[14]Arson data are collected separately; assault is defined to exclude the possibility of theft.

In short, there are a number of issues concerning property values. Several are addressed by the use of unit-record reporting. With this form of reporting, it is, for example, possible to examine the shape of the distribution of property values and to compute individual agencies' median values, which are more stable than mean values. Unit-record reporting also makes it possible to provide specifically for missing property values, which we strongly recommend be done. In this way, the extent of missing values would be known and adjustments could be made. Unit-record reporting would eliminate some of the constraints on analyzing property values by, for example, enabling calculation of average loss in all incidents involving robbery.

Because so many raised the issue of the accuracy of property value data, consideration was given to either eliminating its collection entirely or collecting it in categories. The former was rejected because it was thought important to have some information, albeit imperfect, on the extent of losses suffered. The latter was rejected because it was considered advantageous to have data collection under Levels I and II as parallel as possible. (Collection of exact dollar values in the Level II component is necessary for such purposes as examining the shape of the value distribution and computing indices that reflect adjustments for inflation.) Thus, we recommend that collection of property values be retained, and that the values be reported by dollar value, rather than categories, in Level I as well as in Level II.

5.7 Clearances

Clearance data are widely viewed as among the least reliable information in the UCR program. Suspicion of clearance statistics is shared by law enforcement officials, police officers who complete clearance reports, and researchers alike, and for many diverse reasons. While intended to shed light on the performance of law enforcement agencies, clearance statistics are not accepted as valid performance measures by many knowledgeable users of UCR data.

Considering that a burden is placed on reporting agencies to record clearances, some have suggested that clearances be omitted in the future UCR system. On balance, we find that the opportunities for improving the quality of clearance data and for enhancing understanding of their interpretation, are sufficiently great, especially with a unit-record UCR system, that clearance reporting should continue.

5.7.1 Shortcomings of Existing Clearance Statistics

Research has shown that clearance rates may vary widely across law enforcement agencies, across divisions within a single agency, or over time in a single agency, without reflecting any meaningful differences in performance. Further, most observers believe that clearance reporting is easily manipulated through management actions.

The average number of reported clearances per reported arrest ranges widely among agencies. When the number of clearances is lower than the number of arrests, typically the agency is not diligent about recording clearances; another possible explanation is that multiple offenders are frequently arrested for single crimes. Neither of these circumstances necessarily reflects poorly on the crime-fighting performance of the agency.

Suspicion is more commonly raised about the meaning of high clearance rates per crime. Clearance rate inflation can happen in at least five ways:

- officers can be diligent or overzealous in recording multiple clearances for single arrests;
- clearances can be recorded for crimes that were not reported;
- when several separate arrests are made for a single crime, a clearance may be incorrectly claimed for each arrest;
- "exceptional" clearances may be claimed under circumstances not warranted by the UCR definitions; or
- clearances may not be actually counted as they occur but rather "estimated" at the end of the month for inclusion in the UCR reporting forms.

None of these necessarily reflects favorably on the performance of the agency.

An unrelated problem sometimes prevents meaningful interpretation of clearance statistics, especially monthly statistics: the month during which a clearance is reported may be later than the month during which the cleared crime was reported.

5.7.2 Improvement in the Accuracy of Clearance Statistics

In order to increase the accuracy of clearance statistics as well as expand the possible analyses of such data, we make the following recommendations:

- Incident records submitted under the proposed system should include codes indicating whether the offense has been cleared and whether it has been cleared involving only persons under 18 years of age.[15]
- Arrest records submitted under the proposed system should include the corresponding incident numbers of (all) related criminal incidents.[16]

[15]Clearances made after submission of the incident/offense report to the state or national program would be reported by submission of an update report.

[16]Submission of such linked information raises possible issues of privacy and confidentiality which will need to be investigated.

- A special record should be created to report each exceptional clearance and the basis for the clearance.[17]

A standard procedure would need to be developed for cases in which the arrest is made in a jurisdiction other than that in which the offense occurred. One possible procedure would be to have the arresting agency forward a copy of a completed arrest report to the agency with jurisdiction for the offense and to have the latter agency determine the corresponding incident number from its record and report the arrest to the National Program.

Together with unit-record reporting, these recommendations have the potential to increase substantially the reliability of clearance statistics and to clarify the interpretation of clearance statistics and the implications of differing rates among agencies. The possibility of counting more than one clearance per reported crime would be eliminated. Clearances could not be claimed for crimes not reported. Temporal inconsistencies are resolved so that clearances could be credited against the month in which the crime was reported. The number of clearances claimed per arrest could be tabulated and analyzed. The extent to which agencies use exceptional clearances and the reasons for those clearances would be immediately available. Analysts would be able to examine the extent to which multiple arrests are made for single crimes and the extent to which arrests for one kind of crime (e.g., possession of burglar's tools) are being used to clear other types of crimes (e.g., robberies, burglaries, and larcenies). The data recommended for collection would represent a clear and perhaps dramatic improvement over currently collected clearance data.

5.7.3 Burden on Agencies of Record-Based Clearance Reporting

The proposed system evidently places new burdens on agencies that do not currently record clearances in relation to particular arrests or particular crimes. However, such burdens are intentionally imposed, because the purpose is to have agencies comply with minimally acceptable standards for reporting clearances that reflect actual performance.

While we are not certain, we expect that the proposed system would have a negligible effect on the workload burdens of agencies that are conscientiously following proper procedures for the existing summary-based system. The extent of burden should be determined as the entire unit-record system is tested and developed.

5.7.4 Reasons for Continuing Clearance Reporting

One hazard of discontinuing collection of clearance statistics is that policymakers and members of the press and the public who are not familiar with the failings of clearance statistics could mistake the motives underlying the change. Charges might arise that clearance data are not being published in the new system in order to protect law enforcement officials from having to reveal a declining level of performance. UCR reporting agencies would then be unable to demonstrate the untruth of such charges if they had in fact stopped collecting clearance statistics.

[17]The allowed reasons for exceptional clearances are given in the UCR Handbook, 1984, p. 42.

Even if the UCR program discontinued collection of clearance data, many agencies would continue their collection. Some would do so as participants in the Level II component. Others would continue to collect data simply to avoid making changes, to protect against charges of a cover-up, or to exercise internal management control. These agencies might well publish their clearance statistics locally. But without any uniform national standards and definitions, without comprehensive comparison statistics from other similar agencies, and without anyone having the capability to compile the locally reported figures into a single data base for analysis, clearance statistics would become even more suspect than they are now. For all these reasons, we rejected the possibility of discontinuing collection of clearance data.

5.8 Additional Arrest Data

Three additions are recommended in arrest reports. First, we recommend collecting type of arrest to distinguish arrests where the suspect is taken into custody, summoned, or cited. This is useful both to eliminate any uncertainty that the latter two categories should indeed be considered arrests, and to collect information on the relative frequency with which each type of arrest is made.

Second, we recommend collection of level of arrest, distinguishing among locally defined felonies and misdemeanors, and (in some states) fingerprintable arrests and "wobblers" (arrests that will later be determined to be a felony or misdemeanor). This data element is needed only for the purpose of linking UCR data to prosecution and court data (see Section 8.1.); it would not be used in publishing UCR data.

Finally, we recommend collection of secondary offense types. Just as for offenses for which we recommended collecting not only the most serious offense based on the Hierarchy Rule but all (Part I) offenses within the criminal incident, we think it is important to capture all of the types of offenses for which a person is arrested.

5.9 Description of Recommended Unit-Record Data Elements

Table 5.6 lists the data elements for the proposed unit-record Level I component. It describes the elements for incident, arrest, and exceptional clearance records. Exact definitions of the categories are not specified for certain items, such as type of theft or type of location. In these cases, examples are given to indicate the types of categories envisioned.

The information collected on the incident/offense record is similar to that collected under the current system, with only these changes:

- inclusion of the incident number as part of unit-record reporting;
- distinguishing attempted from completed offenses;
- capturing secondary offenses currently excluded by the Hierarchy Rule;
- distinguishing types of victim (individuals or households vs. businesses); and

Table 5.6

RECOMMENDED LIST OF DATA ELEMENTS FOR LEVEL I COMPONENT

Incident/Offense Record[a]

Agency identifier (ORI code)
Incident number
Additional offense records indicator[b]
Record type (initial/update/deletion)
Primary offense type
Offense status (complete/attempted/unfounded)
Secondary offense type[c]
Date of incident
Location type (e.g. private residence, gas station, convenience store, etc.)
Type of theft (e.g. pocket-picking, purse-snatching, shoplifting, etc.)
Method of entry (forcible/unlawful without use of force/attempted forcible)
Type of property stolen/damaged[d]
Number of vehicles stolen
In-use status (for arson only)
Value of property stolen/damaged[e] (dollar value)
Value of property recovered (dollar value)
Victim type (individual/business/other)
Number of victims
Resident status of victim (full-time resident/part-time resident/nonresident)
Use of force/weapon (e.g. handgun, rifle, knife, strongarm, etc.)
Clearance status (not cleared/cleared by arrest/cleared exceptionally)
Juvenile clearance status

Arrest Record

Agency identifier (ORI code)
Arrest identification number
Corresponding incident number(s) (if different from identification number)
Record type (initial/update/deletion)
Type of arrest (taken into custody/cited/summoned)
Level of arrest (e.g., felony, misdemeanor, etc.)[f]
Primary offense type
Secondary offense type[c]
Date of arrest
Age of arrestee
Race of arrestee
Sex of arrestee
Ethnicity of arrestee
Police disposition (for juvenile)(codes 1 to 5 in UCR Handbook, p. 62)

Exceptional Clearance Record

Agency identifier (ORI code)
Exceptional clearance identification number
Incident number of case cleared (if different from identification number)
Basis for clearance (codes 1 to 10 in UCR Handbook, p. 10)

[a] For homicides, all of the data elements recommended for Level II would be reported.

[b] Indicates whether an additional record exists for this incident.

[c] Repeat up to some maximum number.

[d] Includes vehicle type and arson property classification as in UCR Handbook.

[e] Includes recovery of locally stolen property recovered by any jurisdiction.

[f] The codes must allow for arrests that will later be determined to be a felony or misdemeanor, and for distinguishing between fingerprintable and other arrests.

- distinguishing residents from nonresidents.

Even the items that are unchanged yield more data than in the present system, because they would apply to every offense type. For example, at present information about type of location is collected only for robbery, burglary, and arson.

Case numbers (possibly encrypted) are needed at the national level as reference numbers for use in editing, auditing, and selecting samples for special studies. However, this inclusion of case numbers raises potentially important issues of confidentiality and access to information that will need to be addressed. If actual numbers are to reside at the national level, standards for the release of those numbers would have to be developed.

The information collected on the arrest record would be similar to that currently collected, with only these additions:

- the arrest identification number needed for unit-record reporting;
- corresponding incident numbers for purposes of linking incidents and arrests for clearance analyses (and other purposes);
- type of arrest, distinguishing arrests where the suspect is taken into custody, summoned, or cited;
- level of arrest, distinguishing felony from misdemeanor arrests; and
- secondary offense types, to capture all offenses for which an arrest is made.

The final record type is for an exceptional clearance. This record documents such clearances, provides the corresponding incident number, and gives the reason for the exceptional clearance from the definition given in the UCR Handbook. On each record the agency identifier (ORI code) is included to identify the reporting agency.

Excluded from this list of data elements are items of information collected by police departments that are useful and, in some cases, essential for local departments but not necessarily appropriate for a national data base. Examples of such items include victim and witness names and telephone numbers, geocode (e.g., census tract) of the location of the incident, and police case status (e.g., cases cleared, warrant issued but no clearance, etc.). Obviously, each local agency (whether Level I or Level II) can choose to include in its record system whatever additional data it wishes. Further, state programs may choose to ask agencies within the state to submit additional elements beyond those included in the National Program. In developing both local and state generic software for the future UCR system, provision should be made to facilitate inclusion of such "local option" data elements.

Together, the proposed set of data elements, while only slightly more extensive than those captured under the current system, would represent a substantial enhancement of the current system. The additional elements would address several of the most important issues raised by the contributors and users of UCR data, and the

method of collecting the data (unit-record reporting) would provide enormously greater flexibility in the ways in which the data could be used. The type of arrest element distinguishing felonies from misdemeanors would be included principally for the purpose of eventual linkage to Offender-Based Transaction Statistics (OBTS) systems currently being developed. Since OBTS systems are generally limited to felony cases, and since the processing of cases through the criminal justice system depends on the felony/misdemeanor distinction, it is important to capture this data element. The offense type recorded on the arrest record need not match the offense type on the corresponding incident report. A burglar may be arrested for possession of burglar's tools or stolen property, while the offense cleared is a burglary. In fact, it is useful to record both offense types in order to be able to examine their relationship.

Chapter 6

UNIFORM CRIME REPORTING: LEVEL II

The Level I component described in the previous chapter will, like the current UCR, provide crime statistics on virtually all local law enforcement agencies in the United States. This breadth of coverage, however, necessarily restricts the depth of information collected. Even with the improvements suggested in the previous chapter, the Level I component provides no information on many offense types and only limited data describing the nature of those criminal incidents that are included.

Such information is needed to provide a more comprehensive view of the incidence of crime in the United States and to provide a means for examining the nature of crime generally. Further, this needed depth of information can be obtained with relative ease from many larger departments and could be acquired from a limited sample of smaller agencies. The Level II component proposed in this chapter is designed to supplement the information from the Level I component by providing this depth.

The primary objectives of the Level II component are threefold:

- to provide accurate and detailed national and regional crime statistics;
- to provide detailed crime statistics on individual agencies and representative groups of agencies, for use by other agencies as a basis for comparison; and
- to provide a national crime data base containing detailed information on the nature of offenses and the characteristics of victims and offenders.

Our recommendations for the Level II component are the following:

6.1 Seek participation in the Level II component from all agencies serving populations in excess of 100,000 and a sample of at least 300 smaller agencies.

6.2 Collect Part II, as well as Part I, offense data and use and more detailed offense-type categories than the current categories.

6.3 Collect detailed incident data describing the nature of the criminal incident, including victim and offender characteristics, victim-offender relationship, use of force, nature and extent of injury, and type of location.

6.4 Collect data periodically describing the characteristics and policies of reporting law enforcement agencies. Assemble these data together with demographic, socioeconomic, and physical characteristics of each jurisdiction, which should be obtained from other sources such as the U.S. Census Bureau.

6.5 Design the National Program to allow for a variety of levels of state program participation in Level II.

The Level II component would include all of the data elements included in Level I. As a consequence, most of the recommendations for Level I apply to Level II as well, including:

- elimination of negligent manslaughter and broadening of the rape category;
- distinguishing attempted from completed offenses;
- reporting of other distinct offenses occurring within a criminal incident in addition to the most serious offense;
- redefining aggravated assault in terms of use of weapons and extent of injury;
- collecting homicide circumstances as a code;
- distinguishing crimes against businesses from crimes against individuals or households;
- distinguishing between crimes against residents and crimes against nonresidents;
- collecting property values by dollar value;
- recording related incident numbers on arrest records; and
- submitting exceptional clearance records.

6.1 Participating Agencies

One of the key features of the Level II component is its ability to provide accurate national and regional estimates through actually implemented by a relatively small fraction of agencies. In this way the burden on local contributors is limited.

This would be accomplished by selecting agencies in such a way that the crime statistics they report would be nationally and regionally representative. The design of this sample is discussed in Appendix D. As indicated there, participation in the Level II component should initially be sought from all of the approximately 300 city and county agencies serving populations over 100,000 and from a sample of at least 300 other agencies. Because of the concentration of offenses in large agencies, these agencies would include more than one-half of all offenses in the United States.[1] This approach would yield national and regional estimates that could be used by all law enforcement agencies for comparisons with their own statistics. Estimates would also be made by jurisdiction size. Crime statistics for agencies participating in the Level II component should also be available individually, so that nonparticipating agencies could compare their crime statistics directly with those of a particular participating agency of their choice.

[1] Assuming the (unknown) distribution of Part II offenses is similar to the (known) distribution of Part I offenses.

Development of the Level II component may also be valuable to agencies not participating in this system in another way. As discussed in Chapter 10, considerable effort would be devoted to developing generic software and systems manuals for the Level II component. After testing and refining in Level II operations, these software and manuals should be made available to all agencies wishing to adopt the Level II data collection system. Many agencies desiring to upgrade their crime-reporting system should generally be able to install the system at comparatively little cost.

6.2 Offenses Included

A second fundamental feature of the Level II component would be the collection of counts of offenses for Part II as well as Part I offenses. While we have not recommended changes for the Level I component in this regard, we recommend collection of counts for all Part II offenses in the Level II component.

Further, we recommend that the offense type categories used be more detailed than the current Part II categories. In particular, many of the offense types included in the existing miscellaneous category should be given separate categories (e.g., kidnapping, blackmail, extortion, and bribery). Also some of the existing categories might be broken down into more detailed categories (e.g., illegal manufacture of deadly weapons might be distinguished from illegal carrying of deadly weapons).

In developing the final set of categories, the National Crime Information Center (NCIC) codes should be taken into account. The greater detail of these codes provides a specific set of detailed codes for consideration. At a minimum, the UCR categories should be developed so that the NCIC and UCR codes will be compatible. In choosing offense categories, the categories being used in current unit-record systems encompassing Part II offenses (especially state systems) should be considered, in order to build upon the experience of those systems.[2] The resulting categories would also be used for coding Part II arrests in both the Level I and Level II components.[3]

Information obtained from all surveys and interviews with those who collect and use UCR data support the inclusion of Part II offenses. Those contacted commented that:

- Part II offenses may cause as much or more harm or loss as Part I offenses;
- the focus on Part I offenses may have diverted police and public attention away from other offenses;
- Part I offenses are not necessarily most relevant to a department's day-to-day operation; and

[2]State UCR programs, of course, might choose to use even more detailed categories for their own purposes than those specified by the National Program. The categories used would, of course, have to be defined as subcategories of those used nationally in order to be able to meet the National Program requirements.

[3]Use of NCIC codes for Part I arrests should be explored at the same time.

- most departments are small, and Part II crimes are important in these departments.[4]

The UCR Survey of Law Enforcement Agencies supports collection of Part II data. Table 6.1 gives the percentage of agencies indicating that offense counts should be collected for a selected set of Part II offenses included in the survey, broken down by size of jurisdiction. There is almost no difference across the two jurisdiction size groups. While there is substantial variation from one offense to another, the percentage of agencies thinking counts should be collected is generally quite high, ranging from a low of 58 percent to a high of 96 percent, with most figures tending to be toward the higher end of the range.

The current UCR system simply cannot inform policy concerns about crimes not identified by the Part I offense categories. This is a serious issue. Because it is the national data base on criminal offenses, the public looks to the UCR Program for data on emerging issues. Recently, for example, the Attorney General's Task Force on Family Violence called for expansion of the UCR to collect information on the incidence of family violence. Prior concerns with arson led to a legislative requirement that counts of arson incidents be collected. While some information can be obtained from the National Crime Survey (NCS), the sample sizes for this survey are often too small to provide adequate geographic detail or information on relatively infrequent, but serious, crimes. Further, the NCS is restricted to crimes against individuals and would be inappropriate for collecting information on the number of arsons, for example.

Collecting the entire range of Part II offenses would allow the UCR Program to respond to emerging needs in two ways. First, of course, the range of offenses covered would include almost all crimes known to the police. Second, as discussed in Section 6.6, if more detail is needed to identify specific offenses or situations, special data collection efforts could be undertaken for samples of unit records of offenses or arrests submitted under the Level II program. This would provide the new program with the capacity for timely response at minimal cost to contributors and government.

6.3 Detailed Data

A fundamental feature of the proposed Level II component is the inclusion of detailed incident data describing the nature of the criminal incident and the characteristics of the victim. Specific recommendations are listed in Table 6.2. All of the Level I component data elements are included and are shown with an asterisk. Detailed categories remain to be developed for items such as type of weapon or type of location. However, examples of some possible categories are included in the table to indicate the type of categories envisioned.

Our interviews and surveys of those using UCR data, as well as our review of the literature discussing UCR data, provide strong support for the inclusion of such detailed data. Recommendations for inclusion came from all classes of users--law enforcement, state UCR programs, researchers, the media, and others. The UCR Survey of Law Enforcement Agencies in particular indicated broad support from law enforcement, as shown previously in the bar graphs in Chapter 5 and described here in

[4]See Chapter 2.

Table 6.1

PERCENTAGE OF AGENCIES FAVORING COLLECTION OF OFFENSE COUNTS IN UCR FOR SELECTED PART II OFFENSES

Offense type	Size of jurisdiction	
	Under 10,000	Over 10,000
Statutory rape, female	88	86
Sexual abuse of children	96	96
Simple assault	73	75
Assault, child abuse	92	93
Assault of spouse	73	75
Kidnapping	96	93
Bad checks	58	60
Embezzlement	73	73
Child pornography, sale	84	77
Other pornography, sale	75	70
Drug abuse, sales	87	84
Drug abuse, possession	80	79
Vandalism	69	65

Source: UCR Survey of Law Enforcement Agencies, conducted by Abt Associates Inc., 1984.

Note: Figures shown are estimates for all law enforcement agencies in the United States.

Table 6.2

RECOMMENDED LIST OF DATA ELEMENTS FOR LEVEL II COMPONENT

Incident/Offense Record

* * Agency identifier (ORI code)
* * Incident number
* * Additional offense records indicator[a]
* * Record type (initial/update/deletion)
* * Primary offense type
* * Offense status (complete/attempted/unfounded)
* * Secondary offense type[b]
* * Date of incident
* * Circumstance code (homicides only)(e.g., barroom brawl, lover's quarrel, drunkenness, revenge, etc.)[c]
  Time of incident
* * Location type (e.g., private residence, gas station, convenience store, etc.)
  Type of forcible sexual offense (rape of female/rape of male/rape by instrumentation/etc.)
* * Type of theft (e.g., pocket-picking, purse-snatching, shoplifting)
  Number of premises entered
* * Method of entry (forcible/unlawful without use of force/attempted forcible)
  Type of property loss (none/theft/damaged/other)
* * Type of property stolen/damaged[d]
* * Number of vehicles stolen
* * In-use status (for arson only)
* * Value of property stolen/damaged[e] (dollar value)
* * Value of property recovered (dollar value)
* * Victim type (individual/business/other)
* * Number of victims
  Age of victim[b]
  Race of victim[b]
  Sex of victim[b]
  Ethnicity of victim[b]
* * Resident status of victim (full-time resident/part-time resident/nonresident)
* * Use of force/weapon (e.g., handgun, rifle, knife, strongarm, etc.)
  Nature and extent of injury (e.g., death, broken bones, internal injuries, loss of teeth, etc.)
  Zip code of victim
  Number of offenders
  Age of offender[b,f]
  Race of offender[b,f]
  Sex of offender[b,f]
  Ethnicity of offender[b,f]
  Relationship of victim to offender[b,f]
* * Clearance status (not cleared/cleared by arrest/cleared exceptionally)
* * Juvenile clearance status

Arrest Record

* * Agency identifier (ORI code)
* * Identification number of the arrest record
* * Corresponding incident number(s) (if different from identification number)
* * Record type (initial/update/deletion)
* * Type of arrest (taken into custody/cited/summoned)
* * Level of arrest (felony/misdemeanor/etc.)[g]
* * Primary offense type
* * Secondary offense type[b]
* * Date of arrest
* * Age of arrestee
* * Race of arrestee
* * Sex of arrestee
* * Ethnicity of arrestee
* * Police disposition (for juvenile)(codes 1 to 5 in UCR Handbook, p. 62)

Exceptional Clearance Record

* * Agency identifier (ORI code)
* * Identification number for the clearance record
* * Incident number of case cleared (if different from identification number)
* * Basis for clearance (codes 1 to 10 in UCR Handbook, p. 10)

*Asterisk indicates inclusion in Level I component.

[a]Indicates whether an additional record exists for this incident.

[b]Repeat up to some maximum number.

[c]A narrative description of the circumstances of homicide would also be submitted.

[d]Includes vehicle type and arson property classification as in UCR Handbook.

[e]Includes recovery of locally stolen property recovered by any jurisdiction.

[f]As reported by victim or witness.

[g]The coding must allow for arrests that will later be determined to be a felony or misdemeanor, and for distinguishing between fingerprintable and other arrests.

Table 6.3. Typically, 28 to 47 percent of agencies found these data very useful, another 33 to 48 percent found them somewhat useful, and only 10 to 24 percent found them to be not useful at all. Furthermore, 37 to 64 percent of agencies thought that the element would be easy to supply (the percentage depending, of course, on the particular item).

Strong support for the collection of victim characteristics in particular (for a specific set of violent crimes) has also come from the Attorney General's Task Force on Family Violence:

> The Uniform Crime Reports of the Federal Bureau of Investigation (FBI) should be revised to collect and publish data that indicate the age of the victim and the relationship of the victim to the offender for crimes of aggravated assault, simple assault, rape, sex offenses (except prostitution), and offenses against the family and children.[5]

Indeed, the array of victim characteristics--the victim's age, race, sex, and ethnic origin and the victim's relationship to the offender--is perhaps most notable among the recommended elements. This information is critical to those interested in examining offenses against particular subpopulations--crimes against children, crimes against the elderly, crimes against women, and so forth. Offender characteristics, when known, would also be included whether or not the offender is specifically identified and/or arrested.[6]

Also recommended for inclusion in the Level II component are elements describing the nature of any confrontation between the victim and the offender--the use of force and/or weapon, the type of weapon (if any), and the extent of injury. This information is necessary to examine the extent of violence and to offer the public and government a better understanding of the context of violent offenses. Together with the victim and offender data, and data on the victim-offender relationship in particular, these data would permit investigation of the nature of the interaction between victim and offender never before possible with UCR data.

Several other data elements would describe details of the incident itself. Time of day and day of week were identified as being of interest in our surveys of UCR users. Although day of week is not explicitly listed in the data elements, it is derivable with a computer algorithm from the date of the incident. The number of premises entered would be included to provide more detailed information on infrequent but complicated cases falling under the Hotel Rule. Finally, type of property loss would be included in order to distinguish theft losses from others (e.g., due to vandalism).

Another included item would be the Zip code of the victim. Inclusion of this variable would permit certain geographic analyses of crime, for example, examination of the proportion of crime in major metropolitan areas that is committed against resi-

[5]Attorney General's Task Force on Family Violence, Final Report, Washington, D.C., September 1984, p. 82.

[6]If a suspect is later arrested, his or her characteristics would be given on the arrest report, but the incident report would not be changed or updated.

Table 6.3

PERCENTAGES OF LAW ENFORCEMENT AGENCIES FOR WHICH DETAILED INCIDENT DATA ARE USEFUL AND EASY TO SUPPLY

Data element	Usefulness of data: Very useful	Somewhat useful	Not useful	Easy to supply
Victim characteristics				
Age	39	45	16	55
Sex	39	44	17	58
Race	34	43	23	52
Victim-offender relationship	31	48	21	37
Type and extent of injuries	28	48	24	39
Use of force	47	39	14	56
Types of weapons	57	33	10	60
Time of incident	52	35	13	64

Source: UCR Survey of Law Enforcement Agencies, conducted by Abt Associates Inc., 1984.

Note: Figures shown are estimates for all law enforcement agencies in the United States.

dents of the central city, or the percentage of crime against residents of suburban areas occurring in urban areas.

It should be noted that, while we have recommended substantial expansion of incident data collection, we have not recommended additional data elements for reporting of arrest records. No new data elements were identified as being important in our research. Strong interest in a full breakdown of arrestees by age, race, and sex, not possible with the current summary system, was identified, but this, of course, would be readily available with unit-record reporting of arrests. Nevertheless, using a finer breakdown of offense types will provide highly useful information not currently available.

As for the Level I component, a special record would be submitted to document exceptional clearances. This record would be identical in form to that used in the Level I component.

An element not included in the table but recommended for consideration and testing during the development of the system is an item (or items) to indicate which of the offenses occurring in a multiple-offense incident was the originally intended, "source crime" of the incident. Such an item would be useful to police and researchers alike in understanding the nature of criminal incidents. We have recommended the element for consideration only, because of the subjectivity in coding and lack of experience in collecting and using such an element.

A particularly important class of data elements excluded from Table 6.2 is items related to drugs. A number of users of UCR data indicated an interest in having information such as number of drug-related offenses and drug-related arrests, and the types and amounts of drugs seized or in possession of arrestees. Given the highly subjective judgments involved, it is probably more appropriate to collect such information on a special study basis until the problems of collecting it, and the utility of analyzing it, are better known. We do urge, however, that these data be collected on such a basis at the earliest opportunity.

As with Level I, data elements useful to local operations but unnecessary for a national data base are not included in the list of required items. Local agencies obviously could (and should) include any additional items they wish in their records systems. Indeed, a major potential benefit of the proposed system would be to enable local agencies to include geocodes of incident location in their systems, analyze crime patterns by neighborhood, and inform the public of these patterns. Further, state programs might request agencies to submit other items of importance at the state level. The development of generic local and state systems will need to allow for such elements.

6.4 Agency and Jurisdictional Characteristics[7]

The utility of the Level II component data would to be substantially increased if various characteristics of the participating agencies and the jurisdictions they serve were included. A list of recommended items is shown in Table 6.4.

[7]This section relies heavily on material contributed by Greg Thomas of the Police Executive Research Forum.

Table 6.4

JURISDICTIONAL AND AGENCY CHARACTERISTICS RECOMMENDED FOR INCLUSION IN LEVEL II DATA COLLECTION

Characteristic	Proposed source
Jurisdictional characteristics	
Region of the United States	FBI UCR master file
Juvenile age limit in state	FBI UCR master file
Population size	FBI UCR master file
Age/sex/race/ethnic origin composition	U.S. Census Bureau
Land area	Annual UCR survey
Road miles	Annual UCR survey/U.S. Census Bureau
Number of households	U.S. Census Bureau
Number of commercial establishments, by type	U.S. Census Bureau
Number of automobiles	State motor vehicle registrars
Agency characteristics	
Agency type[a]	Annual UCR survey
Number of employees by sworn ranks Civilian-professional Civilian-paraprofessional Civilian-clerical	Annual UCR survey
Number of employees by sex and race/ethnicity	Annual UCR survey
Number of employees by full and part-time status	Annual UCR survey
Annual operating budget	Annual UCR survey
Minimum/maximum salaries for sworn ranks	Annual UCR survey
Shift assignment (fixed/rotating)	Annual UCR survey
Patrol unit staffing (one/two officers)	Annual UCR survey
Formal case screening (yes/no)[b]	Annual UCR survey
Alternative response[c]	Annual UCR survey
Cars taken home[d]	Annual UCR survey
Firearm policy[e]	Annual UCR survey
Foot patrol[f] (yes/no)	Annual UCR survey
Number of calls for service	Annual UCR survey
Number of firearm incidents[g]	Annual UCR survey

[a]For example, municipal police, sheriff's office with general police responsibility, state police, transit police, etc.

[b]Does the department have a formal process of screening cases and closing those with little solvability potential?

[c]Does the agency evaluate incoming calls for service and assign alternative reporting procedures, like taking a report over the telephone or scheduling an appointment to interview the caller at a later time?

[d]Does the agency assign marked police units to its patrol officers for their personal use while off duty?

[e]Does the department's current policy limit the use of deadly force to the defense of human life and exclude the use of deadly force in apprehending fleeing felons?

[f]Does the department have regularly assigned, full-time foot patrol beats?

[g]Number of incidents involving firearms discharged at or by members of the department in the reporting year.

Most of the jurisdictional characteristics would be obtained from existing data sources such as the U.S. Census Bureau. These data are needed to compute population-at-risk crime rates (as, for example, rapes per female, burglaries per household, car thefts per automobile, etc.). They could also be used to examine possible sources of variation in crime and arrest rates due, for example, to changes in the demographic composition of the resident population.

Agency characteristics primarily describe the type of agency, available resources, and certain agency policies. Collection of these characteristics would permit observation of changes in police practice over time. It would permit agencies to compare their resources with those of agencies in similar jurisdictions. Cross-agency analyses controlling for jurisdictional differences might be able to establish relationships between certain agency policies and offense or arrest rates.

In addition, annual numbers of calls for service would be collected with the survey to measure of the extent demand for police services. Overall, 41 percent of agencies responding to the UCR survey found number of calls for service very useful, and another 34 percent found them somewhat useful. Fully 58 percent of agencies serving populations over 100,000 found these data very useful.

Agency characteristics could all be obtained by supplementing the current Law Enforcement Employees Report, which annually collects information on number of full-time law enforcement employees, with a special questionnaire module sent only to Level II law enforcement agencies. (Agencies reporting under the Level I component would continue to provide only the police employee data currently collected.) Since only some of the items are likely to change from one year to the next, each agency might be sent a listing of its previous responses and asked to update it where appropriate, thereby minimizing the burden on local contributors.

6.5 Integration with Level I Component

Data collection under the Level II component would be fully integrated with Level I data collection. As shown in Table 6.2, each data element included in the Level I component would also be collected under the Level II component. Thus, Level I-type data elements would be available from all UCR contributing agencies.

Transmission of data would be as described in Chapter 4. The several options envisioned for state program involvement in handling Level II data are described in Section 6.7.

6.6 Special Studies

One of the great strengths of unit-record reporting in general, and of the Level II component in particular, is provision of an immediate capability to perform special studies of criminal incidents or arrests. Such studies could be conducted by drawing samples of relevant offense or arrest records, based on data elements included in the system, and then gathering additional information on these cases. The information would most often be collected by forms mailed to law enforcement agencies (probably through the state programs), although special data collection teams might be used in some instances.

These data bases could be used to address at least three types of needs as they arise--the need for additional information on the nature of certain types of crimes, the need for additional information to identify the extent of certain crimes, and the need for followup on offenses. For example, a particular need might arise to understand the circumstances of rapes in which the victim is related to the offender. Such offenses could be identified with the expanded system data, a small national sample selected, and additional information solicited from the agencies reporting the selected offenses. In other cases, the extent of a given offense subcategory, for example, jewelry-store burglaries, may be unknown. A special study could be conducted by selecting a sample of burglaries of commercial establishments and collecting additional information to ascertain the proportion that involve jewelry stores.

Finally, such studies could be used to examine the consequences of offenses to victim or offender. There is today no representative national data base that tracks crimes from arrest through prosecution and court disposition, although the OBTS data bases being developed by many states will eventually perform this function. In the meantime, the UCR Program could undertake a one-time or periodic special study to construct a highly accurate and representative national data base to examine criminal punishment in the United States. A small sample of arrestees could be selected and followed up to collect information on prosecution, disposition, and sentencing. This is offered as an example of the capability of the proposed system to conduct special studies, not as a specific recommendation.

6.7 State Participation

Several options are envisioned for state participation in the Level II component. First, some states with UCR programs might want all agencies within the state to collect Level II-type data. This option obviously provides the most accurate state-level crime statistics and should be considered by states having the necessary resources to support this level of data collection. Such states would process these data for their own use and forward data periodically to the National Program. Depending in part on resource availability, the National Program might ask the state to submit either all of the Level II-type data or possibly only data from those agencies serving populations over 100,000 or included in the sample of smaller agencies. Level I-type data would be submitted for all agencies in any case.

Other state programs wanting to make accurate state-level estimates but lacking the resources to include all agencies might augment the national sample of agencies. Such a sample might, for example, include all agencies serving populations in excess of 10,000 and a sample of smaller agencies. These state programs would process the data for state use and forward it to the national level as well. Again, Level II data sent to the National Program might be data either from all of these agencies or possibly from only those agencies included in the national sample.

Still other states might choose to ask only those agencies selected nationally to submit Level II data, but would be willing to process and edit these data. However, this option generally would not provide a large enough sample to obtain state-level estimates of reasonable accuracy. These state programs would strip off the included Level I data elements for the selected agencies for their own processing and reporting, forwarding to the National Program Level II data (including the Level I data elements) for these agencies plus Level I data for other agencies.

Some state programs might be unwilling to process Level II data at all. In these states, the data would either be sent to the state program for forwarding to the National Program or be sent directly to the National Program. Level I data from the Level II agencies would probably best be sent to the state program, although the National Program could strip off the Level I information obtained from these agencies and send it to the state program.

Finally, where there is no state UCR program, data from participating local law enforcement agencies would be collected directly by the National Program.

While the Level II component could accommodate a wide range of state program involvement, states should seek to establish programs capable of including at least an augmented state Level II sample. The reasons for this, already discussed in Chapter 3, are clear. First, because state programs can provide more accurate data, their involvement would improve the quality of the national data base. Secondly, states play a key role in the development of criminal justice policy in the United States. Accordingly, state policymakers need the depth and breadth of information provided by Level II reporting for their state rather than having to rely on national or regional trends.

6.8 Design of the Level II Sample

Level II must be able to provide national estimates for the expanded information collected in this component. This requires that the Level II agencies form a national probability sample. Design of an appropriate sample is discussed in detail in Appendix D. This section summarizes the main conclusions of that discussion.

The recommended sample for Level II agencies would consist of all of the 290 agencies serving jurisdictions with populations of 100,000 or more, plus a sample of at least 300 to 500 smaller agencies stratified by region, size, and degree of urbanization.

There are several reasons to include all of the largest agencies. First, these agencies are simply too important not to include. As a group, they constitute less than 2 percent of current UCR contributors, yet account for more than half of the UCR offenses currently reported. Secondly, these agencies generally already maintain extensive automated data systems; they could provide Level II information at relatively little cost to themselves and in the form (magnetic tape) that would be most easily processed by the UCR Program. Finally, although it might be technically more efficient to omit a few large agencies from the Level II system, it would seem advantageous simply to include them all, both in terms of securing cooperation and in terms of ease of reporting.

The sample of smaller agencies would be stratified by region, size, and degree of urbanization for two reasons. First, it seems desirable to design a sample that can provide reasonably reliable estimates at the regional as well as the national level. Indeed, it seems likely that separate estimates by jurisdiction size class, or by degree of urbanization (cities, suburbs, and rural areas) should be explored as well. Second, crime rates tend to differ across regions and across jurisdictions of different sizes and degrees of urbanization, so that stratification would allow a smaller total sample size.

These sample sizes are not incontrovertible. Designing any sample always involves a tradeoff between the total resources required and the precision of estimate obtained. Thus, while we can say that the sample of 600 to 800 agencies discussed here would be adequate to achieve reasonable levels of precision at the national and regional levels, final sample sizes would depend on the resources available and the precision desired by the government. In addition, as discussed in Appendix D, the design of the best possible sample is not straightforward. It must account for the wide array of statistics to be estimated, the extent of variation within strata and over time, and the exact procedures used to create estimates, among other considerations. Thus, final samples might be larger or smaller or more or less heavily stratified. Nevertheless, the sample sizes presented here provide a good idea of the approximate size and structure required.

The number of agencies interested in collecting Level II data may be expected to grow over time. Some state programs already require extensive unit-record reporting; others may convert to a statewide Level II program once the supporting software and forms have been developed. As more agencies automate, they may find it convenient and desirable to collect Level II data, especially as the value of the additional Level II information is demonstrated. Such evolution is not without precedent. The UCR Program began in 1930 with 400 agencies, grew to over 4,000 by 1940, and to almost 16,000 today.

But there are important differences between the UCR of 1930 and the proposed Level II component. Federal data collection was in its infancy in 1930. No one today would accept crime statistics from a small number of volunteer agencies with automated systems as adequate to inform national policy. Such agencies could not possibly be regarded as representative of the nation, and the data they provided would be largely discounted as merely special case studies rather than national statistics. Nor can we expect the public, police, and policymakers to wait ten years or more for most agencies to report Level II data. Thus, Level II must start with a national probability sample of agencies.

The number of Level II contributors could still grow from that base, however. How to include these additional agencies in state and federal publications and data bases would depend, to some extent, on the numbers involved and the resources available for processing additional data. Nevertheless, it is conceivable that, eventually, all agencies would elect to report under Level II, and even that, some years from now, a future study of UCR will call for a sample of "Level III" reporting agencies to take advantage of further advances in information technology.

Chapter 7

QUALITY ASSURANCE IN THE UCR SYSTEM

Four key findings emerge from review of UCR audit and quality assurance procedures at the federal, state, and local levels. First, accurate and consistent reporting is essential to the UCR Program. Second, there is widespread concern about the accuracy of UCR data--concern that is shared by the FBI, state UCR programs, local law enforcement agencies, researchers, and other UCR users. Third, despite this concern, nobody knows how accurate UCR data actually are, which seriously compromises their utility and authority. Fourth, the UCR Program can overcome these problems through a combined program of auditing, establishing recordkeeping standards for contributing agencies, and providing for ongoing support and feedback from the FBI and state UCR programs.

Accurate and consistent reporting is essential to the UCR Program. Indeed, the Uniform Crime Reporting Program was originally conceived to meet local police needs for accurate and consistent information on the nature and extent of crime in their jurisdictions. Before the UCR Program was implemented, local departments were at the mercy of the local press, whose swings in coverage of individual crimes generated a succession of "crime waves."[1] Police departments generally had no system for tallying crime in their jurisdictions. Even when they did, however, their figures were useless for assessing actual conditions, since there was no basis against which to assess local figures and no assurance that the figures were accurate. The Uniform Crime Reporting Program met this need by transforming local department tallies into uniform national FBI reports on local crime, which in turn meet a variety of needs for national crime information and research on criminal activity and law enforcement.

Much of this report is devoted to discussion of ways in which the UCR Program can take advantage of advances in technology and local police information systems to provide a more flexible and accurate picture of crime in the United States. The proposed enhancements to the UCR Program would allow for many alternative ways of counting and classifying crime and for greatly enhanced descriptions of the nature, circumstances, and victims of criminal events. Nevertheless, the heart of the UCR is still its assurance of accurate and comparable local crime reports, and such enhancements will be useless unless the accuracy of the reports can be assured.

There is considerable worry about the accuracy of UCR counts. Two sorts of accuracy issues are involved. The first is the question of bias. Many users and contributors believe that the UCR tends to undercount offenses, for example. Particular concern attaches to gray areas such as a broken window or other damage to property that might be interpreted either as vandalism (which is not included in the current UCR crime Index) or attempted burglary (which is counted in the Index). Likewise, the distinction between aggravated assault (which is counted in the Index) and simple assault (which is not counted in the Index) rests to some extent on judgment as to whether there is intent to inflict "severe or aggravated bodily injury."

[1]See, for example, Lincoln Steffens, The Autobiography of Lincoln Steffens, Harcourt, Brace & World, 1968.

The concern is that, where classification is a matter of judgment, departments may tend, on average, to classify events so as to reduce crime Index counts. Similarly, it is thought by some that UCR may tend to overcount arrests. That is, some departments may report multiple arrests for a single arrest with multiple offenses and/or count an arrest twice when a person is wanted by one jurisdiction and arrested by another.

Interestingly, the question of overall bias is not necessarily as serious as it might seem. We already know that UCR can never hope to count all crimes because many go unreported. We also know that there are, in fact, gray areas where judgment errors may occur. As long as reported counts systematically exclude a certain proportion of crimes, they can still serve as an excellent index of crime. Similarly, while inflated counts of arrests and clearances could be important if they were severe enough to produce a real misperception of the probability of apprehension, this magnitude of error is generally not alleged.

Of even greater concern than bias is variation across departments and over time. If we do not know whether a difference in reported crime rates between two departments or two years represents a real difference in crime or a difference in reporting, then we have no idea whether we should take the difference seriously. This was a recurring theme in our early conversations with police and researchers. Indeed, in the UCR Survey of Law Enforcement Agencies, two-thirds or more of the departments felt that more than just a little of the variation in crime and clearance rates across departments reflected differences in reporting practices. One-quarter or more of the larger departments (over 10,000 population) felt that reporting differences accounted for a great deal of the variation. There was somewhat less concern for variation over time, but even here about half of the departments felt that more than just a little of the variation from year to year was due to changes in reporting.

Despite these widespread perceptions, there is remarkably little hard evidence on the actual extent of UCR bias or reporting variation. Efforts to use victimization surveys for this purpose are seriously hampered by problems of comparability, the unknown errors in the survey results, and the very thin survey samples. Anecdotal evidence abounds. A 1967 Task Force Report from the President's Commission on Law Enforcement and Administration of Justice cited 11 cases in which offense counts in major cities had jumped by anywhere from 26 to 202 percent in one year.[2] They then recounted the history of Chicago and New York:

> "Although Chicago, with about 3 million people, has remained a little less than half the size of New York City with 7½ million throughout the period covered . . . , it was reporting in 1935 about 8 times as many robberies. It continued to report several times as many robberies as New York City until 1949, when the FBI discontinued publication of New York reports because it no longer believed them. In 1950 New York discontinued its prior practice of allowing precincts to handle complaints directly and installed a central reporting system, through which citizens had to route all calls.

[2]President's Commission on Law Enforcement and Administration of Justice, Task Force Report: Crime and Its Impact--An Assessment (Washington, D.C.: Government Printing Office, 1967), p. 22.

"In the first year, robberies rose 40 percent and burglaries 1,300 percent, passing Chicago in volume for both offenses. In 1960 Chicago installed a central complaint bureau of its own, reporting thereafter several times more robberies than New York. In 1966 New York, which appeared to have had a sharp decline in robberies in the late fifties, again tightened its central controls and found a much higher number of offenses. Based on preliminary reports for 1966, it is now reporting about 40 percent more robberies than Chicago."[3]

The Chicago/New York story did not end with the 1967 Task Force Report. In 1983, a Chicago TV station, WBBM-TV, reported having uncovered evidence that crime records were being erroneously dismissed as unfounded by the Chicago Police Department, in order to keep their crime statistics low. Subsequent audits conducted internally and by the FBI confirmed the allegations. The FBI found that reports of serious crimes in Chicago had been dismissed as unfounded from 7 to 19 times more often than in other big cities, and that the largest increase in such dismissals in Chicago was associated with the most severe crimes. An internal audit conducted by the police department reviewed a sample of 2,300 rapes, robberies, and burglaries classified as unfounded in 1982. Police auditors concluded that more than 40 percent had been discarded in error.[4] Nor is Chicago the only such case. A recent article in the Columbus, Georgia, Ledger and Examiner maintained that police there achieved Columbus's reputation as one of "the 15 safest cities in the U.S." by classifying almost half of its crime reports as "miscellaneous incidents."[5]

The fact that such misreporting occurs in a system involving almost 16,000 voluntary reporting agencies is neither surprising nor especially useful for assessing the overall accuracy of the UCR. Some general evidence is available from audits performed by the IACP and by a few state UCR programs. These audits, discussed more fully in Section 7.5, are in no sense representative of the entire UCR system, but at least they give some indication of the likely extent of UCR bias and reporting variation.

Examination of IACP and state audit results suggest substantial underreporting but more substantial variation in reporting across agencies. Part I offenses for all agencies audited were undercounted by about 16 percent. Arrest and clearance data were more accurate. Overall, 5 percent of arrests and only 2 percent of clearances went unreported. Variation in reporting was much more pronounced. In terms of offense counts, for example, one quarter of agencies were found either to overreport offenses or to underreport by 10 percent or less, while another quarter underreported by 39 percent or more. For clearances, one quarter were found to underreport by 33 percent or more, while at the other extreme, another quarter

[3] Ibid., pp. 22-23.

[4] See "Fighting Crime with Erasers," Chicago Tribune, February 1983, p. 10; "Chicago Police Found to Discard Cases Erroneously," New York Times, 2 May 1983, p. A-2c.; "Burying Crime in Chicago," Newsweek, 16 May 1983, p. 63.

[5] Ledger and Examiner (Columbus, Georgia), September 4, 1984, pp. A-1 and A-3.

overreported by 57 percent or more. Arrests showed similar variation, with one quarter underreporting by 22 percent or more, while another quarter overreported by 6 percent or more.

In short, there is evidence that the widespread concerns about the accuracy and consistency of the UCR system are at least somewhat justified. These concerns can and must be addressed. The UCR must establish programs to measure the extent of error, to improve local agency reporting, and to provide greater training and support to state and local agencies.

The key recommendations are:

7.1 Institute routine, ongoing audits of samples of participating UCR agencies in order to establish the extent of error in the system on a continuing basis.

7.2 Develop a code of professional standards for reporting systems.

7.3 Develop improved feedback to agencies through self-administered proficiency tests, periodic reports on common audit errors, and regular reports to individual agencies on the extent of edit discrepancies in their UCR submissions.

7.4 Strengthen state UCR program quality assurance, including expansion of local agency audits conducted by state programs.

The following sections detail recommended steps to provide definite information on the extent of error and to improve reporting quality. A final section documents the examination of audit findings.

7.1 Audits

A national audit program is essential to assuring UCR accuracy and consistency. Such a program would put into effect, on a routine basis, procedures like those developed by the IACP. Auditing is required to identify the extent and causes of error in UCR reporting, to respond to suspect data reports, and to assure the use of required reporting procedures throughout the system. Further, auditing would provide law enforcement agencies the opportunity to address allegations of inaccuracy.

We consequently propose the creation of a national UCR audit program, to be given the following responsibilities:

- to establish and maintain a set of uniform audit procedures;
- to train state program staff in the use of these procedures;
- to accompany, periodically, state staff conducting audits to assure uniformity of procedures;

- to supplement state audit capability, conducting additional audits where appropriate to provide accurate estimates of error rates in national crime statistics or to prevent flagrant violation of reporting rules; and

- to conduct audits in states without state programs.

Audits generally have three possible purposes. First, they can be used to measure the extent of error. It seems doubtful that a system as complex as the UCR will ever be totally error free and even more doubtful that it will ever be free of allegations of error. Accordingly, the first essential need is to know how much error there actually is. This can be done only through audits of reporting agencies. Fortunately, however, audits for this purpose could be restricted to a sample of departments.

This sort of error-measurement auditing is typified by common quality control procedures in manufacturing, where samples of items are taken from the production line and examined for defects. The purposes here would be to estimate the extent to which errors are occurring and to identify changes in error rates over time or particularly error-prone groups of agencies. Analysis of error sources could also be used to understand why errors occur and thus to identify the need for clarifying instructions in training.

The results of the audits would determine:

- the extent to which reported offenses, arrests, and clearances are likely to over- or underreport audit figures. (This would provide "adjustment" of total estimates for the system; if desired, the sample could be expanded to provide correction factors for each type of offense and/or type of department.)

- the extent to which variation in crime counts and clearances across jurisdictions is due to variation in reporting practices. (This could be used to provide guidelines as to when to take seriously a difference in reported offense or clearance rates. Again, if samples were large enough, this could be examined by type of offense and/or agency.)

- the extent to which year-to-year changes in crime rates and clearance rates reflect actual changes as opposed to changes in reporting practices. (This would be used to assess the significance of changes in the crime Index from one year to the next, for example. Again, analysis by type of offense or department is possible.)

Such audits seem clearly necessary to provide confidence in the UCR and to allow intelligent use of UCR data by local police, policymakers, researchers, and the public. Further, such audits seem very likely to be accepted by contributors. Only one quarter of departments responding to the UCR Survey of Law Enforcement

Agencies disagreed with a statement that contributing agencies should be audited on a confidential basis.[6]

The second potential use of audits is to increase agency incentives to report honestly and accurately. The idea, of course, is that the desire to avoid unfavorable audit reports will lead agencies to tighten internal controls, thereby assuring that reports are accurate. Audits conducted on a sample basis could serve this purpose as well. However, the frequency of audits might not be large enough to encourage a substantial change in nonaudited agencies.

A reasonable quality assurance program does require that the National Program have the capability to conduct audits of agencies with suspect reporting practices. The FBI currently can and does identify suspect reports marked by unusually large month-to-month or year-to-year changes or by deviations from usual levels in similar agencies. Except in the most extreme cases, however, the most that can be done now is to query local agencies (or their state UCR programs) to confirm or correct the submission. Audits would allow direct follow-up where deviations from norms are large enough to cause concern.

A third potential use of audits is to enforce required procedures and to correct errors throughout the system. The annual audits of corporate income and balance sheet statements by independent accountants are an example. This sort of audit is done not to measure error or investigate suspect cases, but to certify, to the extent possible, accurate and consistent reporting by each corporation. To be effective for such purposes, UCR audits would have to cover a large proportion of offenses, and possibly of departments, on a regular basis. This is not now done, either by the National UCR Program or by any state UCR program, and we do not propose that it be done in the future.

Such audits could (and should), however, be conducted by reporting agencies themselves. The capacity for formal auditing will depend, to some extent, on agency size. Nevertheless, as discussed in Section 7.2, we propose that some basic internal review process be required of every contributing agency.

The UCR Program cannot, of course, force agencies to allow outside audits. The audit function is so essential, however, that we propose that participating

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[6]Many agencies were neutral on the issue, though a majority of larger agencies (over 100,000 population) favored audits. The actual question and responses were:

"Contributing agencies should be audited on a confidential basis to assure reporting accuracy."

	Agree Strongly	Agree Somewhat	Neither Agree Nor Disagree	Disagree Somewhat	Disagree Strongly
Agencies Serving Populations Over 100,000	40%	29%	15%	7%	9%
All Agencies	18%	23%	32%	12%	14%

agencies agree to maintain records for audits and to permit audit reviews of UCR reporting by the state or national UCR programs. Agencies that agree to maintain basic records and allow review of their reporting practices would be specially noted in annual UCR publications that list data for individual agencies. (See Section 7.2 for a discussion of self-certification.)

In most cases, the details of individual audits would be expected to be kept confidential. This seems necessary in order to protect agencies against misinterpretation of audit results. Auditors, by their nature, tend to develop a deep commitment to detailed accuracy and to deem any error important. Even a well run department could appear mismanaged if an undigested list of "audit exceptions" were to be published without any assessment of the relative importance of the errors or the reasonableness of the error rate.[7]

Audit results would be used to provide estimates of overall reporting error. Further, the National Program obviously must reserve the right to indicate errors in individual situations, where appropriate. A finding of major errors in a large department would at least require subsequent reaudit to assure correction. Continued high errors would require that the agency's figures be dropped from the UCR or that corrected estimates based on audit figures be published. Especially for large departments, corrections that resulted in dramatic shifts in the time series of data for that department might also have to be noted.

7.1.1 Audit Procedures

Existing audit procedures are generally based on those developed by the IACP. The IACP procedures require audits of four stages for offense reporting:

1. initial receipt of call (review of telephone tapes to see whether calls are logged and telephone reports written or units dispatched);
2. incident report completion (review of complaint cards to see whether reports are completed when units are dispatched);
3. classification/scoring (review of incident reports to see whether incident reports are properly prepared, classified, and scored and then entered on a register of offenses); and
4. tallies (review to see whether registers of incidents are accurately counted for monthly UCR reports).

For clearance reporting, the IACP procedure provides for review of source documents to determine whether reported clearances are justified. This should also be matched by reviews of arrests to assure that clearances are reported, but IACP procedures do not address the auditing of arrest reporting. We would propose that these procedures be followed, with certain modifications.

First, the review of telephone tapes is apparently the most expensive step in the audit process (and, of course, not feasible for departments without such tapes). In view of its relatively high cost, this audit step should be done less frequently (but not eliminated entirely).

The second modification involves the way in which records are tracked through the system. The IACP drew separate samples of records at each audit stage. While this may still be necessary for telephone tape review, since tapes may not be held for long periods, we recommend that generally a sample of cases be tracked all the way through the system, from initial call to final reporting to the state or national program. This was not possible for IACP, in part because local record systems sometimes met the requirements for audits only at some stages. We propose that the record keeping minimally necessary for audits at all stages (with the possible exception of telephone tapes) be required of contributors (see Section 7.2).

Third, the adoption of unit-record reporting would, of course, remove the need to verify tallies. Instead, the transmitted coding sheets or tapes would need to be verified for a sample of offenses identified in agency records. Likewise, a sample of submitted unit-record reports should be examined to verify the existence of a corresponding offense record to assure that additional unit records are not being created.

Fourth, auditing of clearances should be revised so that both possible types of error can be detected. The procedure developed by IACP examines the source documents for cases cleared by arrest or exception to determine whether the clearance was justified, thus detecting any cases erroneously cleared. The procedure does not, however, identify cases that should have been cleared but were not.

Arrest reporting should also be audited. Again, a two-way check is desirable. Thus, a sample of booking cards would be used to see that arrests are properly coded and reported to UCR. Likewise, a sample of reported arrests would be selected and traced back to the original arrest record to assure proper documentation and nonduplication of UCR arrests.

In adapting the IACP audit procedures to unit-record reporting, the procedures should be simplified to whatever extent possible. The current procedures require a substantial amount of labor; any simplification would allow audits to be conducted with increased frequency. In any case, audit procedures would be essentially the same for Level I and Level II agencies, though Level II agencies would, of course, involve more offense types and data elements.

7.1.2 Sample Design

We have recommended that audits be carried out on a sample basis to allow estimation of the extent of over- or underreporting and of how much interjurisdictional and intertemporal variation is due to variations in reporting practices. The former is needed to know the extent of overall error in national or regional crime statistics. The latter is needed to understand the extent to which observed variation across agencies or across time represents real differences in crime

[7] However, there is an issue, which will need to be addressed, of whether federal or state freedom of information acts might jeopardize the desired confidentiality of audits.

or arrest rates, as opposed to differences in reporting practices. Ideally, both would ultimately be known by size of agency and by region of the country.

The design for the sample of audits should take several important considerations into account. First, the sample should be designed to permit selection of agencies on an ongoing basis. No agency should know in advance that its reporting for some upcoming month is to be audited.[8] Second, Level I and Level II agencies should be distinguished, since Level II agencies should be audited more frequently than Level I agencies. This is appropriate, in part, simply because Level II agencies tend to be the larger agencies, and their error rates have greater effect on overall national error rates. However, these agencies should also be audited more frequently because error rates in national estimates for data elements reported only in Level II are entirely dependent on the error rates for these agencies. Finally, the sample design must take into account samples of audits being conducted by state programs.

Lacking accurate information on the extent of variation in error rates from agency to agency, on the numbers of audits to be conducted by state programs, and the allocation of those audits across Level I and Level II agencies, it is difficult to offer specific guidance on sample sizes for a national audit program. However, based on some rough calculations, it appears that a well-designed sample consisting of about two or three agencies per state (and an average of perhaps 50 records per agency) would to produce moderately accurate estimates of error for the nation as a whole.

An audit program is essential to UCR. No data system of this importance and scope can be maintained without some basic program to assure consistency across reporting agencies. Nor can cost considerations be an obstacle. If it is too costly to conduct an adequate number of audits to produce accurate estimates within a one-year period, these audits should be spread over several years. While far from ideal, such an approach would ultimately provide basic information on the extent and nature of error in the system.

7.2 Code of Professional Standards for Reporting Systems

The National Program has long provided agencies with descriptions of basic record systems and procedures for compilation of UCR reports. We recommend that such descriptions be formalized by the National Program, in conjunction with IACP and NSA, in the development of a code of professional standards for reporting systems, together with a timetable for adoption by reporting agencies. Agencies certified as meeting the standard set by the code would be so designated. Such a program could be designed for agencies to self-certify that they meet the code's standards; alternatively, certification might be integrated with ongoing accreditation efforts.

[8] It is, of course, possible that some key agencies could be audited on a regular basis.

Our survey of law enforcement agencies indicates the majority of contributors recognize the importance of agency reporting systems meeting basic standards.[9] Accordingly, this section discusses the recordkeeping standards that should be considered for inclusion in the code of professional standards.

7.2.1 Data Flow

The first step in specifying standards is to review the flow of information. This serves to identify the points at which errors may arise and the records needed to permit later review and audit of the reporting process.

Some stylized flows are presented in Figure 7.1. The flow of information for offense reports starts with a call to the police, except in cases where the offense is directly discovered by the police. (Obviously, not all offenses are reported nor necessarily even known to anyone except the offender, but this is beyond the purview of the UCR.) The call may require any of a number of actions, including dispatching a patrol car or taking a telephone report of a crime. The major error possible at this point is failing to dispatch a patrol car or to record a telephone report when it appears that an offense may be involved.

The next step is completing the incident report itself. The obvious potential error here is that reports may not be filed or may be incomplete.

The completed incident report must then be classified and scored--that is, the criminal event is characterized as larceny, burglary, or other offense, and the appropriate number of counts recorded. Error here arises from the obvious possibility of mistakes in applying the UCR classification and scoring rules.[10] Each of the United States has its own criminal code and its own definitions of offenses. The UCR system imposes its own unique classification, which generally differs in some detail or another from the state codes. Some states, for example, consider taking property from a car to be a form of burglary, whereas UCR defines this as a larceny. Likewise, rape of a male is not included in the current UCR definition of rape, though it is considered rape under several state codes.

[9] The question and responses were:

"Contributing agency reporting systems should be reviewed and certified to assure that they meet basic standards."

	Agree Strongly	Agree Somewhat	Neither Agree Nor Disagree	Disagree Somewhat	Disagree Strongly
Agencies Serving Populations Over 100,000	47%	31%	11%	6%	6%
All Agencies	22%	37%	26%	8%	8%

[10] In some states, the state program receives copies of the offense reports and classifies and scores them for local departments.

Figure 7.1

STYLIZED INFORMATION FLOW TO UCR

Offenses

1		2		3		4				5		6
Call to police (some directly discovered by police)	--->	Dispatch (in most cases)	--->	Incident report	--->	Classified and scored	--->	(Tallied)[a]	--->	Reported to state or national UCR	--->	Entered in UCR data base

Arrests

1		2			3		4
Arrest record	--->	Classified and scored	--->	(Tallied)[a]	--->	Reported to UCR	---> Entered in UCR data base

Clearances

1		2		3			4
Arrest record	--->	Linked to offense(s)	--->	Check for previous clearance	--->	(Tallied)[a]	---> Reported to UCR data base

[a]Offenses, arrests, and clearances are usually tallied by local agencies in the current UCR program. This would no longer be true under unit-record reporting.

In addition, where incidents involve more than one offense, the event must still be classified under a single code. The UCR Hierarchy Rule essentially provides an ordered list of offenses, so that when multiple offenses are involved, the event is coded in terms of the most serious offense. This sounds straightforward enough, but it has its complexities. For example, although motor-vehicle theft is listed below larceny-theft in the hierarchy of Part I crimes, it in fact takes precedence over larceny-theft in classification.[11] Likewise, when arson or justifiable homicide occurs in conjunction with another Part I offense, the Hierarchy Rule is not applied. Instead, both the other offense and the arson or homicide are entered.[12]

The number of offenses must also be determined. The general rule is that for murder, rape, and aggravated assault, the number of offenses equals the number of victims, whereas robberies, burglaries, and larcenies are scored in terms of the overall event (e.g., the robbery of ten people in one criminal incident counts as one robbery, not ten). Here again, an apparently straightforward rule may become difficult to apply in certain situations. The classic example is the Hotel Rule--essentially a rule that a set of apparently related and sequential burglaries of different guests' rooms in one hotel be counted as one event, largely on the ground that this represents a single overall operation that is likely to be reported (once) by the hotel rather than (several times) by the individual guests.[13] Similarly, a related set of larcenies--thefts from ten parking meters, for example--is classified as a single event.

Under unit-record reporting, offenses would no longer need to be tallied by local departments, thereby removing the potential for addition errors. Instead, however, offenses would reported to the UCR. The potential for error here, of course, rests in mistranscription and omitted or duplicated offense records. Finally, data received must be entered in the state and/or national UCR data bases, as discussed in the next section.

Arrests and clearances show similar error patterns. First, arrests must be entered in some basic booking system. Again, the first source of error is loss of arrest events in the system. Next, the arrest must be classified and scored. Under UCR rules, an arrest is a single event; when multiple charges are filed, the arrest must be reduced to a single charge. If Part I crimes are involved, the usual Hierarchy Rule applies. If only Part II offenses are involved, the agency is left to determine the most serious offense. Arrests are scored by the number of persons arrested. In particular, multiple charges do not mean multiple arrests, even when additional charges are developed after the initial arrest. Additional information on the age, race/ethnicity, and sex is also required. Under the current system, this requires elaborate tallies.

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[11]See U.S. Department of Justice, Federal Bureau of Investigation, Uniform Crime Reporting Handbook, 1980, pp. 33 and 35 (problem 4).

[12]Though the justifiable homicide is then unfounded: Ibid., pp. 34 and 35 (problem 5).

[13]While these rules are quite reasonable, they do produce potential problems, though undoubtedly rare, when applied together. Thus, the rape, robbery, and aggravated assault of a number of victims (in a single incident) becomes a single murder if one victim dies.

Under unit-record reporting, a single arrest record would be submitted for each arrest. Thus, the major areas for error with unit records would be in either losing arrests entirely or in classification and scoring.

Clearance rates also are developed from the arrest record. Each arrest must be linked to offenses, including all Part I offenses for which the person is charged and referred for prosecution. These offenses are then cleared, unless they have already been cleared earlier. Thus, a single arrest may result in several clearances (or no clearances, if the crimes were previously cleared). Crimes may be cleared without arrest in special circumstances where the offender is known and located but an arrest is not feasible due to, for example, death or the fact that the offender is already in custody.

The obvious sources of error in clearances arise from failure to account for all Part I crimes involved with the arrest and from failure to assure that the crimes have not been previously cleared. There is also some potential for misuse of the exceptional clearance. In particular, when the offender is known but not located, a case may not be cleared. Again, unit-record reporting would eliminate the need for agencies to tally clearances.

7.2.2 Contributor Standards

These brief descriptions of the sources of error in reporting also suggest two basic sorts of requirements for local reporting systems:

- first, a set of processing controls to assure that all cases move through the system, and
- second, a set of records that support internal and external audits.

The first sort of controls assures that cases are not "lost" in the system; the second allows for routine quality control. Most of these basic requirements are not new. They have been variously described in FBI publications, and several were cited as the basic records needed for the UCR audit developed by the IACP.[14] The basic requirements for a minimal recordkeeping system for both Level I and Level II agencies are:

For Offenses:

- Some record of all calls for service that allows periodic review of receptionist disposition. This may be a tape of calls or a written or computerized log. The records need not be permanent but should be stored for some reasonable length of time (at least two months).

[14]See, for example, UCR Handbook (1984), p. 2, and U.S. Department of Justice, FBI, Manual of Law Enforcement Records, especially p. 68. For the IACP audit records requirement, see International Association of Chiefs of Police, Inc., The IACP-UCR Audit/Evaluation Manual, Gaithersburg, Maryland, 1976, pp. 26, 35, 43, 52, 62.

- A system of prenumbered dispatch cards that record all dispatches plus officer call-ins of crimes discovered by police. These form the basis of an offense report tracking system. Numbering is key to allowing positive follow-up to assure that all reports are complete.
- A records unit that maintains dispatch cards in a tickler system to assure that incident reports are completed.
- Classification and scoring performed or reviewed by a certified UCR expert (see Section 7.3 for a discussion of UCR certification).
- Use of routine internal controls--specifically, a report that identifies outstanding incident reports by month, using the sequential numbering system to identify and follow up on cases without reports.
- Internal review program to review periodically receptionist disposition, incident report completeness, and classification and scoring.

For Arrests and Clearances:

- A central arrest booking system that assigns sequential numbers to arrests at booking.
- An arrest report for each arrest that ties the arrest to one or more offenses by offense number(s).
- Classification of arrests performed or reviewed by a certified UCR expert (see Section 7.3).
- Entry of each arrest into all relevant offense files and listing of all offenses cleared by the arrest.
- Established procedures for exceptional clearances, with supervisory review.
- Internal review program for arrest classification, offense and clearance links, and transmission.

These procedures contain very little that the FBI has not already said to local departments. They present basic requirements for orderly reporting and record keeping to support internal and external audits. What seems required now is positive certification by local departments that they have reviewed the Manual of Law Enforcement Records and that they meet the standards listed above. This would necessarily involve self-certification by agencies. Some assistance in self-evaluation might be offered by having agencies answer a few direct questions concerning, for example, the local agency name for the dispatch and arrest logs and details on how long they are retained, requests for copies of internal forms flow reports, and details on internal audit frequency. In addition, this first self-certification by the agency

should be accompanied by a prior agreement to permit audits as requested. Agencies complying with the request for self-certification would be specially noted (for example, with an asterisk adjacent to the agency name) in annual UCR publications that list data for individual agencies. (See the description of Series 3 and Series 4 publications in Chapter 9.)

7.3 Improved Feedback to Local Agencies

In addition to the use of audits and the development of the code of professional standards described above, the National UCR Program can also improve UCR quality through increased training and feedback to local agencies. Recommendations for additional training and feedback build on existing FBI programs and are structured to recognize real resource limitations in dealing with almost 16,000 contributing agencies. No distinctions are envisioned between Level I and Level II agencies in regard to these procedures, except as necessitated by the differences in the data collected.

The National Program now offers limited training in UCR classification and scoring, supplemented by more or less intensive state program efforts. The limited training frequency usually reflects manpower limitations. But the National Program does have well tested printed materials, plus a regular newsletter to communicate new rulings on special cases. Thus, self-training is possible. What is missing from this system is regular certification of local department capabilities. Since the National Program does have extensive tests already developed for training sessions, it would be relatively easy for the program, ideally in conjunction with state programs, to offer:

- a basic UCR test to be self-administered by local agency staff but ideally be machine graded by the National Program, with a certificate of proficiency awarded for passing scores; and
- update quizzes, which could be self-scored by local users to test their continuing proficiency.

Similar feedback could be developed from the audit program. An annual analysis of common errors and problems could be issued each year, based on the sample audits. In addition, error rates could be published to provide local departments with guidelines for evaluating their own performance, based on their internal reviews.

Finally, the National Program (and state programs) could develop considerable information on local department accuracy, based on edits of incoming data. Such edits, of course, would be used directly to correct data. It should be recognized, however, that the volume of offense data will certainly prohibit extensive correction of suspected errors by contributing agencies on a case-by-case basis. Instead, three sorts of edits are envisioned:

1. Batch control returns to agencies where the number of offenses/arrests transmitted does not agree with the batch case numbers given by the agency.

Agencies would submit offenses and arrests in batches. It is suggested that these batches be held for one month, to minimize the need for later updates. Thus, January offenses and arrests would be submitted in March. The agency would enter a count of the total number of offenses and arrests transmitted in order to be able to verify that all were received. The national or state UCR programs would probably query agencies if the number received did not match the control total.

2. Missing data in fields that should be completed, given the nature of the offense.

We do not suggest that the National Program attempt to fill in missing data by contacting contributing agencies. If a missing-data problem is severe, it would be possible to try to estimate values by contacting agencies with respect to a sample of the missing cases. In general, however, the unit-record system could handle missing data much more effectively than does the current system. In effect, the cases for which data are not missing would be used to estimate values for other cases. Furthermore, the extent of missing data and the nature of the imputation used could be readily documented.

What the UCR Program can do is to offer feedback to local contributors in terms of quarterly reports on the incidence of missing data by element, and comparison of local agency performance with average or better-than-average agency performance. Very extensive missing data problems might, of course, suggest special follow-up.

3. Inconsistent Values, where the edit program finds unlikely values or inconsistent values (such as injury codes for a larceny).

Again, edit processing would probably simply adopt a rule. Thus, the offense code might be given precedence, wiping out inconsistent fields. Likewise, out-of-range values might be set to missing. Again, however, the local agency should receive a quarterly report indicating the incidence of problems by data field.

The combination of a regular audit program, agency self-certification, and continued feedback in terms of training materials, tests, and error analyses would both document the extent of error and materially improve UCR reporting accuracy. These steps would accordingly remove a major impediment to the effective use of the UCR.

7.4 Role of State UCR Programs in Quality Assurance

State programs should be an important part of the UCR quality assurance program. First, state UCR programs could undertake much more extensive data cleaning. By the time data reach the National Program, the volume is such that the program can at most impute missing data, override inconsistencies, and issue reports on the incidence of data problems, as described in Section 7.3. State programs, in contrast, could undertake to query reporting agencies to resolve apparent errors. This does not only reflect the smaller volumes involved. Corrections of data drawn from operating records systems are generally much easier when the cases are still "alive"--before they require extensive file searches and while memories can still fill in for missing paper. Because state programs are also closer to local agencies, they are more likely to know whom to call in each agency and more able to develop rapid turnaround.

State programs could also note the need for and offer training in areas that are state-specific. Most obviously, changes in state law might create new divergences between state legal categories and the uniform UCR categories. State programs are uniquely positioned to note these changes, issue warnings against misclassification for UCR, and track agency reports to assure that there are not sudden shifts in UCR crime totals due to such misreporting.

State programs should conduct audits more frequently than they do currently. The audit staff of the National Program would, if necessary, conduct some audits as needed for national error estimates. However, state programs should still conduct enough additional audits to assess reporting accuracy for their state. These efforts should obviously be coordinated. Hence the bulk of audits, and perhaps all audits, should be conducted by state program staff, with quality control audits and training by National Program staff to insure consistency across states.

Several states now conduct occasional audits. Only one, New York, conducts randomly selected audits. Even New York conducts only a few audits each year. A substantial increase in state program audits, using procedures established by the National Program, might require some funding support from the National Program, but would materially strengthen state program quality assurance.

Similarly, state programs could also amplify reporting system requirements in terms of local practice. Again, they could be familiar with individual local agencies in a way that the National Program staff can never hope to be. This would require active outreach by state program directors to local agency UCR staffs and chiefs to discuss problems and provide continuing training. Such contacts would involve periodic field visits as well as attendance at state meetings of police and sheriffs' organizations.

Finally, state programs should play a major role in increased feedback provided to local agencies, both on their own initiative and as liaison between the National Program and local agencies. In coordination with the National Program, state programs could distribute the periodic tests for certification of UCR proficiency and the results of these tests. They could distribute the quizzes developed by the National Program to be used by local agencies to maintain proficiency; they might also create and distribute similar types of materials on their own. To the extent that auditing and editing are carried out by state programs, as recommended, then they would also be expected to distribute information on common errors and provide individual agencies with information on their own particular problem areas.

State programs are also, of course, a major component of the UCR system. Accordingly, the National Program quality assurance should include review of state program procedures and biannual audit of every state program to assure accurate and complete transmission of data.

7.5 Error Rates in UCR Reporting

As already noted at the beginning of this chapter, while the literature has often questioned the accuracy of UCR data and our site visits and surveys have identified specific sources of error, little quantitative information on reporting error rates has been available. (A notable exception is the information available from the IACP audit/evaluation project, which is discussed in Section 7.5.3.) In this section, we present the results of an analysis intended to estimate error rates in the UCR

reporting of offenses, clearances, and arrests. The approach used was to analyze currently existing and available data from audits of local law enforcement agency reporting.

7.5.1 Data Sources

Two sources of data were used in this analysis: audits conducted by the IACP and audits conducted by state agencies. The IACP audits were conducted between 1974 and 1977 as part of their UCR Audit/Evaluation project, sponsored by the LEAA. A total of 35 audits were conducted and are documented in The IACP-UCR Audit Evaluation Final Report (1976). (Three of the audits were reaudits of previously audited agencies.) Additional detailed information not contained in these documents was obtained from a member of the original audit project, who abstracted the necessary information from the original audit materials.

Thirty-eight audits previously conducted by several state agencies were also used. These audits were made available to us for research purposes on condition that the identity of the individual agencies--and in some cases, the identity of the states themselves--be kept confidential. This confidentiality requirement reflects the fact that only a few state agencies now conduct audits. Such confidentiality would not, of course, be required under an ongoing audit program such as that described in Section 7.1. In order to maintain confidentiality in this analysis, no information on the identity of the states, on the distribution of number of audits by state, or on the actual number of audits used in any specific analysis is provided. However, the reader should recognize that the results are based on data from only a very limited number of states and are sometimes heavily dominated by one or two states.

7.5.2 Description of Audit Procedures

Before turning to our analysis of these data, we need to examine the audit procedures themselves. The IACP procedure is composed of five stages.[15] Stages I, II, III, and V relate to incident/offense reporting. Stage IV relates to clearance reporting. (For this reason, it is discussed after Stage V.) The IACP audit project did not address the auditing of arrest reporting, but some states have done so. Except for Stage V, each of the IACP audit stages involves sampling source materials such as complaint cards or incident reports. Some states have developed and used a modified auditing procedure where sampling is not used and all relevant cases during the audit period are tracked through the reporting system.

As mentioned, the IACP audit procedure involves four stages related to offense reporting. The purpose of Stage I is to determine if (1) telephone receptionists accurately document citizen requests for police service (i.e., prepare a complaint control card, dispatch ticket, blotter entry, or computer entry), and (2) police units are dispatched and/or telephone reports are taken in response to requests for police service. Stage I is conducted by monitoring selected segments of tape recordings of incoming calls, and forward-checking each relevant call to determine (1) if a complaint card was generated or a report taken, and (2) if the nature of the incident

[15] There is a sixth stage (victim/compliance interviews) as well, but this stage is actually conducted in conjunction with other stages.

as recorded on the card or report is consistent with the information recorded on the tape. For our purposes, we are concerned at this stage only with errors of omission (no complaint card or report generated), as only these should affect the number of Part I offenses reported.

The purpose of Stage II is to determine if, upon responding to a request for service, the investigating officer accurately documented the elements of the incident. This stage is conducted by selecting a sample of complaint cards (or dispatch documents) and forward-checking each to determine if an incident/offense report was prepared, and if the nature of the incident as described in the incident report is consistent with information recorded on the complaint card. At this stage, we are concerned with errors of omission (no incident report generated) and with downgrading errors (Part I offenses described as Part II offenses).[16]

The purpose of Stage III is to determine the accuracy with which incident/offense reports are classified and scored. Stage III is conducted by selecting a sample of incident/offense reports, reviewing each to determine the correct UCR classification, and comparing this classification with that shown on the agency's register of incidents. At this stage we are concerned with omissions (i.e., Part I incidents for which no entry is made on the register of incidents), downgrading of Part I offenses to Part II, and upgrading of Part II offenses to Part I.

The purpose of Stage V is to assess the accuracy of the numerical count of offenses reported. It is conducted by recounting the Index crimes for the audit period using the source documents (e.g., incident/offense reports, complaint cards, register of incidents, daily activity sheet) from which the agency tabulates the offenses known for the monthly UCR Return A. The count is based on the agency's classification; no judgments are made regarding the accuracy of the classification, since this has already been considered in Stage III of the audit.

Stage IV of the IACP procedure audits the reporting of clearances. Its purposes are (1) to determine if the agency properly clears (by arrest or by exception) incidents in conformance with national UCR guidelines, and (2) to verify the accuracy of the clearance data submitted on the monthly UCR Return A. It is conducted by selecting a sample of source documents (e.g., arrest reports, supplementary investigation reports, or follow-up reports) leading to clearances by arrest or exception and reviewing each to determine the accuracy of the clearance by examining whether the arrest supports the clearance or, alternatively, whether there is sufficient documentation to support an exceptional clearance.

Because this procedure examines only cases claimed to be cleared by an agency, it will identify cases that were erroneously cleared but will not identify uncleared cases that should have been cleared. Some states have used audit procedures for clearances that allow errors of both kinds to be detected.

As indicated previously, the IACP procedure does not address the auditing of arrest reporting. Some states do audit arrest reporting by performing an independent tally of arrests for the arrest period and comparing the tally with the agency's reported arrests, for the audit period.

[16] As discussed later, some of the downgrading errors may possibly be reversed later.

7.5.3 IACP Error Estimates

Even though the principal purpose of the IACP procedure may be considered to be identification of problem areas within the reporting system, the IACP audit/evaluation project did provide information on reporting error rates. Specifically, the final report gives estimates of the reported crime Index as a percentage of the estimated true number of Part I incidents for each audited agency. However, these estimates provide less than ideal measures of reporting error rates, for several reasons that can be addressed. First, the estimates do not take into account reporting errors resulting from the final counting of Part I offenses as, for example, from a register of incidents.[17] Second, no adjustment is made when various stages of the audit are not conducted at an agency. The calculation is made as though no errors were made at these stages, and 38 percent of the stages are omitted for lack of adequate record systems to support auditing. Third, the method used to project total errors occurring in the audit period (at Stages II and III) from errors identified in the sample is less precise than it might be. The procedure used is to multiply the number of omissions and downgradings identified in the sample by the ratio of the number of sampled incidents considered to be Part I or potentially Part I to the estimated number of such incidents in the entire audit period. A more precise estimate is obtained by multiplying the number of identified omissions and downgradings by the actual sampling fraction, which is known exactly. Fourth, no account is taken of the upgrading errors at Stage III that offset omissions and downgradings of Part I incidents.

7.5.4 Methodology for this Analysis

Two different methodologies were used to estimate error rates in incident reporting from the audit data. One was used for audits conducted using the strict IACP procedures (involving sampling at three stages), including in particular the 35 audits actually conducted by the IACP. The other was used for audits that tracked all offenses for the audit period through the entire reporting system.

The first methodology is summarized in Table 7.1. At Stage I, a certain number (x_1) of Part I offenses identified in the sampled segments of the telephone tapes are detected to be omissions for which no unit was dispatched nor telephone report taken. Since only a sample of segments of the tape was audited, this represents only a portion of the total Stage I omissions for the audit period. If the proportion of the tape audited is represented by the fraction f_1, an unbiased estimate of the total number of omissions is given by x_1/f_1. This represents the estimated loss of Part I incidents at Stage I.

Similarly, at Stage II, a certain number (x_2) of omissions and downgradings to Part II offenses are discovered. If the proportion of complaint cards audited at this stage is given by the fraction f_2, then an unbiased estimate of the total number of omissions and downgradings is x_2/f_2. This estimates the loss of Part I incidents at Stage II.

At Stage III, upgradings as well as omissions and downgradings must be considered. If x_3 denotes the number of omissions and downgradings net of the

[17] Stage V of the IACP audit procedure.

Table 7.1

METHODOLOGY FOR IACP AUDIT PROCEDURE

Stage I		
omissions	x_1	
sampling fraction	f_1	
projected undercount		x_1/f_1
Stage II		
omissions + downgradings	x_2	
sampling fraction	f_2	
projected undercount		x_2/f_2
Stage III		
omissions + downgradings - upgradings	x_3	
sampling fraction	f_3	
projected undercount		x_3/f_3
Stage V		
audit count	t_{audit}	
agency count	t_{agency}	
undercount		$t_{audit} - t_{agency}$
Estimated undercount	$\frac{x_1}{f_1} + \frac{x_2}{f_2} + \frac{x_3}{f_3} + (t_{audit} - t_{agency}) = u$	
Estimated true count	$t_{agency} + u$	
Estimated error rate	$\frac{-u}{t_{agency} + u}$	

number of upgradings among the sampled incident reports, and if f_3 denotes the fraction of reports sampled in the audit period, then x_3/f_3 is an unbiased estimate of the total number of omissions and downgradings net of the total number of upgradings. This estimates the net loss of Part I offenses at this stage. At Stage V, no sampling is used and only the simple difference between the audit tally (t_{audit}) of Part I incidents (e.g., from a register of incidents) and the agency's tally (t_{agency}) need be considered. The difference represents the loss of Part I offenses at this stage.

Since the net losses of Part I offenses at each stage are cumulative,[18] an unbiased estimate of the net undercount is given by:

$$u = \frac{x_1}{f_1} + \frac{x_2}{f_2} + \frac{x_3}{f_3} + (t_{audit} - t_{agency}).$$

The correct offense count (as per the audit) can be expressed as

$$c = t_{agency} + u$$

and the estimated error rate is given by

$$e = \frac{-u}{c}.$$

The second and simpler methodology, applicable for audits conducted by states for which all incidents for the audit period were examined, is summarized in Table 7.2. One begins with the assumed correct count (c_{audit}) of offenses based on the audit. Letting c_1, c_2, c_3, and c_5 represent the agency's counts at each of the four stages, then $c_{audit} - c_1$ represents the loss of Part I offenses at Stage I, and similarly $c_1 - c_2$, $c_2 - c_3$, and $c_3 - c_5$ represent the losses at Stages II, III, and V. The total net loss is given by the sum of these four differences and is equal simply to $c_{audit} - c_5$. (The total net loss could, of course, have been obtained immediately simply as this one difference; use of the intermediate differences is for the purpose of examining at which stages losses occur.) The error rate in offense reporting is then given by

$$e = \frac{c_5 - c_{audit}}{c_{audit}}$$

With both methodologies, numbers of errors were imputed for stages omitted from auditing at individual agencies. The imputation was based on observed error rates at other agencies. Computation of estimated clearance-reporting error rates from the audit data was completely straightforward. However, only those audits allowing identification of both kinds of errors (that is, erroneously clearing an offense and failing to clear an offense that should be cleared) were used in the analysis. Thus, the audits conducted by the IACP were not used. Error rates for clearances were computed simply as

[18] With the possible exception noted previously, of Stage II downgradings.

Table 7.1

METHODOLOGY FOR IACP AUDIT PROCEDURE

Stage I		
omissions	x_1	
sampling fraction	f_1	
projected undercount		x_1/f_1
Stage II		
omissions + downgradings	x_2	
sampling fraction	f_2	
projected undercount		x_2/f_2
Stage III		
omissions + downgradings - upgradings	x_3	
sampling fraction	f_3	
projected undercount		x_3/f_3
Stage V		
audit count	t_{audit}	
agency count	t_{agency}	
undercount		$t_{audit} - t_{agency}$
Estimated undercount	$\frac{x_1}{f_1} + \frac{x_2}{f_2} + \frac{x_3}{f_3} + (t_{audit} - t_{agency}) = u$	
Estimated true count	$t_{agency} + u$	
Estimated error rate	$\frac{-u}{t_{agency} + u}$	

number of upgradings among the sampled incident reports, and if f_3 denotes the fraction of reports sampled in the audit period, then x_3/f_3 is an unbiased estimate of the total number of omissions and downgradings net of the total number of upgradings. This estimates the net loss of Part I offenses at this stage. At Stage V, no sampling is used and only the simple difference between the audit tally (t_{audit}) of Part I incidents (e.g., from a register of incidents) and the agency's tally (t_{agency}) need be considered. The difference represents the loss of Part I offenses at this stage.

Since the net losses of Part I offenses at each stage are cumulative,[18] an unbiased estimate of the net undercount is given by:

$$u = \frac{x_1}{f_1} + \frac{x_2}{f_2} + \frac{x_3}{f_3} + (t_{audit} - t_{agency}).$$

The correct offense count (as per the audit) can be expressed as

$$c = t_{agency} + u$$

and the estimated error rate is given by

$$e = \frac{-u}{c}.$$

The second and simpler methodology, applicable for audits conducted by states for which all incidents for the audit period were examined, is summarized in Table 7.2. One begins with the assumed correct count (c_{audit}) of offenses based on the audit. Letting c_1, c_2, c_3, and c_5 represent the agency's counts at each of the four stages, then $c_{audit} - c_1$ represents the loss of Part I offenses at Stage I, and similarly $c_1 - c_2$, $c_2 - c_3$, and $c_3 - c_5$ represent the losses at Stages II, III, and V. The total net loss is given by the sum of these four differences and is equal simply to $c_{audit} - c_5$. (The total net loss could, of course, have been obtained immediately simply as this one difference; use of the intermediate differences is for the purpose of examining at which stages losses occur.) The error rate in offense reporting is then given by

$$e = \frac{c_5 - c_{audit}}{c_{audit}}$$

With both methodologies, numbers of errors were imputed for stages omitted from auditing at individual agencies. The imputation was based on observed error rates at other agencies. Computation of estimated clearance-reporting error rates from the audit data was completely straightforward. However, only those audits allowing identification of both kinds of errors (that is, erroneously clearing an offense and failing to clear an offense that should be cleared) were used in the analysis. Thus, the audits conducted by the IACP were not used. Error rates for clearances were computed simply as

[18] With the possible exception noted previously, of Stage II downgradings.

Table 7.2

METHODOLOGY FOR MODIFIED IACP AUDIT PROCEDURE

Audit count	c_{audit}
Stage I	
count	c_1
undercount	$c_{audit} - c_1$
Stage II	
count	c_2
undercount	$c_1 - c_2$
Stage III	
count	c_3
undercount	$c_2 - c_3$
Stage V	
count	c_5
undercount	$c_3 - c_5$
Total undercount	$c_{audit} - c_5$
Error Rate	$\frac{c_5 - c_{audit}}{c_{audit}}$

opposed to differences in reporting practices. This depends on the variation in error rates across agencies.

Table 7.3 shows both the overall and agency error rates for reporting Part I offenses to the National Program. The overall error rate was -16 percent, indicating that the number of offenses reported by the audited agencies was 16 percent below the actual number of Part I offenses for these agencies. Except for the limitations noted above, this would confirm assertions of underreporting. Unfortunately, the data would not support analysis to determine the types of offenses that tended to go unreported.

As already discussed, a constant rate of underreporting might not be of substantial concern. If all agencies underreported by about 16 percent, then the crime Index would still provide a good indicator of trends in crime and differences in crime rates across jurisdictions. In fact, however, the audits indicated a fairly substantial variation in reporting error. The median error rate was -21 percent--indicating that half the agencies underreported by more than 21 percent, while the other half underreported by less (or overreported). Variation in error rates is indicated by the last two figures.

One quarter of agencies are estimated to underreport by less than 10 percent (or overreport), while another quarter are estimated to underreport by at least 39 percent. The other 50 percent of agencies report with error rates intermediate between these. However, an unknown, and possibly quite large, portion of the observed variation may be due to sampling variation resulting from the limited numbers of records sampled for auditing at each agency. Thus, the extent of variation in error rates due to real differences in error rates across agencies is smaller than shown here.

In terms of sources of error, note that the overall error rate in Table 7.3 is considerably lower than the average agency error rate. This suggests that larger agencies, which are weighted more heavily in computing the overall rate, are more accurate than smaller agencies. As Table 7.4 indicates, this is indeed the case. Agencies serving populations in excess of 250,000 underreported at a median value of 13 percent, whereas agencies serving populations less than 50,000 underreported at a median value of 29 percent. Agencies of intermediate size fell midway between.

Error rates in reporting clearances are shown in Table 7.5. Both the overall error rate and the agency error rates are reasonably close to zero. Thus, there appears to be no general tendency across agencies to overreport (or underreport) clearances. (This is not to say that an individual agency might not consistently, from year to year, either overreport or underreport clearances.)

The interquartile range, however, suggests enormous variability from one agency to another in terms of clearance error rates. Twenty-five percent of agencies underreport by 33 percent or more, while another 25 percent overreport by about 57 percent or more. As for offenses, however, these variations may reflect sampling variation resulting from the limited numbers of records audited at each agency, as well as variation in the actual agency error rates.

Error rates for arrest reporting are shown in Table 7.6. The overall error rate is a negative 5 percent, suggesting slight underreporting of arrests nationally. The median and mean are both a negative 1 percent, indicating no general bias across agencies in the reporting of arrests for Part I and Part II offenses. The interquartile

$$e = \frac{c_{agency} - c_{audit}}{c_{audit}}$$

where c_{agency} is the agency clearance count and c_{audit} is the audit clearance count.

Error rates in arrest reporting were estimated in a similarly straightforward fashion. Only state agency audits could be used, since the IACP project was limited to incident and clearance reporting. The error rates are computed by the same formula used for clearances, with each of the terms referring to arrest, rather than clearance, counts.

7.5.5 Limitations

Before turning to the results of the analysis, several important limitations should be noted. First, the results are not generalizable. Because the audited agencies cannot in any sense be considered a probability sample of agencies nationally, there is no statistical basis on which the audit results for these agencies can be generalized to agencies nationally.

Second, estimated error rates for offense reporting may be misestimated for several reasons. The IACP procedure identifies certain cases as potential errors if evidence for possible error exists but cannot definitely be established. The analysis described here disregards such potential errors and hence undoubtedly underestimates the actual error rate in this regard. Also, errors are likely to be underestimated due to imputation at omitted stages of the audit. When an agency's record system is inadequate to support an audit stage, that stage is excluded from the audit. Since error rates at a given stage are likely to be higher if records systems are inadequate to support auditing, true error rates at omitted stages are likely to be higher than the imputed error rates based on agencies for which an audit could be conducted.

On the other hand, the computation of error rates is based on the assumption that none of the downgradings from Part I to Part II at Stage II is ultimately reported as a Part I offense. Since some of these may well be caught and corrected at Stage III, error rates may be overestimated in this regard. Since (1) only a fraction of these are likely to be corrected, (2) downgradings comprise only about 40 percent of Stage II errors, and (3) Stage II errors comprise only a fraction of all offense reporting errors, this assumption can have only minimal effect on overall error rates in offense reporting. Thus, overall it is thought that our estimates are more likely to underestimate than to overestimate the actual error rates at the audited agencies.

7.5.6 Estimated Reporting Error Rates

Two sorts of numbers are of interest in considering these audits. First, we would like to know what they suggest about the accuracy of national crime statistics, in particular about the extent to which UCR-reported crime statistics are biased above or below the true values. This is best indicated by what we have termed the overall error rate (the error rate for all agencies weighted by the number of offenses or clearances or arrests) in the agency. Second, we would like to know how much of the variation in reported crime statistics across agencies reflects real differences as

Table 7.3

OFFENSE-REPORTING ERROR RATES
(in percent)

Overall error rate[a]:	-16
Agency Error Rate[b]	
Median:	-21
Mean:	-23
25th Percentile:	-10
75th Percentile:	-39

Source: Analysis of IACP and state agency audits.

[a]Overall error rate equals average of agency rates, weighted by true number of Part I offenses.

[b]Refers to median or mean of individual agencies.

Table 7.4

MEDIAN AGENCY OFFENSE-REPORTING ERROR RATES BY JURISDICTION POPULATION
(in percent)

Population	Error Rate
≥250,00	-13
50,000 - 249,999	-21
<50,000	-29
Overall	-21

Source: Analysis of IACP audits

Table 7.5

CLEARANCE-REPORTING ERROR RATES
(in percent)

Overall Error Rate[a]:	-2
Agency Error Rates[b]	
Median:	-1
Mean:	+5[c]
25th Percentile:	-33
75th Percentile:	+57

Source: Analysis of state agency audits.

[a]Overall error rate equals average of agency rates, weighted by true number of clearances.

[b]Refers to median or mean of individual agencies.

[c]Excludes two cases in which the agency reported one clearance but the audit identified none.

CONTINUED

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Table 7.6

ARREST-REPORTING ERROR RATES
(in percent)

Overall Error Rate[a]	-5
Agency Error Rates[b]	
Median:	-1
Mean:	-1
25th percentile:	-22
75th percentile:	+6

Source: Analysis of state agency audits.

[a]Overall error rate equals average of agency rates, weighted by true number of arrests.

[b]Refers to median or mean of individual agencies.

range indicates substantial variation in error rates, though not nearly so large as for clearance reporting. Twenty-five percent of agencies underreported arrests by 22 percent or more, while another 25 percent overreported arrests by 6 percent or more. Again, however, much of this variation may be due to sampling variability.

Chapter 8

RELATIONSHIPS WITH OTHER DATA SYSTEMS

The Uniform Crime Reporting system collects information about law enforcement agency operations--the crimes reported to the police, the arrests made by the police, and the resources available to the police. A complete criminal justice information system clearly requires more. The current UCR data lack information in three important categories:

- information about victims,
- information about crimes not reported to the police, and
- information about what happens to offenders after arrest.

Presently, no single source can provide all these data. The National Crime Survey (NCS) turns to households to determine the extent of unreported crime and to collect more information on victims. Various Offender-Based Transaction Statistics (OBTS) systems draw together arrest, prosecution, and court disposition and sentencing information.

The proposed new UCR Program would not be so comprehensive as to incorporate or substitute for the types of information that are now provided by the NCS, by OBTS systems, or by other related data systems. It would not, for example, contain data records that link particular offenses reported in the NCS to police records for the same offense (if reported) and also include data from prosecution, court, and corrections records associated with offenders arrested for that offense (if any). The new UCR Program has, however, been designed to permit clear comparisons between the statistics it would generate routinely (such as crime rates and clearance rates) and the corresponding numbers from other data systems. Moreover, it would include sufficiently specific information about each offense and arrest to facilitate some important kinds of research that require case-by-case linking from one data system to another.

Even though the UCR, NCS, and OBTS data records would not be routinely linked on a case-by-case basis, there is considerable interest in an ability to integrate the statistics and findings from all three. The information in each system would help to interpret the other systems' findings. For example, it would be much easier to find out whether increases in crimes reported to the police reflect changes in the percentage of crime reported or changes in the actual incidence of crime. Similarly, studies using the data could determine if changes in the number of arrests or clearances reflect real changes in law enforcement effectiveness or are offset by reduced conviction rates.

Moreover, all information contains some error, whether in recording or sampling (or both). Because the data collected by the new UCR Program would overlap those collected by other systems, the combined information could be used either to identify the extent of error in the different systems or to provide better combined estimates.

This sort of integration requires that there be common elements in two or three of the systems, which is more difficult to achieve than it seems. Although the NCS was originally developed for the explicit purpose of complementing UCR data, its samples, definitions, and counting rules are different enough to make integration with UCR data impossible unless specific changes are made. Similarly, OBTS data are based on NCIC codes and hierarchies, which, though developed by the FBI, cannot be mapped into UCR offense categories.[1]

This chapter discusses the system modifications required to allow integration of the UCR Program with NCS and typical OBTS data files.

Our major recommendations are the following:

8.1 Develop the UCR, the NCS, and OBTS systems as independent programs providing complementary criminal justice statistics for multiple purposes. The strengths of each of these data systems should be continued and enhanced, rather than compromised to achieve face comparability.

8.2 Structure the UCR and NCS data so as to permit reconciliation of the two.

8.3 Develop data structures and associated audit procedures with an eye toward eventual analytic integration of the estimation of crime rates and trends from UCR and NCS data.

8.4 Design the UCR system to allow linkage of police records to the prosecution and court records collected by OBTS systems.

In addition, Chapter 9 contains the following related recommendations:

9.2 Issue UCR reports at least once a year jointly with a corresponding report from the National Crime Survey.

9.3 Provide a continuing analysis capability for reconciliation of UCR and NCS data, evaluating seriousness scoring, and preparing periodic publications, special studies, and technical documentation.

8.1 Differences between UCR and the National Crime Survey

Although a major impetus for establishing the National Crime Survey was to provide information that was difficult or impossible to obtain through the UCR Program, the two systems now often provide competing and incompatible information about the amount and extent of crime. Even experts in analysis of crime data are often confused or uncertain about the reasons for disparities between results from the two sources. And representatives of the media, the general public, law enforcement agencies, and government officials alike express dissatisfaction or frustration with crime figures they cannot reconcile. The presence of two sets of figures, one from the

[1] NCIC codes can be mapped into UCR categories if the NCIC subcodes are used rather than the general categorized codes.

UCR program and the other from the NCS, has tended to make both of them suspect, although an original goal of having two systems was to clarify and enrich our understanding of crime.

The National Crime Survey attempts to apply consistent sampling and interviewing methods across the country, in contrast with the varying crime reporting practices among jurisdictions and law enforcement agencies. Since 1973, approximately 132,000 members of 66,000 households have been interviewed every six months to collect detailed information about the crimes, if any, of which they have been victims.[2] The survey confirmed that there are wide variations in the extent to which individuals report crimes to the police. It also demonstrated that, for most types of crime, the number of victimizations substantially exceeds the number of crimes included in the Uniform Crime Reporting statistics.

Further, analysis of the victimization survey data showed that a change in UCR crime rates due to changes in victim reporting practices was not only possible in principle, but was in fact an important explanation of apparent trends in UCR crime rates in the 1970s.[3] During those years the population gradually included more types of people who are likely to report crimes to the police.[4] The studies revealed that comparatively small changes in reporting and recording behavior can yield surprisingly large shifts in reported crime rates.

Victimization surveys have also been helpful in showing how a more effective criminal justice system sometimes leads to apparently higher crime rates by encouraging more citizen crime reporting. Research with victimization surveys in Portland, Oregon, demonstrated an instance where criminal justice improvements had been accompanied by higher reported (but not actual) crime rates; subsequently, political pressure for reduced crime rates led to abandonment of the improvements.[5] Results such as these from victimization surveys now help prevent jumping to incorrect conclusions when UCR crime statistics go up.

[2]Before 1973, pilot surveys and bounding interviews for the current National Crime Survey were conducted. From 1973 to 1976, robberies and burglaries of business establishments were also measured by the survey method. Currently, commercial crimes are not comprehensively covered by the National Crime Survey; they are included only if the incident involves a victim who resides in a household, and they are categorized according to the type of crime against that victim.

[3]J. Ernst Eck and Lucius J. Riccio, "Relationships Between Reported Crime Rates and Victimization Survey Results: An Empirical and Analytical Study," Journal of Criminal Justice 7 (Winter 1979): 293-308.

[4]Albert D. Biderman, James P. Lynch, and James L. Peterson, "Why NCS Diverges from UCR Index Trends," Washington, D.C.: Bureau of Social Science Research, paper presented at the 1983 Annual Meeting of the American Society of Criminology.

[5]Anne L. Schneider, "Victimization Surveys and Criminal Justice System Evaluation," in Sample Surveys of the Victims of Crime, ed. Wesley G. Skogan (Cambridge, MA: Ballinger Publishing Co., 1976).

Yet, despite these and other useful products of victimization surveys, the disparities between UCR and NCS crime rates and trends present serious problems for many users of crime statistics. In some years the two have yielded apparently opposite conclusions, for example, that crime has both increased and decreased over the last year. Careful attention to details can explain a large part of the apparent differences between the NCS and the UCR.[6] Aside from the major intended difference that the NCS can include crimes not reported to the police, which are automatically omitted by the UCR, other sources of differences include the following:

- The UCR includes reported crimes against businesses (e.g., thefts of automobiles owned by businesses), whereas these are omitted in the latest NCS data.

- For many types of property offenses, the NCS base for crime "rates" is the number of households, whereas the UCR base is the population. Household sizes have declined on the average, so that the number of households in the U.S. has increased faster than the population. Accordingly, a crime rate per household can decline from year to year while the corresponding rate per capita increases.

- For crimes against individuals, the NCS does not survey children under 12 years old. Any crimes against children are excluded in the count of crimes, and the number of children is excluded in the population base. The UCR, however, includes any reported crimes against children (a relatively small number) and includes the count of children in the population base (a big number). During the 1970s the number of children declined steadily relative to the total population, resulting in an apparent inflation of UCR rates as compared to NCS rates.

- The sources also differ in the extent to which they include or exclude crimes committed against special populations such as foreign visitors, military personnel, and institutionalized people. For example, crimes against foreign visitors are not included in the NCS but may be included in the UCR to the same degree as other crimes. Crimes against military personnel and their dependents, if handled by the military justice system, typically would not be counted in the UCR, whereas the NCS includes them unless the military personnel reside in barracks.

- Definitions of some crime types differ slightly between the two sources, as do hierarchy rules for deciding which of two crimes to count when both have occurred in a single event. For example, an event involving both a burglary and a simple (not aggravated) assault is counted as an assault by the NCS and as a burglary by the UCR.

[6]Biderman, Lynch, and Peterson, op. cit.

The necessary exclusion of homicide from a survey of victims does not have a major influence on comparisons of trends in overall crime rates because the number of homicides is small compared to the total of UCR Index crimes.

8.2 Retaining the Benefits of Both NCS and UCR

Most people concerned with the national implications of crime patterns find little comfort in the fact that researchers can explain away many of the differences between figures published by the NCS and the UCR, or even that criminologists find great interest in some of the subtle distinctions in the statistics published by the two sources. Rather, they want a consistent data system that clarifies the implications of all the data. They do not want to see crime figures that appear illogical or contradictory to readers who do not carefully study numerous details.

By simultaneously sponsoring two major projects, one to redesign the UCR and the other to redesign the NCS, the Bureau of Justice Statistics provided an opportunity not only to strengthen each source of information about crime in the United States, but also to enhance the comprehensibility and comparability of the two. But better coordination between the two has not been a paramount issue in the redesign projects. While the NCS was originally intended to clarify issues concerning nonreporting of crime in the Uniform Crime Reports, and while many of its aspects--including crime type definitions--were developed to allow ready comparisons, its greatest strengths have proved to lie elsewhere.

Most advisers to the redesign projects agree that each source has unique capabilities, and that both the UCR and the NCS should be continued, enhancing the strengths of each rather than compromising any of their best features in the pursuit of comparability. Among the major strengths of the NCS is the wealth of information it provides about the victims of crimes and about the circumstances of both victimization and successful avoidance of victimization.

Partly in response to this growing knowledge base, the behavior of the criminal justice system (CJS) toward victims is undergoing rapid change. Rather than considering the CJS as a collection of agencies established to deal with crime and criminals, increasingly practitioners and the public alike perceive the stake of victims in the outcomes of cases and the importance of the victims' roles. The NCS can also play a role in evaluating the effects of victim restitution and compensation programs that have arisen out of the new policy agenda of victims' rights.

Analysis of crime surveys has shown that people experience and respond to "crime problems" in ways that are partially unrelated to the actual crime levels in their communities. Only through general surveys of the population about crime issues can we gain better understanding of the fear of crime and feasible public policy responses.

Another strength of the NCS is the possibility of adding or modifying questions in response to changing policy or research questions. (Because the UCR is derived through independent data collection activities by many law enforcement agencies, changes in even small details can be contemplated only infrequently.)

The unique capabilities of the UCR should also be strengthened rather than compromised to the goal of comparability with the NCS. Most important, only the UCR has the geographic scope to provide information on local rates of crime and

arrest. Since our policing and criminal justice systems are primarily determined at local and state levels, the UCR is the basic source of information for public policy. The volume of crime covered by the UCR far exceeds that covered by any conceivable survey. Accordingly, the UCR is sometimes the only potentially reliable source of information on relatively infrequent, but important crimes. Finally, the UCR is the only national source of information on various aspects of law enforcement agencies' activities related to reported crimes, including arrests, arrestees, and clearances.

8.3 Reconciliation of UCR and NCS Data

Four basic strategies for enhancing the interrelationships between the UCR and the NCS were considered during the course of the study. We have proposed that three of them be adopted immediately:

- issuing joint reports,
- structuring the data to permit reconciliation, and
- providing a continuing analysis capability for reconciliation,

while the fourth should be planned for the future:

- integrating the data sources.

With respect to issuing joint reports, some of the results from the UCR and the NCS should be published simultaneously each year, either in separate volumes or in a single volume. They should be accompanied by explanatory material derived from analysis of the differences between the two data series. The details of this recommendation are discussed in Chapter 9.

The UCR data structures described in earlier chapters have been designed to permit a high degree of reconciliation with NCS data. To the extent that both the UCR and the NCS cover the same crimes against the same populations, we have assured that the new UCR data would make it possible to ascertain the estimated count of crimes that would presumably be counted according to the rules of the NCS, and the count of crimes that would presumably appear only in the UCR. For example, presently analysts can say that the UCR counts more automobile thefts than the NCS because the UCR includes thefts of automobiles owned by businesses; they cannot determine separately the number of thefts of business automobiles, a figure that would be known in the future UCR system because the data structures have been reconciled.

Appendix B discusses in detail various kinds of changes that could have been made in UCR data structures to permit better reconciliation between NCS and UCR. Each of the changes actually recommended in Chapters 5 and 6 is, however, highly desirable from the perspective of the UCR system alone. The features of the proposed new system which also serve the purpose of reconciling the UCR and NCS data structures include the following:

- distinguishing commercial victimizations from personal and household crimes;

- clarifying the separation between simple and aggravated assault;
- including greater information about victims and allowing for data about multiple victims in a single incident; and
- distinguishing burglary with and without theft.

A continuing analysis capability for reconciliation should be provided, since reconcilable data structures are not adequate to assure that the published data from the two sources are in fact reconciled. Inevitably, some discrepancies will occur; the results from the two sources will in fact be different for unknown or not fully determined reasons, and the nature of these reasons must be discovered and documented through analysis. Where reconciliation is possible, data from both sources should be analyzed on an ongoing basis to determine the amount of crime implied by the reconciled figures. This topic is also discussed in Chapter 9.

The strategy of integrating the NCS and UCR data sources, not recommended for the immediate future, differs from reconciliation. Integration would entail using data from both sources together to produce unified estimates of the volume of crime in various categories. For example, a nonreporting rate for household burglaries, estimated from NCS data, could be applied to UCR burglary rates, resulting in an estimated total burglary rate derived from two sources. By dividing the victimization survey respondents according to characteristics related to their propensity to report crimes to the police, similar methods could potentially provide unified estimates for small geographical areas, which are well represented in the UCR and poorly represented in the NCS.

Possible methods for integrating the data sources are discussed in Appendix B. They have not yet been sufficiently developed, in our view, to justify near-term plans for publishing integrated figures. However, the new UCR data structures and associated audit procedures should be developed with an eye toward permitting development and eventual implementation of methods for integrating the calculations of crime rates and trends. Much confusion about the interpretation of crime statistics will be alleviated if it becomes possible for the federal government to generate and publish estimates of crime rates that are compatible with the data from both UCR and NCS.

8.4 Prosecution and Disposition Data

The UCR system is police based. It gathers reports from the police and accordingly deals with offenses known to the police and arrests by the police. The previous sections have discussed the relationship of the UCR Program with other data on the incidence of crimes--the stage before crimes come to the attention of the police. This section discusses data about the next stage, after a police action is completed through arrest.

Data on dispositions of arrests by prosecutors and courts are important in several respects. First, they may be regarded as measures of arrest effectiveness. Arrests that do not result in the filing of a charge or in subsequent conviction may be regarded as less productive than those that do. On the other hand, the eventual disposition of arrests is a key variable for any evaluation of the effect of law

enforcement on rates of criminal activity. Thus, some would argue that sentencing practices play an important role in deterring crime, and a role equally important as that of the police in apprehending criminals. This could be better tested if comprehensive data were compiled continuously on the likelihood of arrest, the likelihood of conviction, and the outcomes of sentencing for jurisdictions across the country. Only then would it be possible to analyze actual crime rates as functions of these and other variables, and thus to determine the effects of variations in arrests, prosecution, and sentencing on the level of crime.

Such linkage with current prosecution data should be possible in principle. Various OBTS systems now collect information on the disposition of felony arrests in some states. But these disposition data are not readily linked to police department individual arrest records and associated offense records. The new UCR Program should be designed to enable such linkages to be made by researchers, although linking records is not planned as part of the ongoing compilation of UCR files.[7] The collection of arrest identification numbers, corresponding offense identification numbers for arrests, and the level of arrest (felony/misdemeanor/fingerprintable, etc.) support this objective. In fact, since the definitions of levels of arrest differ from state to state, the main purpose of collecting this data item is to allow meaningful comparisons between UCR data and related data collected by prosecutors and courts.

In the absence of records linked case by case, useful comparative information could still be obtained by combining results from OBTS data and the new UCR data. Key information available through OBTS systems alone includes:

- the arresting agency (NCIC) code, which can be used to develop disposition rates by agency;
- the arrest charge for the most serious offense for which the offender was arrested (in the given instance), which allows calculation of disposition rates by offense; and
- offender characteristics, which allow examination of disposition by offender characteristics. (The most important of these characteristics may be the gradual build-up of prior offense records.)

Comparisons between UCR and OBTS results require some adjustment to the current forms of the data. Specifically:

- OBTS data are now collected only for felony arrests (or, in some states, for fingerprintable arrests). This distinction is not now entered in the UCR arrest record, but is included in the proposed UCR system to allow comparisons.
- The OBTS uses NCIC offense codes, which can be mapped into UCR codes if the detailed NCIC subcodes are used, rather than general categorical codes (e.g., the general code 10-99 for

[7] In any consideration of linking UCR and OBTS records, issues of privacy and freedom of information will need to be addressed.

homicide does not match a single UCR category exactly). Use of the general codes must be discouraged in OBTS systems.

- OBTS disposition rates for an offense refer to all cases in which that offense carries the most serious arrest charge, not to all instances of the offense. Unfortunately, the OBTS rules used in collapsing multiple offenses differ from the current UCR Hierarchy Rule. To permit comparing disposition rates, the recommended rules for handling multiple offenses in the UCR have been designed to enable analysts to map UCR offenses to OBTS collapsed offenses.

- OBTS data are initially sorted by year of disposition rather than year of offense. For many users, this will not be a problem. If necessary, OBTS records can be sorted to create a set indicating disposition rate for offenses committed in a given year and disposed of within some period thereafter (e.g., one to five years later).

Chapter 9

PUBLICATIONS, ANALYSES, AND USER SERVICES

Discussions with police, researchers, and other UCR users (such as media and government) early identified a strong need for more interpretation of the figures published annually in Crime in the United States. Each group emphasized slightly different needs. All expressed the need for more explanatory and interpretive discussion in Crime in the U.S. Police pointed to the additional need to identify comparable local jurisdictions and to discuss differences in crime rates and clearances. Researchers pointed to the need to document the reporting populations covered by various published tables and from year to year, and otherwise to aid comparisons across published tables and over time.

The desire for more interpretation also showed up in discussions of the need for specific explanatory data items, such as information on the victim-offender relationship or on whether crimes were drug- or alcohol-related. Likewise, there was frequently strong support for information on prosecution and court disposition of cases, though coupled with considerable doubts that the UCR should collect these data. These items also show up frequently in requests made to the FBI.

The same needs were strongly confirmed in the UCR Survey of Law Enforcement Agencies. Well over two-thirds of the agencies agreed with the need for analyses to aid comparison of different jurisdictions, to consider special topics, and, most important, to identify comparable jurisdictions for comparison by local agencies. No more than 5 percent actually disagreed with the need for such analyses, and the remaining quarter were neutral. Agencies also strongly favored both indices that reflect the total volume of crime and separate indices of more serious crime. Similarly, over 92 percent felt that information on prosecution and court disposition would be useful, though most felt that this should be collected separately from the UCR but then linked with the UCR.

Comments on other UCR user services were less frequent and mostly came from researchers. It is clear that researchers have sometimes found it difficult to read and merge UCR tapes. Likewise, UCR staff discussion of the requests for information received by the UCR suggests the need for a data base covering longer time series as well as for a more flexible analytic file that could be assessed relatively easily to answer specific questions.

The proposed new UCR system could meet these needs. To exploit fully its expanded capabilities, we recommend the following actions:

9.1 Create six publication series, including:

- **an annual report that is basically factual but more textual and interpretive than the current report;**
- **quarterly releases of crime counts and trends;**
- **annual compilations of statistics for local jurisdictions, similar to those currently in Crime in the U.S.;**

- a series of computer-generated special reports to individual agencies or groups of similar agencies;
- a series of occasional publications analyzing special issues about crime, primarily directed at researchers; and
- a series to provide for publication of methodological details and technical documentation.

9.2 Issue UCR reports at least once a year jointly with a corresponding report from the National Crime Survey, and occasionally issue joint publications.

9.3 Provide a continuing analysis capability for reconciliation of UCR and NCS data, evaluating seriousness scoring, and preparing periodic publications, special studies, and technical documentation.

9.4 Support continued and enhanced user services, including a user data base with files linked over time, the capacity to draw samples of offenses for analysis either by the UCR staff or by outside researchers, and response to public queries.

9.1 Publications Series

Currently the major publications of information from UCR data are Crime in the United States and similar compilations of state-level information by state UCR programs. In addition, various tabulations and press releases prepared by the FBI, state UCR programs, and local law enforcement agencies present monthly, quarterly, semiannual, or preliminary annual figures similar to those in Crime in the United States. Other detailed documents, computer printouts, and analyses prepared by the FBI, state UCR programs, or local law enforcement agencies from UCR data or related data management systems typically have a limited distribution.

The proposed new UCR system offers opportunities for much more extensive and complex tabulations and analyses than are currently published. Remarkably, our review of annual reports from state UCR programs that already have unit-record systems showed that few of them take advantage of the capabilities of their data to develop substantially different types of published tabulations than are available from the UCR summary system. Thus, the content of the publications to be developed in conjunction with the new UCR program would not only have national interest but would also guide state and local agencies in improving their own analyses of UCR data.

A publication plan for the UCR must take account of:

- the need to serve a variety of audiences, including the general public, specialists in crime-related issues, and law enforcement agencies;
- the need to provide crime statistics on three levels--national, regional, and local;

- the differences in data available from the Level I and Level II agencies;
- the need to provide both factual information and guidance with respect to interpretation of the findings; and
- the need to establish a limited set of standard publications, while also providing a vehicle for other reports on an as-needed basis.

Meeting these needs clearly requires more than one publication. We recommend six separate series of publications.

Series 1. An annual publication containing mostly text and graphics, with a small number of detailed tables covering national and regional issues.

Series 2. Quarterly release of current crime counts and trends.

Series 3. An annual compilation of tables for individual agencies and jurisdictions. This publication would be similar to the local listings of key counts now contained in Crime in the U.S. It would not contain narrative explanations other than clarifications of data sources, definitions, and headings in the tables.

Series 4. Tabulations of data, in standard formats, for individual law enforcement agencies. This series would contain more detail than Series 3, again omitting any narrative explanations. Series 4 tabulations would not be publications strictly speaking, since recipients could subscribe only to selected parts of the collection. For example, they could choose to receive standard groupings, such as all large agencies, or customized collections such as all jurisdictions within 50 miles of their own location.[1]

Series 5. Occasional publications describing analyses of special issues or specific detailed data elements. These could be included (e.g., as appendices) in the annual publications or they could appear separately.

Series 6. Methodological and technical documentation.

Table 9.1 summarizes the key features of each series. Data from all agencies would be used in the overall summary Series 1 reports and in the detailed reports by locality in Series 3 and 4. Level II agencies would play a special role in developing the interpretive and analytic comment in Series 1. In addition, the relatively small number of Level II agencies would allow these agencies to provide the basis for rapid quarterly estimates of basic facts. At the same time, the wealth of details collected from Level II agencies would make them the natural base for the Series 5 analysis. Special surveys would also play an important role in Series 5.

Generally, Series 1 publications would present the basic facts on crime in the U.S. However, since they would be intended for a wide audience, they must both organize information in a useful and insightful manner and provide some of the

[1] State programs would undoubtedly continue to publish data by state.

Table 9.1

SUMMARY CHARACTERISTICS OF PUBLICATION SERIES

Series	Audience	Data source	Frequency	Level of jurisdictional detail	Comment
Series 1	general	both Level I and Level II agencies	annual	national/ regional	basic annual UCR report (Crime in the U.S.)
Series 2	general	Level II agencies	quarterly	national/ regional	press releases on key crime trends
Series 3	general	both levels	annual	local	basic counts for localities to supplement Series 1 report
Series 4	law enforcement	both levels	annual	local	detailed counts for localities, allowing comparisons of similar agencies
Series 5	researchers in special topics about crime	Level II agencies	annual	-	special analyses
Series 6	technical readers	-	annual	-	technical detail

interpretation frequently requested by UCR users. Series 2, 3, and 4 publications would be clearly factual tabulations including little interpretation and comment beyond explanations of data sources. Series 5 material might include reports involving more extensive modeling, arguments, and interpretation. Technical details on estimates and methodology would be reserved for Series 6 material.

9.1.1 Series 1 Publications

Series 1 is intended to provide a broad overview of crime in the United States. In the current format of Crime in the United States, only the Index crimes are discussed substantively with any analysis of detailed data. Even here, the discussion is highly standardized, using the same words (but different numbers) from year to year. Only in the foreword are significant new developments emphasized. While we do not see Series 1 as the place for detailed technical or methodological studies, we recognize that this would be the only series that many readers would consult. The media and most government policymakers are among this group. We would therefore encourage more interpretive narrative directed specifically toward this audience, as well as the inclusion of appropriate graphics. We also urge greater use of statistical analysis, which plays a very small role in current UCR publications. Because Crime in the United States is the nation's primary source of information about crime trends, the additional explanatory power of the data collected from Level II agencies should be used to enhance the role of formal statistical analysis in future publications.

Table 9.2 shows the information suggested for inclusion in Series 1. Generally, it includes the national and regional information currently in Crime in the United States, with substantial improvements and clarifications based on estimates from data collected from Level II agencies. (The relationship between the UCR Series 1 publication and National Crime Survey publications is discussed in Section 9.2.) The victimization rates listed in Table 9.2 are not merely counts of crime incidents divided by population; rather they take into account the data for possible multiple victims per crime that are included in the proposed UCR system. Victimizations that can reasonably be presented with a "population at risk" different from the total population (and in some cases not persons at all, but rather vehicles or households) are shown as alternatives to victimizations per 100,000 population: both statistics would be calculated and analyzed or published as appropriate.

Some of the general principles implicit in Table 9.2 require elaboration. One key point is the meaning of the phrase "national estimates." Under current practice, UCR tables that refer to the total United States may or may not be national estimates. True national estimates must include estimates for nonreporting jurisdictions. Only some of the tables (e.g., total Part I offenses and total arrests) now supply this information. The reader of UCR publications is normally poorly equipped to make appropriate adjustments. The best imputations of missing data would take into account the known characteristics (such as location and size) of the nonreporting agencies. Only the National Program staff analysts of data have convenient access to this information.

Even a rough adjustment proportionate to total population is often more trouble than a casual user is willing to undertake. Since reporting fractions differ from table to table within a single year, someone who is using more than one table for more than one year finds that even drawing a simple graph accurately, let alone computing statistical trends, is a major undertaking. The most common response is to ignore the problem. The biases so introduced are generally minor over short periods of

Table 9.2

SAMPLE OUTLINE FOR SERIES 1 REPORT

I. **OVERVIEW**

A. Count of offenses and victimization rates per 100,000: level, change since previous year, and long time series for the subset of offenses for which past data are available. National estimates and breakdown by degree of urbanization and by region. Comparison with National Crime Survey where appropriate (and with National Center for Health Statistics counts for homicide).

B. Summary of key facts about crimes of violence. Perhaps the following summary tabulations will also appear here:

Tabulation of extent of injury[a]

Tabulation of victim/offender relationship[b]

Breakdown by crime classification[c]

Breakdown by location[d]

Victimization rates by age, race, sex

Relationship of victimization rates to geographical region, degree of urbanization[e]

Clearance rates

C. Summary of key facts about crimes against property

II. **CRIMES OF VIOLENCE AND THEIR VICTIMS**

Details about crimes of violence. Information about victim-offender relationships is presented first. The following information may possibly be displayed separately for (A) crimes committed by friends and relatives, and (B) crimes committed by strangers or unknown. The information is to be given separately for each type of violent crime.

Characteristics of victims

Number of victims per crime (average and distribution)

Extent of injury/loss for classes other than murder

Location[d]

Circumstances (for homicide only)[f]

Weapon type[g]

Rate per 100,000 by degree of urbanization,[e] location,[d] demographics[i]

Clearance rate (by offender characteristics)[h]

III. **CRIMES AGAINST PROPERTY**

Details for crimes against property. Separate sections cover property owned by individuals or households and property owned by businesses. A residual category (crimes against public property, religious institutions, etc.) may be discussed separately where pertinent, or included in total counts of crimes against property without separate discussion.

A. Individually owned property: rate per 100,000 and one-year change

Extent of loss

Breakdown by classification[j]

Rates per 100,000 by region and degree of urbanization[e]

Burglary rates per household, auto theft rates per household and per automobile

Clearance rates

B. Commercial property: rate per 100,000 and one-year change

Extent of loss

Breakdown by classification[j]

Rates per 100,000 by regional degree of urbanization[e]

Table 9.2

(continued)

IV. **OTHER CRIMES**

V. **OFFENDERS**

A. Description of offenders from current offense and arrest records

Number of offenders per crime, by offense type

Percentage of arrestees that fall into various age/race/sex/ethnicity categories, by type of offense

Arrest counts and rates for various demographic groups by type of offense

Time trends in arrest rates and reported offending rates by demographic group

B. Facts on cohort of releases

Rearrest rates by original offense and release status

Rearrest rates by demographic group

Arrest/rearrest offense type transition matrix

VI. **LAW ENFORCEMENT**

A. Personnel levels

Sworn and civilian. Average, standard deviation, and interquartile range per capita, per offense, and per call for service, by degree of urbanization and size of place

Relation of clearance rates to per offense staff levels

B. Summary of relevant special Series 5 studies

C. Law enforcement officers killed/injured in action

D. Killings by law enforcement. Counts by circumstance.

VII. **REPORTS ON SPECIAL STUDIES**

See discussion of Series 5 reports in text.

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[a]Degree of injury: death/apparent severe wounds/sent to hospital/minor/none.

[b]Relationship: family or friend/acquaintance/stranger or unknown.

[c]Classification of crimes of violence: murder/rape or other sexual assault/assault/robbery/other.

[d]Location codes: In home/near home/at work/other inside/other outside.

[e]Degree of urbanization would be a scale from central city of MSA to rural.

[f]Following FBI codes for murder: incident followed from felony/or incident followed from..."/suspected felony/romantic triangle/ argument over money or property/other argument/miscellaneous non-felony/unknown."

[g]Follow FBI codes for murder weapon.

[h]Excluding murder. For clearance rates, offender characteristics must be based on victim statement rather than arrest information, since the latter will not be available for uncleared cases.

[i]Demographics = age, race, sex.

[j]Classification for property: burglary/larceny/auto theft/vandalism/other.

time, but over a decade or more they may lead to seriously erroneous conclusions. We recommend that the UCR Series 1 publication impute missing data for all tables, using as much stratification information as possible. The Series 6 publications should then be used to document data imputation techniques. Thus, an example of a Series 6 publication would be an annual description of the extent and nature of missing data in that year's Series 1 report, including known differences between reporting and nonreporting jurisdictions. It could describe the methods used for filling in partially missing data for jurisdictions that report some of the time as well as for totally missing jurisdictions.

Similar conditions apply to estimates of trends. The statistical situation for trend estimates is somewhat different than for current counts of crimes or victimization rates, because the main issue is comparability of adjacent observations. The best estimate of a difference may not be the difference of the best estimates of the two observations. Involved explanations of this point would probably be inappropriate for the broad readership of Series 1 publications, and probably irrelevant for the main indicators derived from Level I data. Estimation methods become more problematic for measures based on the Level II data, since the smaller numbers of observations would make these estimates more vulnerable to bias from missing data. Also, the stratification of the Level II component sample would make imputation more difficult for users outside the UCR group. It is thus practically essential that indicators derived from the sample in the Level II component be based on imputed missing data. Since these would invariably be compared with indicators from the Level I component, comparable adjustments are essential.

Some items are notable for their absence from Table 9.2. The crime clocks currently included in Crime in the United States are not suggested for the front matter of the Series 1 publication. We remind the reader that researchers interviewed as part of this study strongly advocated this change. The clocks were seen as contributing little substantive information, and instead dramatizing a nearly irrelevant statistic.

Further, the outline does not explicitly preserve the Part I/Part II distinction or emphasize the calculation or publication of a crime Index. Rather, we are suggesting publication of disaggregate information that focuses separately on each type of crime. The presentation of summary information about crime in terms of weighted crime indexes is not recommended for the present time. However, Section 9.3 discusses a recommended continuing analysis capability that would examine reported crimes in terms of seriousness.

The outline does retain the separation between violent crime and property crime now used in the UCR. The proposed Series 1 publication would attempt to sort out crimes in which there is an actual confrontation between victim and offender, with injury or threat of injury to the victim, from other crimes. The categories in the Series 1 reports are also intended to reflect fairly well the distinctions suggested by the Police Executive Research Forum's Crime Classification System:

- violent vs. property crime;
- for property crime, crimes against persons vs. crimes against institutions or commercial establishments;

- for crimes against persons, crimes by family and friends vs. crimes by strangers, or some other such breakdown by degree of acquaintance; and
- property crime for gain vs. other property crime.

The violent crime category shown in the sample outline for Series 1 would include all crimes in which there is a direct confrontation with the victim with actual or potential physical violence. Accordingly, crimes involving personal contact but no direct confrontation, such as various frauds, would be included in property crimes.

Property crime would be subdivided into crimes against property owned by individuals and crimes against commercial establishments. The reason for this is twofold: to allow comparison with figures from the National Crime Survey, which interviews only individuals, and to sort out those crimes that are most distant from individuals. A residual category of crimes against property owned by neither individuals nor businesses (e.g., public buildings and religious institutions) would also be included, of course, but we have not attempted to resolve how these crimes should appear in this outline of the Series 1 publication.

There are obvious limits to the distinction between individuals and establishments. Larcenies from small business establishments may be a gray area because small shops are so often a direct extension of the individual owner. Even the robbery of a bank or other commercial establishment involves direct confrontation with individuals as well as loss of property by a business. One solution is clearly to distinguish among robberies or, alternatively, to avoid the problem by counting a bank robbery both as a crime against persons and a crime against a business. Indeed, one of the great strengths in the Level II component is its ability to support alternative definitions. The detailed data available through unit-record reporting would allow rapid application of a variety of counting and classification rules.

In developing definitions to be used in UCR reports, however, some decision must be made. Our proposed outline would include all robberies under violent crime (as they are today); all larcenies of businesses, including small individually owned businesses, would be included in commercial crime. These decisions basically reflect our proposed organization of the Series 1 reports around broad categories distinguishing violent crime and crimes against persons from commercial crime. We believe that the UCR reports will be more useful if all robberies (and, similarly, all commercial crimes) are presented together and discussed as a whole, rather than being spread over different categories. It should still be noted that certain offenses (e.g., receiving stolen goods) cannot be allocated to individuals or to establishments.

The outline also suggests that violent crime might be categorized by the distance between victim and offender. Crimes by strangers or even acquaintances represent very different situations than do crimes committed by family members or close friends. The genesis of the act, the issues posed for the law in terms of the extent of governmental intervention, and the capacity of law enforcement to prevent offenses differ dramatically. Yet another category is created by the so-called victimless crimes--really offenses in which the victim and offender are the same (e.g., drug addiction and prostitution)--though this distinction is clouded by the presence of third

parties (e.g., drug dealers and pimps) who intervene in and exploit the self-victimization (of addicts and prostitutes). Here again, there are continuing issues raised about the proper extent of government intervention.[2]

The organization of topics in the outline reflects four different types of information available about crime:

- description and counts of criminal events,
- description and counts of victims,
- description and counts of offenders, and
- description of criminal justice system response to crime.

The BJS Report to the Nation was quite explicitly organized around these topics. The proposed outline is based partly on this organization and partly on the current Crime in the U.S., which omits separate discussion of victims (on which the UCR now collects few data) but otherwise discusses counts of offenses (crime index), police and police response (crimes cleared and law enforcement personnel), and offenders (persons arrested).

Sections II, III, and IV in the outline in Table 9.2 describe criminal events and victims. Section V presents information about offenders, both as perceived by crime victims and witnesses who report crimes to the police, and as determined when suspects are arrested. Both the demographic profile of offenders and the propensity of different demographic groups to commit offenses and be arrested are presented in Section V.

The outline also suggests reviving a set of longitudinal data about offenders dropped from Crime in the United States after 1975. The data were constructed by drawing a sample of offenders released from the criminal justice system in a given year, including those arrested and not prosecuted, those prosecuted but not convicted or not incarcerated, and those released from jail or prison. Criminal history files were then used to follow the sample over time and to report on subsequent arrests. Building on the growing knowledge about criminal careers that is being developed in the research community, a new version of this longitudinal file could be constructed to provide data for independent research as well as for the information proposed to be included in the Series 1 publications.

Section VI of the Series 1 report, on law enforcement, is straightforward. The final section presents or summarizes findings from Series 5 special studies, discussed below.

[2]Another category of interest, though perhaps not appropriate for UCR, is betrayals of trust. The seriousness surveys indicate that these are regarded as quite serious. For example, stealing $1,000 from a department store is scored as a 6.9, while a public official taking $1,000 of public money is scored as a 9.5. Similarly, cheating by doctors and legislative bribe taking in unknown amounts are each rated as about 14.0.

9.1.2 Series 2 Publications

Series 2 publications would be quarterly press releases based on reports from Level II agencies. They would be largely factual tabulations with only minor commentary. Key numbers would include current quarter- and year-to-date counts and rates for the major crime categories used in the Series 1 report, together with comparison with past years. Level II agencies would be the ideal basis for such quarterly estimates. Because they would constitute a stratified sample of all agencies, they could provide genuine national estimates of crime counts. At the same time, the relatively small number of Level II agencies should permit more rapid compilations.

9.1.3 Series 3 and 4 Publications

The Series 3 and 4 reports would provide listings of data counts by jurisdiction. Accordingly, they would be based on all agencies and could not conform to the offense typology suggested for Series 1, which would require the more detailed data collected only from Level II agencies.

Table 9.3 shows the information suggested for inclusion in the Series 3 and 4 compilations. To the extent possible, all figures would be estimated for entire jurisdictions, independent of which particular agencies in the jurisdiction do or do not report and whether they report partially or entirely. Counts by agency would be shown within jurisdictions, except when agency service areas cross jurisdictional boundaries, in which case they would be shown as the subtotal for the agency activity within that jurisdiction. Because agencies would participate in the collection of data on victims' residence status, victimization rates per 1,000 residents could be calculated, thereby facilitating relative comparisons among jurisdictions having different-sized commuter and tourist populations.

It should be noted that the simple information on resident/nonresident status provided by the Level I agencies would be sufficient to deal with this issue only for well-identified cities or towns. For a county containing many cities or towns it is not possible to add together the data for resident/nonresident status and determine how many county residents were victimized. The collection of Zip codes reported by the Level II agencies would, therefore, permit more meaningful analysis of the geographical relationship between the victim's residence and the jurisdiction where he or she is victimized. The Level II data would permit making national and regional estimates related to the residency status of victims.

The Series 3 publication would be a listing of offense counts, clearances, and arrests by jurisdiction, using the Level I-type data--that is, the common core of basic data provided by both Level I and Level II agencies. This is intended to provide local-detail supplements to the Series 1 report and would include limited items of information about each agency or jurisdiction (i.e., those judged to have wide interest), to be tabulated and distributed in large quantities to contributors and interested readers.

The Series 4 publications are envisioned to take a form that has only recently become technologically feasible. Other, more detailed information than available in Series 3 would be prepared as Series 4 printouts. These would potentially be available for every jurisdiction and agency, but we expect that few users will want to receive the entire collection. Rather, Series 4 reports will be distributed in compilations of printouts that include small numbers of jurisdictions or agencies, in accord with the request of the recipient.

Table 9.3

TABULATIONS AND ANALYSES UNDERLYING SERIES 3 AND 4 DATA COMPILATIONS

I. Crimes reported to the police

A. Annual estimates and trends for individual jurisdictions: cities, counties, MSAs

1. Counts of crimes

2. Victimizations of residents per 1,000 resident population

B. Annual counts of reported crime by agencies, organized by jurisdictions

C. Assaults and killings of law enforcement officers

II. Response of law enforcement agencies to reported crime

A. Crime-specific arrest counts and fractions, juvenile and adult, by gender and race/ethnicity, by jurisdiction, by agency that made the arrest

B. Crime-specific clearance counts and fractions, juvenile and adult, by agency

C. Property recovered, yes/no (especially vehicles), dollar amount, by agency making the recovery

D. Time trends in the above

III. Comparability information

A. For each jurisdiction, a list of other jurisdictions similar in characteristics, in order from the most to the least similar

B. For each jurisdiction, deviation from average statistics, given the characteristics of the jurisdiction, for reported crimes, arrest counts and fractions, clearance counts and fractions, etc.

IV. Personnel information

A. Sworn and civilian employees, by agency, organized by jurisdiction, with subtotals by jurisdiction

This form of publication permits far more detail than would be reasonable to distribute in a single publication that attempted to describe every contributing agency. For example, manpower is currently summarized by only two numbers per jurisdiction: total count of civilians and total sworn officers. Police departments in Utah would no doubt trade the entire Alabama table for additional detail about their neighbors in Utah. Information on arrests, clearances, and staffing deals with issues whose interpretation varies considerably from state to state. While the UCR system attempts to impose uniformity of definitions, direct comparability is often more interesting within states than across states.

In the UCR Survey of Law Enforcement Agencies, one of the strongest requests was for more useful information allowing comparisons among jurisdictions and agencies. Our suggestion that victimizations of residents be distinguished from those of nonresidents is only one step toward enabling local agencies to make sensible comparisons even if they have only limited analytic capabilities. We envision that other analytic activities at the national or state level would enhance the ability to compare data across agencies and jurisdictions:

- The UCR data base would include much more information about agencies and their jurisdictions than is currently obtained by the FBI. (These additional data are discussed in Chapters 5 and 6.) Using cluster analysis or similar techniques, it would be possible to characterize jurisdictions by their degree of similarity to each other on a multidimensional array of data items, such as sociodemographic features of the population, size and budget of the police force, etc. Tabular material provided to each jurisdiction, then, could list perhaps 15 other jurisdictions in order of similarity.

- By multivariate regression or similar techniques, it would be possible to estimate, for each jurisdiction, the "expected" count of reported crimes (or victimizations), by crime type, for a jurisdiction with its characteristics. Then, the deviation of each jurisdiction above or below its expected value could be presented, perhaps graphically, thus greatly enhancing the ability of readers to understand comparisons among agencies. Series 6 publications would describe the methods of these multivariate techniques and evaluate any interesting issues that arise in deriving the coefficients.

9.1.4 Series 5 Publications

Series 5 would provide the opportunity for publication of special analyses, which might be summarized in Series 1 or 2 releases. These would generally be intended for specialists and would rely heavily on the Level II component, on the special studies based on samples of cases discussed in Chapter 7, and on an integration of UCR and other data.

Some examples of Series 5 special analysis topics are presented in Table 9.4. The list is hardly exhaustive, but it does give some idea of the range of topics that might be covered. As can be seen from the exhibit, the topics addressed could include policy analyses, individual victim analyses, and operational analyses. Policy analyses would include basic analyses of the causes of crime and of the effects

Table 9.4

EXAMPLES OF TABULATIONS AND ANALYSES UNDERLYING SERIES 5 PUBLICATIONS

I. Regarding crimes reported to the police

A. Analysis of trends in annual national estimates in terms of changes in population size, demographic composition, geographic distribution of population. This would be used to identify the extent to which changes in crime are explained by underlying demographic factors or seem to reflect possible changes in basic lawlessness.

B. Similar analysis of differences in crime rates across jurisdictions. Combined time series/cross-sectional data would provide strong tests of hypotheses. Second-level analysis could attempt to explain "unexplained differences" in terms of probability of arrest, sentencing, police manpower and deployment, and so forth. Where appropriate, studies could closely examine selected jurisdictions where the probability of arrest or conviction had changed substantially due to special police initiatives, legislation, etc.

C. Detailed analyses of characteristics of various offenses or crime types, as appropriate, in terms of:

Weapons use

Seasonal

Time of day

Locus, target, or type of property

Dollar value of loss or property damage (distribution of)

Drug involvement

Circumstances or surrounding activity

Some of these could become routine advisories (e.g., type of property). Some may involve special surveys for samples of offenses to gain needed missing detail (e.g., property type detail, drug involvement)

D. Analysis of recovery probability by time since offense (already undertaken by FBI for auto thefts)

E. Studies of changes in reported crime rates following passage of new types of legislation in ore or more states. Models for projecting effects of such changes in other states.

F. Analysis of crime problems facing special populations such as retirement communities, colleges and universities, etc.

II. Regarding victims of crimes

A. Characteristics of victims, by crime type, with special emphasis on the probability of being victimized

B. Average number (and distribution) of victims per crime, by crime type, an input to seriousness assessment

C. Injury of victims, deaths of victims, with special emphasis on which types of crimes and what circumstances lead to injury

D. Victim/offender relationships. This could include analysis to determine the relationships that seem to be involved in similar crimes. For example, are offenses by "acquaintances" more like those of "friends" or of "strangers," and can they be grouped with either of the other categories?

Table 9.4

(continued)

III. Regarding offenders

A. Analysis of arrest/re-arrest data for sample of releases (see text for Series 1). This could include:

1) Probability of re-arrest

2) Evidence on whether there is a progressive development of offenses in terms of magnitude or type of offense. For example, do most burglars tend to remain burglars, or are they likely to shift crimes (potentially useful in sorting suspect possibilities for investigation/identification)?

3) Evidence on how careers in crime evolve over the individual's lifetime. This could also provide important understanding as to the causal nature of demographic characteristics associated with crime (i.e., if the demographic factors are really causal, then a given individual criminal will become more or less likely to be re-arrested as his age, marital status, etc. change over time).

B. Analysis of number of offenses and size of criminal population based on capture/recapture models (currently in progress within the FBI)

IV. Regarding response of law enforcement agencies to reported crime

A. Analysis of the relationship between clearances and unfoundings

B. Cross-walks: crime type of arrest vs. crime type on incident report

C. Correlates of clearance probability:

Crime type

Victim offender relationship

Time of day

Jurisdiction size

Reporting delay

Police response delay

D. Analysis of extent to which clearances are due to, for example:

1) On-view apprehension by policies

2) Immediate calls by victim or witness

3) Other cases where offender known to victim or witness

4) Investigation in other cases.

This could be used to examine the usefulness of alternative resource allocations and response time rates, for example.

E. Analysis of connection between clearance rates and police manpower or police manpower per call, including noncriminal calls for service (and to analyze police manpower needs as a function of population, crime rate, and noncriminal calls for service).

F. Analysis of the effects of police actions such as arresting drunk drivers on motor vehicle fatalities or other outcomes.

on crime rates of variations in police manpower and clearance rates and in prosecution and sentencing. Victimization analyses could include, for example, analysis of victimization rates by demographic group and setting (e.g., location type and time of day). Operational analyses could include, for example, analyses of criminal career patterns and of the antecedents of clearances, trends in property types stolen, and guidelines for the probability of clearance or property recovery by time since offense.

In sum, the Series 5 reports would offer a basis for pursuing and disseminating the wide variety of investigations that might be undertaken with the Level II component of the new UCR system.

9.1.5 Series 6 Publications

Series 6 publications would be used to document the technical detail for the other series. This would include, for example, the basic models for and derivation of the estimated jurisdictional groupings on expected crime counts discussed above, as well as details on the methods and extent of imputations of missing values in other series.

9.2 Relationships with State Publications

Many state programs or state Statistical Analysis Centers produce periodic state-level publications, some of them similar to Crime in the United States. This practice will undoubtedly continue under the recommended system and probably would be expanded, especially in states choosing to ask many or all agencies within the state to submit Level II data. Some states might choose to offer a state-level publication series parallel to that offered by the National Program. In addition to an annual publication, many states might choose in particular to prepare and distribute Series 4-type publications for agencies within the states in order to strengthen ties with local agencies.

9.3 Publications during Transition to New System

Concern has been expressed about potential disruption of the time series resulting from conversion to a new system. To a certain extent, improving the accuracy of the system would inevitably affect the time series. Any major ongoing statistical data system occasionally undergoes improvement, so this problem is not unique to the UCR program. Further, local law enforcement agencies are regularly making changes that have unknown influences on national crime statistics.

Some have suggested addressing this issue by operating both the present and the future UCR systems concurrently for some period of time within each agency, so that an adjustment could be calculated for the effect of conversion. We do not recommend this approach. First of all, it would wreak havoc with data collection at all levels of the system. Secondly, it would be virtually impossible to operate the old summary system in the presence of an operational unit-record system. Finally, it is hard to imagine an agency submitting a count of 40 robberies under the summary system while submitting a count of 43 robberies for the same month under the new unit-record system.

Alternatively, we recommend that a phased-in implementation be used and designed in such a manner as to allow estimation of an adjustment factor to correct for the effect of conversion to the new system. Adjustment factors would be estimated by analyzing changes in crime statistics from one year to the next for agencies operating under the old system, agencies that converted to the new system during the year, and those that are operating under the new system.

Nevertheless, it should be recognized that such adjustments would be imperfect. In particular, it would be virtually impossible to estimate the effect of aspects of the new system that produce their effects over long periods of time, such as the increased use of auditing. Furthermore, such general adjustment factors would apply to agencies on average but might not accurately reflect the differences for any particular agency.

9.4 Joint Reporting of UCR and NCS Results

Currently the major publication of UCR statistics, Crime in the United States is released separately and on a different date from reports of results from the NCS. Many users of crime statistics, providers of data, and federal officials have complained that the uncoordinated release of findings is confusing and even embarrassing.

At least three different levels of joint reporting of UCR and NCS results can be envisioned. The first level would be to produce separate publications with an annual joint release. In this level of joint reporting, each data source would be described in its own publication or publications, but once a year (or more often) a major publication from the UCR and one from the NCS would be released simultaneously at a joint press conference. Additional materials would be provided to the press and other interested parties explaining the relationship between the figures appearing in the separate volumes.

At the second level, there would be joint release of separate publications that have standard text explaining UCR-NCS comparisons, plus occasional joint publications. The detailed results from each data source would appear in separate publications, all of which would include similar general explanatory material about the relationship between UCR and NCS figures. Perhaps this material would not be specific to the reference year(s) discussed in the publication, but would be standard text coordinated by the agencies preparing the separate publications. Simultaneous release of major publications from each source would occur once a year or more often, and occasional joint publications for general readers would describe overall crime trends.

Finally, the third level would entail integrated publication. A single volume would include the annual release of detailed UCR data, related NCS data, explanations of the relationships between the figures from the two sources, and estimated national crime figures based on data from the two sources used complementarily and as dual frames. Other publications from either source, no matter what topic they cover, would include explanatory material about the relationship between UCR and NCS figures.

The first level of coordination evidently can and should be undertaken immediately, without awaiting complete implementation of the new UCR system. In our proposed outlines for the new UCR publications, the second level of coordination is

recommended. Of course, gradually a greater degree of interaction between UCR and NCS publications could develop. This section discusses the three approaches, showing that the third level of coordination does not appear to be practical or even desirable in the near future.

The three possible approaches to joint reporting can be compared according to their cost, intelligibility, convenience, and timing. Cost considerations do not appear to weigh heavily in the choice. Although costs appear to increase somewhat with the successive levels of coordination, the differences do not seem major, and we have not attempted to estimate them numerically.

Even a brief consideration of the question of intelligibility reveals that the needs of the general reader are quite distinct from the needs of the expert who requires sourcebooks of crime-related data. The most useful form of publication for reference purposes is either separate volumes or a volume divided into sections according to the source of the data; the most useful form for the general reader integrates findings across the different sources.

Resolution of these competing requirements is not easy. While the current, uncoordinated publications evidently present intelligibility problems to policymakers and members of the press and public, experts in criminology and crime statistics are also major users. It might seem that providing a clear indication of the source of each item of information in a combination volume could preserve the usefulness of the publication for researchers without confusing the general reader. The Bureau of Justice Statistics already faced this problem in preparing its Report to the Nation on Crime and Justice, which meticulously credits each map, table, or statistic using either fine-print text adjacent to the information or footnotes at the ends of chapters. Yet the intended audience of this publication clearly is the general reader, and a different format would no doubt have been adopted if the report were intended primarily to be a source document for research.

The authors of Report to the Nation were dealing with information that is unambiguously derived from UCR data alone, or from NCS data alone, or from a separately cited study. The citation problems would be much greater if some of the statistics presented were derived from both UCR and NCS data by some joint estimation procedure.

From the standpoint of convenience, separate volumes seem clearly preferable for research and reference purposes. Many uses are made of figures from the separate sources without any need for cross-reference to other sources. For example, law enforcement agencies may be interested in arrest statistics submitted by comparable agencies elsewhere; researchers may wish to select a sample of law enforcement agencies according to their arrest workload, or they may be interested in the nature or extent of injuries sustained by victims of violent crime. There is little reason to require these users to work with a single volume that is at least twice as large as they need for their purposes, especially since they would not have any difficulty knowing which is the volume they need.

Similarly, considerations of convenience suggest that integrated information derived jointly from the UCR and the NCS and intended for the general reader should be available in a small publication, rather than combined with detailed statistics from the UCR and/or from the NCS.

Perhaps the most compelling arguments for separate publications of the details from the two sources arise from the issue of timing. While selected information, such as preliminary estimates of households affected by crime, can be produced from the NCS less than one year after the reference calendar year, most NCS statistics are available only later. If emphasis were placed on an integrated publication at the time the UCR data were available, the apparent importance of later results from the NCS for the same calendar year would be unjustifiably downgraded. The third level of coordination described above--joint publication--also envisions that integrative analysis will take place prior to publication of the statistics from either source, a procedure that would clearly delay publication of any of the figures past the end-of-summer dates to which we are now accustomed.

Further, many law enforcement agencies release their own UCR statistics close to the end of the calendar year in question. Restricting release of these early figures, in the interest of preparing a joint volume of the NCS and the UCR data, seems neither sensible nor feasible. A preferable approach would be to release detailed data as they become available, but to release the annual UCR Series 1 publication jointly with some major NCS publication. The Series 1 publication should include explanatory material about its relationship to the NCS data and NCS publication series.

9.5 Analysis Capabilities

The proposed UCR publications as outlined in Section 9.1 clearly require a greater ongoing analysis activity than is now undertaken for producing Crime in the United States. Much of the analysis needed is apparent from the descriptions of the content of the publications and the underlying tabulations. Indeed, the examples of analyses for Series 5 publications listed in Table 9.4 present an extensive list of possible analytic topics. We shall not comment further on all possible types of analysis here. Two topics deserving greater explanation are discussed in this section: analysis needed to reconcile UCR results with NCS results, and analysis of seriousness weights for crimes.

9.5.1 Continuing Analysis for Reconciliation between UCR and NCS Data

Section 9.2 discussed the necessity of making the UCR data system reconcilable with National Crime Survey data. But by no means would the provision of reconcilable data systems by itself be adequate to resolve in timely fashion the major questions that users of the data may have about relationships between figures derived from the two sources. An ongoing analysis activity would be required to:

- identify the maximal degree of agreement between the two sources;
- develop explanations or hypothesized explanations of any disagreements between the data sources;
- recommend changes to survey methods and data collection or audit activities designed to reduce or explicate disparities between the two sources; and

- recommend, carry out, or sponsor associated experimental or methodological studies designed to confirm or refute hypotheses that attempt to explain disparities.

Even if the crimes of a certain offense type estimated by the NCS as reported to the police during a particular calendar year happened to agree exactly with the corresponding UCR counts, special tabulations and estimates would have to be undertaken just to show that the data from the two sources actually agreed in this way.

Carrying out these comparative calculations would be one function of the suggested ongoing analysis activity. Arguably, the majority of users of both UCR and NCS data would never have any need to examine the special tabulations prepared and examined by the analysis group, as long as users were assured that the analysis had been undertaken and that the results were as advertised: the two data sources agreed to the extent they could be expected to agree. Researchers interested in the details could obtain them from Series 6 publications.

More realistically, lesser degrees of compatibility would be found in the data. Perhaps the trends over time in NCS estimated counts of offenses reported to the police would agree with the corresponding trends in the UCR counts, but the numerical national estimates would be persistently different in the two sources. The audit information to be collected in conjunction with the new UCR system might or might not help to explain such a disparity.

Perhaps the UCR figures would show an upward or downward trend, and the NCS figures no trend (or an opposite trend), which analysis might reveal is nonetheless compatible with the UCR data because of the inherent sampling variance of the NCS. Or perhaps some areas of UCR-NCS compatibility would be found, along with other areas of serious discrepancy.

A clear understanding of the extent of agreement between the two sources would be needed to build confidence in the figures being published, and to justify various federal agency activities such as collecting, tabulating, and disseminating both the UCR and the NCS data. Analyses directed at identifying and documenting compatibilities should be undertaken rapidly and in parallel with preparation of UCR and NCS figures for publication each year. Presumably, with the passage of time many of these calculations would become routinized or even unnecessary due to gradual improvements in the data systems.

Because of the time constraints and the possibility of gradual routinization of the calculations, this kind of reconciliation analysis would appear to be appropriately housed within the federal government.

However, when serious incompatibilities are found between the UCR and the NCS, especially if they arise as unexpected new developments in the current year's data, no advance plan can assure that valid explanations will be available within the time frame necessary to permit their publication along with the UCR and NCS results. An additional, possibly separately housed, ongoing analysis activity should be established to develop explanations of the incompatibilities. These studies might involve examination of survey methodological issues, special analyses of UCR audit data, application of results from victimization surveys other than the NCS, comparisons of UCR and NCS data at geographically disaggregated levels, or determination of the covariates of errors in either of the data systems.

Occasionally there may remain, despite the above analysis activities, some residual disparities that should be resolved for important policy purposes and yet are resistant to analysis with the regularly collected UCR and NCS data. In such cases, special studies should be sponsored. These might include forward or backward record checks; special-purpose victimization surveys differing from the existing NCS in format, content, or method of administration; or special data collection projects in selected law enforcement agencies. The ongoing reconciliation analysis activity recommended in this chapter need not necessarily sponsor special studies itself, but it should play a role in deciding which issues are sufficiently perplexing and important to merit resolution by these methods.

9.5.2 Continuing Analysis of Seriousness Scores

The current crime Index has been vigorously faulted for giving equal weights to the most serious and petty crimes. This, it is argued, is clearly inappropriate, because it misleads as to the actual seriousness of crime and conceals important changes in serious crime beneath a mass of minor crimes. We suggest that these criticisms are also likely to be true of any reasonable seriousness-weighted index. Nor do we believe that seriousness scores will materially change overall Index patterns. Accordingly, we have recommended against adoption of weights at this time, preferring instead to publish statistics for disaggregated crime groupings as discussed in Section 9.1.

At the same time, seriousness scoring is intuitively appealing. It seems appropriate, therefore, to continue research in this area to attempt to identify seriousness-weighted indices that actually can be shown to convey better summary information about crime. This effort would be aided by the Level II component, which would provide the basis for construction of a variety of alternative indices.

There seems to be no reasonable way to create an overall index of crime that reflects differences in seriousness. There are, of course, a variety of ways to develop indications of relative seriousness. Most prominently, Thorsten Sellin, Marvin Wolfgang, and Robert Figlio of the University of Pennsylvania Center for Studies in Criminology and Criminal Law have developed seriousness scores based on the relative scores assigned by individuals to a variety of criminal event descriptions.[3] However, such studies, while often extremely insightful, seem unlikely to overcome the problems inherent in the use of an overall crime Index. First, any such attempt will be subject to endless debate: you may or may not agree with the most recent seriousness survey results that four instances of Medicare fraud by physicians are somehow more serious than one rape-murder, or that four instances of petty shoplifting of $10 worth of cosmetics are more serious than one store break-in and theft of $1,000, or that even 120 instances of trespassing in the backyard of someone's home are in any conceivable sense equivalent to planting a bomb in a public building and killing

[3] See especially Center for Studies in Criminology and Criminal Law, The Seriousness of Crime: Results of a National Survey, University of Pennsylvania, 1983; and Thorsten Sellin and Marvin E. Wolfgang, The Measurement of Delinquency (New York: John Wiley & Sons, Inc., 1964).

20 people.[4] These problems are endemic to any attempt to create an overall index. However, while they will reflect on the index's credibility and provide critics with a wonderful array of absurd examples, they are in fact unlikely to present a material barrier to the use of an index, as the success enjoyed by the Gross National Product, the Consumer Price Index, the Poverty Line, and the current unweighted crime Index all attest.

The fundamental problem is that the original issues raised with the current crime Index are likely to be true of any other index as well. Larcenies and auto theft outnumber murder, rape, and robbery by a factor of about 13 to one (1982). Most indices are likely to be dominated by less serious crimes. Indeed, this may be very desirable. There is no reason to believe that less serious crimes in total are somehow less important as a group than more serious crimes. In any case, an overall index based on seriousness scores will clearly be just as opaque as any other index in terms of communicating the nature of criminal events, and almost as arbitrary in adding up wildly disparate crimes into a single number.

The fact that no index is adequate by itself does not, however, mean that no index is needed or that the current index could not be improved. Some summary measure is clearly needed. Further, there is a natural impulse to weight crimes by their seriousness, that is, to count more serious crimes more heavily. Even so, current developments seem too rudimentary to warrant immediate application by the FBI or BJS to create a new crime Index. First, it does not appear that seriousness scoring has a very substantial effect on trends in the index. This was pointed out in 1974 by Blumstein[5], using UCR data for the period 1960-72. We have repeated a similar analysis using data from 1974 to 1983. Approximate seriousness scores were given to the seven Index crimes following the examples provided in the Bureau of Justice Statistics' 1983 Report to the Nation on Crime and Justice (pp. 4-5). This was done to attempt to explore the impact of seriousness weights on the crime Index using available data. We should note, however, that the idea of having only seven categories of crime to deal with clearly violates the basic idea of most seriousness scoring, which is usually intended to provide near-continuous gradations of seriousness. Thus, the seriousness scores are only loosely based on the ground scores for categories of offenses, which vary considerably based on specific circumstances. In any case, the seven index weights assigned for test purposes were:

Murder	35
Rape	25
Robbery	20
Assault	12
Burglary	10
Larceny/Auto theft	4

We then created a weighted index rate for 1974 through 1983 based on the adjusted time series given in the 1983 Crime in the United States (p. 43), setting 1974 equal for both indices.

[4]These examples are all taken from the seriousness scores presented in the BJS Report to the Nation (pp. 4-5).

[5]Alfred Blumstein, "Seriousness Weights in an Index of Crime," American Sociological Review 39 (December 1974): 854-864.

As can be seen from Table 9.5, the patterns of change presented by the weighted and unweighted rates are essentially the same, confirming the earlier work of Blumstein. The size of the changes do differ somewhat. The weighted rate tends to show less of an increase than the unweighted rate, especially in 1976. Indeed, the total increase in the weighted crime rate from 1974 to 1983 is about four-sevenths the increase in the unweighted rate. Interestingly, as shown in Table 9.6, these differences are due mostly to differences in changes in property crime rates, reflecting the shift in weight from larceny/auto theft to burglary. Violent crimes (murder, rape, robbery, and aggravated assault) are so relatively infrequent that, even with the higher weights given them by seriousness scoring, they rarely have a material effect on the overall change in the crime rate.

The evidence that seriousness scoring probably would not, according to these simplified examples, produce a major change in the overall crime Index pattern reduces the urgency for its adoption. At the same time, the differences in some years suggest that several efforts should be undertaken to prepare for eventual use of seriousness scoring. First is the practical conversion of the 204 crime scenarios used in the most recent seriousness survey into a manageable set of descriptors to be collected by the UCR program. This would require that the variation in seriousness scores be reduced to a reasonable set of crime attributes, such as extent of injury and property loss, use or threat of force, use of weapon, and so forth. This could be done by various regression or scoring techniques to develop estimates of the ways in which various descriptive dimensions lead to changes in seriousness scores. The goal would be to make use of the differences in seriousness without requiring extensive crime classification categories. Account would also have to be taken of a possible tendency to score multiple-victim events as less serious than events involving an equal number of single victims.

In addition, any seriousness-scored index should be validated where possible. First, the internal validity of derived scores based on the analysis above should be checked in terms of their ability to predict the scores for new crime scenarios. Score stability across individuals and demographic groups and over time should be documented. External validity should also be established. If, for example, the scoring is felt to reflect people's views of the relative seriousness of the overall crime level, then the scored index might be expected to correlate more closely with survey responses to questions concerning the importance of "the crime problem" than is the current unweighted index.

We recommend that an ongoing analysis activity should be sponsored to carry out the program of studies outlined in this section.

9.6 User Services

By long-established usage, the term user services has been applied to all UCR activities other than general audience publications. In this section we distinguish three types of services and three potential audiences. Some of the services would apply to all audiences, while others would have only specialized interest. Although all the existing service demands are likely to continue, we anticipate that the availability of unit records (rather than summary records) and the increased complexity of a system with two levels of reporting would significantly increase the scope of services likely to be demanded. At the local level, the requirement for maintaining summary statistics would no longer have a federally mandated justification, but local agencies might wish to continue the same tabular formats for their own use. Keeping duplicate

Table 9.5

EFFECT OF SERIOUSNESS SCORES ON THE CRIME INDEX PER 100,000: 1974 - 1983

Year	Index	Weighted Index	Year-to-Year Percentage Change		Cumulative Since 1974 Percentage Change	
			Index	Weighted Index	Index	Weighted Index
1974	4,850	4,850	-	-	-	-
1975	5,281	5,205	8.9	7.3	8.9	7.3
1976	5,271	5,078	-0.2	-2.4	8.7	4.7
1977	5,062	4,939	-4.0	-2.7	4.4	1.8
1978	5,124	5,021	1.2	1.7	5.6	3.5
1979	5,548	5,422	8.3	8.0	14.4	11.8
1980	5,931	5,884	6.9	8.5	22.3	21.3
1981	5,841	5,806	-1.5	-1.3	20.4	19.7
1982	5,386	5,469	-4.4	-5.8	15.2	12.8
1983	5,158	5,029	-7.7	-8.0	6.4	3.7

Note: (1) Weights are adjusted so that the 1974 index is the same as the unweighted index.

(2) Weights used are as follows: murder = 35, rape = 25, robbery = 20, assault = 12 burglary = 10, larceny/auto theft = 4.

Table 9.6

SOURCES OF DIFFERENCES IN CRIME RATE CHANGES FOR SELECTED YEARS

Violent vs. property crimes

Item	Violent Crimes	Property Crimes	Crime Index
1974 to 1976			
Percentage change			
Unweighted	-0.1	9.6	8.7
Weighted	-1.6	6.6	4.7
Contribution to change in Index (in percentage points)			
Unweighted	0.0	8.7	-
Weighted	-0.4	5.1	-
1974 to 1983			
Percentage change			
Unweighted	14.7	5.5	6.4
Weighted	11.8	1.3	3.7
Contribution to change in Index (in percentage points)			
Unweighted	1.4	5.0	-
Weighted	2.7	1.0	-

Individual crime types

Item	Murder	Rape	Robbery	Assault	Burglary	Larceny Auto Theft
1974 to 1976						
Percentage change	-10.2	1.5	-6.0	5.8	0.4	14.1
Contribution to change in Index (in percentage points)						
Unweighted	-0.0	0.0	-0.3	0.3	0.1	8.6
Weighted	-0.1	0.0	-0.7	0.4	0.2	4.9
1974 to 1983						
Percentage change	-15.3	28.6	2.2	26.6	-7.2	11.7
Contribution to change in Index (in percentage points)						
Unweighted	-0.0	0.1	0.1	1.2	-2.1	7.1
Weighted	-0.2	0.5	0.3	2.0	-3.0	4.1

Source: Crime in the United States, 1974, 1976, and 1983.

systems would substantially increase costs and naturally increase resistance to adopting the unit-record system. To avoid this--and also to bring the benefits of the new UCR immediately to local agencies--more feedback to local agencies would be needed than is now the practice.

9.6.1 Services to Police

Although the current system was designed with the information needs of local police agencies in mind, it was also designed so that little action on the part of the National Program was required to meet those needs. Since police departments already had sent full summary information to the UCR section, there was nothing the federal government could send back that the local agencies did not already know, aside from information on other jurisdictions. Unit-record reporting would completely change this. With unit-record reporting, the local agency would need some method of creating or obtaining summary data. More important, the enhanced flexibility of the new system would dramatically increase the kinds of summary data that would be returned from the state or federal program.

The best method of providing these new levels of user services depends on the technology available at the local level. Departments without computers must rely on either a state or a federal data processing center to return their summary tabulations. They may, however, be able to specify individual table formats or contents of special local interest. Since both the Level I and the Level II components would be flexible enough to include additional data defined at the local level, these new tables could include detail on topics not even anticipated at the national level. For example, departments could add geographic codes or officer identification numbers to reports and obtain breakdowns of performance or workload indicators at those levels. In our survey of state UCR programs, tabulations by geocodes were often mentioned as the most useful service they provide to their contributors.

Complete flexibility for the thousands of police departments in the system is clearly infeasible simply because of bulk. We can, however, easily imagine a short list of, say, ten most frequently requested tables, from which departments could choose options. A computer system that remembers each department's requested tables and prints and mails them on schedule (or on receipt of satisfactory input reports) is not hard to envision. Such a system should operate at the state level. Departments that must rely on the National Program to tabulate summary counts will generally be small. For the departments, the counts become an important method for correcting erroneous submissions of individual offense and arrest reports. Thus, returns of summary counts to departments would necessarily generate a round of departmental queries and corrections to the UCR data base. This sort of exchange would require the speed of response and flexibility provided by state UCR programs.

For departments with any data processing capability at all--even a few thousand dollars' worth of microcomputing equipment--summary tables can be generated locally. These agencies could share in the potentially unlimited capability of the new system. They could indeed specify any table, listing, or graphic display and obtain the results more or less instantaneously. Since the data formats would be standardized at the federal level, the software needed to perform these analysis would be most efficiently written and distributed at that level. We anticipate that access to this software, and the ability to use it on an individual agency's own data, would be a powerful incentive to cooperate with the new system of UCR data collection.

9.6.2 Services to Research Users

The research community is the second major audience for unpublished UCR data. Several years of detailed files have recently been archived with ICPSR (the Inter-university Consortium for Political and Social Research). This makes them available in conveniently read formats with comprehensive documentation and with one set of default adjustments for missing data. The emergence of a standard archiving service has greatly enhanced the utility of data for research use and has significantly shortened the familiarization time required to begin using a new data base. We certainly encourage the continued use of archives as the main distribution system to the research community, and we would recommend enhanced direct communication of data and contextual information between the UCR Program and ICPSR or another archiving agency.

UCR files are already quite complex. With the introduction of a two-level reporting system, they would become even more complicated. We anticipate that even sophisticated users would be grateful for technical assistance in reading UCR files and interpreting the results. To minimize duplication of effort, standard software for handling the files would be needed. In addition, the files should be as self-contained as possible, so that auxiliary information would not be required. For example, the data from sample agencies should be directly accompanied by sampling weights and other design information, so that they could be analyzed without first merging them with another file.

This presents a logistical problem, since research users would be employing an unpredictable variety of combinations of computers and software for their analyses. One reasonable solution is to distribute the access software in higher-level languages such as SIR or MARK IV, as well as a version of at least some functions in ANSI standard FORTRAN IV. Researchers should also have access to a detailed documentary report of the exact structure of the system, including known limits to generalizability such as missing or suspect data, sampling defects and limitations, reliability studies on individual attributes, changes in definition, procedure, or data handling practice, and all of the other inevitable complexities that accompany a large-scale data collection effort.

The volume of data to be collected by the Level II component could be immense. Even a single year's data on Part I incidents would exceed ten million records. Most users will want several years of data, so the number will be that much greater. Admittedly the records will be short, but even if only 20 bytes per record are used, four reels of 1600 BPI tape would be required for each year's data. More than two full reels would be devoted to larceny incidents, which most researchers could happily ignore. This suggests at least two alternatives to the data bulk problem. The less desirable one would be to supply files with larceny removed and to maintain separate files for the larceny data. This still would force processing of a large volume of larceny cases in order to study any of them, and it would introduce the requirement of an additional merge for users who want their files to reflect the traditional Part I Index offenses for some or all jurisdictions.

A more convenient solution is the one now followed by the Bureau of the Census in providing individual data. A one-percent sample of the fourth count records is extracted and cleared for anonymity. After suitable imputation of missing data, this sample is distributed as the Public Use Sample of the U.S. Census. This strategy raises some problems for distribution of UCR data because rare events are particularly salient. (Murder and rape are notable examples.) Also, a researcher

interested in a particular subcategory of robbery (e.g., robbery of convenience stores at night) might need the entire data base to have enough cases for meaningful analysis. An easy solution to this dilemma would be to have different sampling ratios for different offenses. One simple version would be 10 percent for larceny and 100 percent for everything else. Alternatively, one might base the sampling ratio on both the crime type and the size of the jurisdiction, increasing the reporting frequency of small jurisdictions for analysts whose interests require geographic detail. It is not necessary to have a single solution to these problems. A small number of standard archive files could be prepared to accommodate almost all requests.

9.6.3 Services to Other Public Users

There will continue to be audiences who need unpublished data but are unable to do their own data processing. Legislative and other governmental bodies are key among these. The UCR program must continue to maintain the capability to respond to these needs as the system changes. This response function would be similar to that currently operated, with some changes. The current summary system is incapable of responding to statistically complex queries, so only standard procedures such as cross-tabulations are required to respond to those requests that could be answered at all. As the capability of the system grows, so will the complexity of issues that can be addressed, and hence the level of demands likely to be placed on the system. To meet this situation, the UCR must place considerably more emphasis on statistical analysis than is now in evidence. Indeed, one general, and almost inevitable, result of the changes discussed here would be substantially more active interaction between UCR staff and the professional statistics community.

It is quite possible that the enhanced publications program described here would significantly reduce certain kinds of requests for information from the general public, since it is designed to make many interesting results available in the form of occasional papers and other published analyses. On the other hand, experience teaches us that when data are available, uses are always found for them. This does not justify a policy of simply collecting and never analyzing data, but it does warn that substantial and sometimes unanticipated demands for information are likely to arise as potential users become familiar with the power of the system.

9.7 Release of UCR Information

An important set of issues that will need to be examined and resolved concerns the release of UCR data and publications. Some of the issues revolve around privacy and confidentiality on the one hand, and access to information as provided by the Freedom of Information Act on the other. Other issues concern state program and local agency control over, or knowledge of, the release of the data they submit to the National Program. As part of the development of the system, a detailed set of procedures for the release of data addressing each of these issues should be developed.

9.8 Conclusion

The need for more extensive interpretation of UCR data was a central theme in discussions with all UCR contributers and users. The new UCR system would support a vastly more powerful series of publications for the general public, for local police agencies, and for researchers, in turn generating requirements for more extensive analysis and user services. The recommendations of this chapter demonstrate the power of the new UCR system to improve our understanding of the crime problem in the United States and of the police resources and other actions needed to meet it.

Chapter 10

SYSTEM IMPLEMENTATION AND COSTS

The recommendations in previous chapters would enormously increase the utility of the UCR Program for law enforcement, for other criminal justice system practitioners, for the criminal justice research community, and for the public and other UCR users. In this chapter, we examine what would be involved in implementing and operating the recommended system. We consider in turn the necessary tasks, a schedule under which implementation might be undertaken, and the costs of implementation and operation.

While it is relatively simple to specify the tasks necessary for implementation, to suggest a schedule, and to provide approximate cost estimates as is done here, it is important to recognize at the outset that implementing a large system such as this invariably involves numerous (often unforeseen) difficulties that require substantial commitments of both time and financial resources.

10.1 Implementation and Operational Tasks

This section outlines the tasks necessary to implement the recommended system and to operate the program once it is implemented. The perspective taken is a national one. That is, we consider tasks that the National Program would be likely to undertake itself or to fund either partly or entirely. Tasks for which the National Program is unlikely to be able to provide assistance (e.g., revising existing system software at the local level) are not considered. Tasks supporting operation of the system at the local and state levels are not considered for this reason; it is expected that the National Program would not be able to assist in the operation of the system at these levels (except, as currently, on an emergency basis at the state level).

10.1.1 Implementation of the Local System

Task 1.1: Develop generic systems for use by local law enforcement agencies, one for mainframe computers or minicomputers, one for microcomputers, and one manual system. They would include all data elements for the Level I and Level II components and also data elements of local interest only (e.g., officer identification number, address of victim, etc.). Level I agencies would need to report only on Level I component data elements but could process Level II data elements if they desired. Systems would include edit checks to be performed at the local level. Computerized systems would provide direct entry capability. This task includes requirements analysis, system design, computer programming, testing, and system documentation. In order to assure that the mainframe system can be adapted to local hardware and operating system requirements and to widely varying local communications protocol languages, it should be written in a language, such as ANSI COBOL, that can be readily supported by host computer technical staff. The system should also be highly modular, and each module should be generically designed, so that technical staff will accept it and modules can be straightforwardly replaced with locally utilized communications and report components.

Task 1.2: Test generic local systems in nine sites (two sites over 100,000 in population on mainframe or minicomputers, both Level II agencies; four sites between

10,000 and 100,000 in population, including one Level II agency with a microcomputer, one Level I agency with a mainframe, another Level I agency with a microcomputer, and a third Level I agency operated manually; three sites under 10,000 in population, one a Level II agency with a microcomputer, one a Level II agency operated manually, and one a Level I agency operated manually).

Task 1.3: Develop and produce manuals to be used by local agency personnel to operate Level I or Level II systems. One set of manuals would describe data elements and definitions. Another set would describe the operation of the system, including input formats, descriptions of reports, etc.

Task 1.4: Develop prototype, system-compatible crime/incident and arrest reports to be used by field law enforcement officers. These reports would be recommended as facilitating use of the system, but would not be required in any sense.

Task 1.5: Develop a recommended training curriculum for state program personnel to train local agency staff, in order to standardize training from one state to another to the extent possible.

Task 1.6: Train local personnel in the use of the UCR system, holding regional training sessions within each state. Training would have to account for differences among the three generic systems and also differences between these and other local systems being used.

Task 1.7: Install generic state system or revise existing system.

10.1.2 Implementation of the State System

Task 2.1: Develop a generic state software system supporting both Level I and Level II reporting (with the latter being used only at the state's option). This system would be for use both in states currently without an incident-based system (those with summary systems and those with no state program at all) and in any states that have an existing incident-based system but would prefer to use the generic system. The system would provide all state-level data handling, including editing, collation, and state-level report generation. The task includes requirements analysis, system design, computer programming, testing, and system documentation. (As for the local generic system, the system should be written in a highly transportable language such as ANSI COBOL.)

Task 2.2: Test the generic state system in two sites.

Task 2.3: Develop and produce manuals to be used by state program personnel to operate the generic system.

Task 2.4: Install the generic state system in states wanting to use it.

Task 2.5: Revise software in states with an existing incident-based system that prefer to modify their own system rather than adopt the generic system.

Task 2.6: Train state personnel in operation of the system.

Task 2.7: Assist state programs desiring to augment the national sample of Level II agencies to enable them to obtain accurate state-level estimates of crime

statistics. This would include assistance with the development and/or implementation of a sample design for selecting additional law enforcement agencies within the state.

10.1.3 Implementation of the National System

Task 3.1: Develop and install a national system to construct the data base. The state prototype system could be used by the National Program to perform initial processing of data from agencies in states without state programs. The additional software would complete processing for data from all states, including various accounting functions to monitor data receipts, additional edit checks across records, collation of data, etc.

Task 3.2: Develop analytic specifications and prototype reports for the recommended publication series. The specification would include imputation procedures.

Task 3.3: Develop analytic software to perform analyses and produce computer-generated, camera-ready copy for reports.

Task 3.4: Refine the sample design and select the sample for the Level II component.

Task 3.5: Refine audit procedures developed by the IACP to track offenses through the reporting process (rather than sampling at each stage) and to audit arrest records as well as offense and clearance records. Test revised procedures at six sites, half Level I agencies and half Level II agencies.

Task 3.6: Develop the sample design and sample selection procedures for the audit.

Task 3.7: Conduct methodological studies (a) to determine the best form of analytic integration of the UCR and the NCS based in part on audit results, and (b) to develop ways to collect and analyze data concerning drug-related crimes.

Task 3.8: Manage system development at the local, state, and national levels.

10.1.4 Operation of the National System

Task 4.1: Perform training of and liaison with staff at existing state programs and with local agency staff where state programs do not exist.

Task 4.2: Construct the data base. This includes data receipt, data entry where necessary, editing and cleaning of data, and collating of data to produce the analytic files.

Task 4.3: Produce periodic and special publications as recommended in Chapter 9 of this report.

Task 4.4: Provide user services.

Task 4.5: Administer a certification, testing, and local error reports program.

Task 4.6: Conduct audits of local law enforcement agencies, in conjunction with state program staff where state programs exist.

Task 4.7: Conduct special programs/studies.

Task 4.8: Manage the National Program.

10.2 Implementation Schedule

Figure 10.1 illustrates a schedule under which the recommended system could be implemented, each vertical line corresponding to a calendar quarter. Generic local and state systems would be developed simultaneously in one and one-half years, tested, revised as necessary, and retested. Manuals, prototype crime and arrest reporting forms, and training materials would all be developed during the later part of system development, tested at the test sites along with the software system, and revised if necessary. Local agency staff would be trained by state UCR program staff, who would themselves be trained by National Program staff. Installation of the generic systems and revisions of existing systems for local agencies and for state UCR programs could begin after two and one-half years, and might be completed at most agencies after one and one-half years.

National system software and prototype reports would be developed in the first three years. The design of the sample for the Level II component would be refined and the sample selected at the outset so that agencies would know early on whether they will be asked to participate in the Level II reporting. The sample design for the audits would be developed concurrently, although actual selection would occur on an ongoing basis once routine audits were begun. Refinement of audit procedures, on the other hand, would begin comparatively late in the development process, as the procedures cannot be tested until agencies are operating under the new system. The methodological study of the analysis of the UCR and the NCS would begin still later, as it cannot be conducted properly until the results from agency audits become available.

10.3 System Costs

Approximate costs for the tasks described in Section 10.1 are shown in Table 10.1.[1] Appendix C gives a detailed breakdown of the estimated costs. The total cost of implementation is estimated to be about 9.4 million dollars (expressed entirely in 1984 dollars). Local costs comprise about 63 percent of the total estimate, state program costs 16 percent, and National Program costs 21 percent. Seventy percent of the local costs are for local law enforcement agency staff training by state personnel in operation of the new systems. To the extent that this could be accomplished with existing state UCR program staff, the cost of this task could be funded out of existing

[1]Costs are not included either for Task 1.7 (installing the generic system or revising the existing system at local agencies) or for Task 3.7 (conducting methodological studies).

Figure 10.1

ESTIMATED IMPLEMENTATION SCHEDULE

Task No.	Task	Year 1				2				3				4			
	IMPLEMENTATION OF LOCAL SYSTEM																
1.1	Develop generic local systems	—	—	—	—	—	—	···	—								
1.2	Test generic local systems						—	···	—								
1.3	Develop and produce local manuals			—	—	—	—	···	—								
1.4	Develop prototype crime and arrest reports				—	—	—	···	—								
1.5	Develop training curricula						—	···	—								
1.6	Train local personnel											—	—	—	—	—	—
1.7	Install generic systems/revise existing systems											—	—	—	—	—	—
	IMPLEMENTATION OF STATE SYSTEM																
2.1	Develop generic state system	—	—	—	—	—	—	···	—								
2.2	Test generic state system							—	···	—							
2.3	Develop and produce manuals			—	—	—	—	···	—								
2.4	Install generic state systems											—	—	—	—	—	—
2.5	Revise software in states retaining existing system											—	—	—	—	—	—
2.6	Train state personnel								—								
2.7	Assist states in augmenting national sample	—	—	—	—	—	—	—	—	—	—						
	IMPLEMENTATION OF NATIONAL SYSTEM																
3.1	Develop and install national system to construct data base	—	—	—	—	—	—	—	—								
3.2	Develop analytic specifications and prototype reports			—	—	—	—										
3.3	Develop analytic software							—	—	—	—	—	—				
3.4	Define sample design for expanded system	—	—														
3.5	Refine audit procedures											—	—	—	—	—	—
3.6	Develop sample design for audits		—														
3.7	Conduct methodological studies[a]																
3.8	Manage system development	—	—	—	—	—	—	—	—	—	—	—					

[a]This task cannot be completed until several years of audit data have been collected.

Table 10.1

ESTIMATED SYSTEM COSTS

Component	Cost (in millions)
Implementation	
Local System	6.1
State System	1.5
National System	2.0
Total	9.6
Operation	
National System[a]	5.3

[a]Includes cost of special studies conducted by state program personnel and contractors.

budgets. Annual operational costs of the National Program are estimated to be about 5.3 million dollars. This compares to a FY 1983 budget of 2.7 million dollars to operate the current National Program.

These costs, especially the implementation costs, should be regarded with uncertainty and probably as underestimates of true costs. Some of the cost components are very difficult to estimate without collecting certain detailed information, such as the precise hardware and software configurations at each of the state programs. Also, as mentioned previously, development and implementation of large data systems such as this often involve unforeseen difficulties requiring additional resources, a contingency for which no provision has been made.

It is important to recognize that a large amount of discretion can be exercised in defining some of the tasks, with consequent substantial implications for costs. In developing the generic local systems, one could expend a substantial amount of effort, for example, in determining data elements and reports that would be of local interest only, or one could simply make provision for local agencies to be able to input and process several data elements of their choosing. There is a particularly large amount of discretion involved in the tasks associated with operating the National Program. The amount of resources to be utilized in editing and cleaning the data, in providing (free) user services, in conducting audits, and in performing special studies all are quite discretionary, and the choices made have potentially very large cost consequences.

10.4 Conclusion

The success of the UCR Program to date cannot be questioned. Starting with 300 agencies in 1930, it today includes nearly 16,000 contributing agencies covering over 97 percent of the population. The volume of information collected, the depth of local coverage, and the unique combination of information on crime and arrests, on victims, offenders, and police resources, make it the basic source of policy information on crime in the United States.

This success is a tribute to the foresight and care of the original IACP Committee on Uniform Crime Records. The structure it created to categorize and tally crimes and arrests has well withstood the test of time. Indeed, judging by two years of study and discussion with concerned experts across the country, there is no reason to think that the original designers were substantially wrong in any of the decisions they made. Many of these decisions were compromises; many were controversial. But, in most cases, different decisions would be just as controversial today. Fifty years of hindsight do not suggest that the original framers of the UCR could have done much better than they did.

Yet it is clearly time to change the UCR Program. In a time of revolutionary advances in data processing capacity and massive expansion in local agency data bases, the current UCR still reflects the basic limitations of paper reporting and hand tallies. It is this discrepancy between the potential and actual UCR that creates the current frustrations with the program. The UCR system must be revised to take advantage of the flexibility and depth of information now available to it, or it will become obsolete. Equally important, if the UCR National Program does not reassert its role in leading and coordinating local police information system development, it will lose the ability to maintain effective sharing of national crime information.

Under present circumstances, the actions necessary to meet UCR reporting goals and reassert UCR leadership are simple in concept. Our recommendations involve five basic steps:

- Conversion of the current UCR system to a unit-record reporting system.
- Implementation of a two-level reporting system to allow the collection of more extensive data from a relatively small set of selected departments, while minimizing the reporting burden on the majority of departments.
- Implementation of an ongoing audit and training program.
- Implementation of steps to allow UCR data to be used together with data from the other major criminal justice data bases.
- Development of a comprehensive program of publication and dissemination to make use of the flexibility and completeness of the enhanced UCR system.

These steps should be taken today. Failure to act will retard but not stop the continued development of highly automated local information systems. If action is taken now, the UCR Program can again lead state and local law enforcement agencies in developing their own information systems and providing needed information to governments, law enforcement agencies, and the public.

Appendix A

METHODOLOGY FOR SITE VISITS, SURVEYS, AND INTERVIEWS

This appendix describes the methodologies used in four key data collection efforts: site visits to state and local UCR programs, mail survey of state UCR programs, telephone interviews with criminal justice researchers, and mail survey of law enforcement agencies. For each of these efforts, the following sections describe selection of sites and respondents, instrumentation, data collection procedures, and documentation of results.

A.1 State and Local Site Visits

Site visits were conducted by Abt Associates staff to ten state government and 19 local/county jurisdictions. The states were selected to offer a geographical balance, and the assistance of the FBI's UCR Section was sought to ensure that a range of reporting configurations and state-level reporting issues would also be represented. Eight of the ten state-level visits were conducted in states with state UCR programs, one visit was conducted in a state whose UCR program was in the development and implementation phase (Vermont), and one was conducted in a state with no program in existence or development (Ohio). The local/county jurisdictions were chosen in consultation with the FBI's UCR Section and state UCR program staff. Geographical, social, and demographic balance, as well as representation of a range of UCR reporting configurations and issues, were key criteria in local/county site selection. Table A.1 lists the sites visited in this component of the study.

At each site, certain key individuals in the collection and tabulation of UCR data were interviewed. At the state level, those interviewed included the supervisor of the UCR program, the chief statistician (or equivalent), the supervisor of data processing, a data coder, and a data entry clerk. Users of UCR data were identified by asking state UCR program staff to identify key users, and then asking those key users to identify any additional users of the data. In most states, user respondents included representatives of print and electronic media, officials in other state government agencies, and academic researchers.

Respondents from contributing agencies in local/county jurisdictions typically included the chief of the agency (or, in large jurisdictions, a deputy chief), the supervisor of UCR reporting, a representative of the department's research unit (in large jurisdictions), a data coder, and a data entry clerk. Users were identified for us by local agency staff; most commonly, these were local government officials and media representatives.

Each site visit was conducted by one Abt senior staff member. The state visits averaged two days in duration while the local/county visits typically lasted one and one-half days.

Interviews were conducted according to structured protocols. These protocols included questions on basic site characteristics as well as individual respondent data, and separate series of questions for users, local data collectors, and state data collectors. User questions focused on familiarity with the UCR Program and its publications and the specific uses made of the data. Local and state data collector questions focused on detailed documentation of all collection, tabulation, quality control, and reporting procedures. Abt staff obtained all relevant manuals, report forms, system documentation, and statistical reports. There were also specific questions on workload, training, and reporting issues, including the most common types of errors. All respondents were asked for their suggestions as to system enhancements. The interview protocols are included as Attachment 1 to this Appendix.

Table A.1

STATES AND LOCAL/COUNTY JURISDICTIONS IN WHICH SITE VISITS WERE CONDUCTED

States	Local/county jurisdictions
States with State UCR Programs	
California Bureau of Criminal Statistics	San Francisco Police Department Los Angeles Police Department
Florida Department of Law Enforcement	Manatee County Sheriff's Department Jacksonville Sheriff's Office
Illinois Department of Law Enforcement	Watseka Police Department Wheaton Police Department
Maine State Police	Bath Police Department Portland Police Department
Massachusetts Criminal History Systems Board	Boston Police Department
New York State Division of Criminal Justice Services	Erie County Central Police Services (includes Buffalo)
Oregon Law Enforcement Data System	Portland Police Bureau Multnomah County Sheriff's Office
South Carolina State Law Enforcement Division	Richland County Sheriff's Department Myrtle Beach Police Department
States without State UCR Program	
Ohio	Cleveland Police Department Toledo Police Department
States with State UCR Program in Development	
Vermont State Police	Burlington Police Department Brattleboro Police Department Rutland Police Department

Source: List compiled by Abt Associates staff.

Immediately after return from the field, each interview was documented in detail by the person conducting the interview.

A.2 Mail Survey of State UCR Programs

Abt Associates conducted a mail survey of the 32 state UCR programs (including the District of Columbia) that did not receive in-person site visits. Table A.2 lists these programs.

The instrument used for this survey was reviewed and approved by BJS and the FBI before it was mailed to the programs. The questionnaires were sent to the supervisor of the state program and included questions on program staffing and organization, funding, legislative mandate for reporting, format and procedures for local reporting, complete program information flow, classification and scoring, quality control, auditing, training, and use of FBI technical assistance, among other topics. The instrument is included as Attachment 2 to this Appendix.

The response rate for this survey was 100 percent. The questionnaire was sent out shortly before the 1983 UCR conference in Quantico, Virginia. A session for representatives of all state programs was held at the conference to answer their questions on the survey and to encourage their response. Some questionnaires were returned at the conference and the remainder were submitted shortly thereafter.

A.3 Telephone Interviews with Criminal Justice Researchers

Abt Associates senior staff identified and interviewed 22 criminal justice researchers on their uses of UCR data and their suggestions for system enhancement. The interviewees, listed in Table A.3, were identified through a literature review, personal knowledge of Abt Associates staff, and consultation with the BJS/FBI Task Force. The objective was to develop a list of leading scholars and researchers who have frequently used UCR data in their work.

The instrument used for these interviews included questions on specific research interests and projects, the format of UCR data used, the relative ease of obtaining and using raw UCR data or special UCR tapes, their most and least successful experiences with the data, and comments and suggestions on the collection and reporting of the data. The interview protocol is included as Attachment 3 to this Appendix.

The telephone interviews averaged 30 minutes in duration and the results were written up in the protocol format. Syntheses highlighting key findings were then prepared.

A.4 Law Enforcement Agency Survey

A.4.1 Nature of the Survey

The Uniform Crime Reporting Survey was administered through a 22-page written questionnaire (Attachment 4) covering the following topics:

- agency facts

Table A.2

RESPONDENTS TO MAIL SURVEY OF STATE UCR PROGRAMS

State	Agency
Alabama	Criminal Justice Information Center
Alaska	Department of Public Safety
Arizona	Department of Public Safety
Arkansas	Crime Information Center
Colorado	Bureau of Investigation
Connecticut	State Police
District of Columbia	Metropolitan Police Department
Delaware	State Police
Georgia	Crime Information Center
Hawaii	Criminal Justice Data Center
Idaho	Department of Law Enforcement
Iowa	Department of Public Safety
Kansas	Bureau of Investigation
Kentucky	State Police
Maryland	State Police
Michigan	State Police
Minnesota	Bureau of Criminal Apprehension
Montana	Board of Crime Control
Nebraska	Crime Commission
New Hampshire	State Police
New Jersey	State Police
North Carolina	Police Information Network
North Dakota	Office of Attorney General
Oklahoma	State Bureau of Investigation
Pennsylvania	State Police
Rhode Island	State Police
Texas	Department of Public Safety
Utah	Department of Public Safety
Virginia	State Police
Washington	Association of Sheriffs and Police Chiefs
West Virginia	Department of Public Safety
Wyoming	Office of the Attorney General

Source: List compiled by Abt Associates staff.

Note: In addition, review protocols were prepared by Abt staff on the state programs receiving site visits: California, Florida, Illinois, Maine, Massachusetts, New York, Oregon, South Carolina, and Vermont (program in implementation phase at time of site visit).

Table A.3

RESEARCHERS INTERVIEWED

Richard Block, Loyola University (Chicago)

Alfred Blumstein, Carnegie-Mellon University

Jan Chaiken, Rand Corporation

Stevens Clarke, University of North Carolina, Chapel Hill

Jacqueline Cohen, Carnegie-Mellon University

Philip Cook, Duke University

Stuart Deutsch, Georgia Institute of Technology

James Fox, Northeastern University

Michael Gottfredson, Claremont Graduate School

Thomas Henderson, Criminal Justice Statistics Association

James Jacobs, New York University

Michael Maltz, University of Illinois-Chicago Circle

Lloyd Ohlin, Harvard Law School (retired)

Albert Reiss, Yale University

Peter Rossi, University of Massachusetts-Amherst

Lawrence Sherman, Police Foundation

Wesley Skogan, Northwestern University

Bradford Smith, National Council on Crime and Delinquency

Gregory Thomas, Police Executive Research Forum

James Q. Wilson, Harvard University

Ann Witte, University of North Carolina, Chapel Hill

Franklin Zimring, University of California, Berkeley

Note: Affiliations correspond to the time of the interviews (1983).

- computer systems available and planned for processing UCR data
- the agency's UCR reporting procedures and burdens
- opinions about the accuracy and usefulness of UCR data, criticisms of the current UCR program, and proposed modifications
- for 46 categories of offenses (e.g., attempted burglary of a residence), opinions concerning whether the UCR should count offenses as well as arrests, and/or include the offense in the Index
- for various types of information in the following categories, opinions concerning the usefulness of the information to the agency, and the difficulty of supplying it:

  --calls/complaints
  --details from offense reports
  --details concerning arrests and arrestees
  --disposition of arrests
  --time spent by officers on tasks.

Open-ended questions allowed for respondents to describe changes they would like to see made to the UCR, aspects of the UCR that should be preserved without change, and changes that would make the UCR substantially more useful. For agencies that do not currently participate in the UCR, information was requested about reasons for nonparticipation.

A.4.2 Survey Sample

The survey was mailed to 5,714 law enforcement agencies. The sample frame initially consisted of all 16,932 agencies which are included in the Federal Bureau of Investigation "Return A" file. However, the frame was subsequently adjusted as described below. The initial frame was stratified into three categories:

Stratum 1. Agencies serving populations larger than 10,000 and state agencies such as state police. All of these agencies were included in the sample (sampling probability = 1).

Stratum 2. Smaller agencies were invited in advance to make known their desire to participate in the survey. All those who requested participation were assigned to this stratum and included in the sample (sampling probability = 1). Announcements of the opportunity to participate in the survey appeared in a number of publications whose readership includes police managers.

Stratum 3. There remained approximately 11,700 law enforcement agencies serving populations up to 10,000. The survey was mailed to a random sample of 500 of these agencies (sampling probability = .0427).

While only about one-third of all law enforcement agencies were included in the sample, the stratification resulted in mailing surveys to agencies covering over 85 percent of the U.S. population.

A.4.3 Survey Procedures

A number of steps were taken to maximize response rates. Announcements were placed in the FBI Law Enforcement Bulletin and in publications of the National Sheriffs' Association (The National Sheriff and Roll Call). Announcements were also included in mailings by state programs to agencies that participate in the UCR Program.

The survey questionnaires were distributed by the FBI, with envelopes for returning the completed questionnaire to Abt Associates. After the first round of completed questionnaires had been received, the FBI and state programs were given lists of nonrespondents for follow-up.

A.4.4 Sample Attrition

After the initial mailing list had been prepared, comments from FBI or state program staff indicated that some of the sampled agencies were inappropriate recipients of the questionnaire; they were deleted from the sample. For the most part, these deletions represent local offices of agencies whose headquarters were to be included in stratum 1 of the sample. In a small number of cases, agencies were deleted from the sample because they no longer existed, had merged with another agency, or were already represented in the response of a larger agency. (For example, a sheriff's department might respond on behalf of sampled cities where it provides police services, since the sheriff's department submits all UCR reports for those cities.) For similar reasons, a small number of agencies were added to the sample, but the sample adjustments on the whole resulted in a substantial net reduction in sample size. Naturally, attrition was least among the volunteers (stratum 2), since they had contemporaneously requested to participate.

The initial and final frame and sample sizes are shown in Table A.4. Based on the sample attrition in stratum 3 (23.8 percent), we revised the estimate of the number of agencies in the sampling frame in stratum 3. Our final estimate is that 8,929 agencies serving populations under 10,000 population had not requested to be surveyed and thus are represented by the stratum 3 sample.

A.4.5 Response Rates and Response Biases

By the close-out date for receipt of questionnaires, 3,411 valid questionnaires were received, for an overall response rate of 62 percent. (A small number of additional completed questionnaires were received from agencies not in the sample or after the close-out date. These were reviewed for their content, but statistics from the survey included in the text of this report do not reflect these respondents.) Responses were received from agencies within all 50 states, plus the District of Columbia, Guam, and Puerto Rico.

Table A.4

NUMBER OF AGENCIES IN SAMPLING FRAME AND SURVEY SAMPLE FOR UCR SURVEY OF LAW ENFORCEMENT AGENCIES

Stratum Number	Stratum Description	Original Frame	Adjusted Frame	Original Sample	Adjusted Sample
1	≥ 10,000 pop or special	4,760	4,662	4,760	4,662
2	< 10,000 pop requested to be surveyed	454	447	454	447
3	< 10,000 pop not requested	11,718	8,929[a]	500	381
Total	-	16,932	14,038[a]	5,714	5,490

Source: Compiled by Abt Associates staff.

[a]Estimate.

Table A.5

RESPONSE RATES ACCORDING TO POPULATION SIZE AND TYPE OF AGENCY

Stratum number	Stratum description	Sample size	Respondents	Response rate
1	Total	4,662	2,921	62.7
	Cities, over 100,000	179	146	81.6
	Cities, 10,000-100,000	2,629	1,758	66.9
	Counties, over 100,000	102	73	71.6
	Counties, 10,000-100,000	1,725	924	53.6
	Special agencies	27	20	74.1
2	Volunteers under 10,000	447	314	70.2
3	Sampled under 10,000	381	176	46.2
Total	-	5,440	3,411	62.1

Source: Compiled by Abt Associates staff.

The response rates differed substantially among the three strata. Naturally, the volunteers had the highest response rate, 70 percent. The lowest response rate was for the small agencies in stratum 3, namely, 46 percent. Even within stratum 1, the response rate increased with the size of the agency; further, there were significant differences in response rates between county agencies and city police departments.

Consequently, for purposes of projecting survey responses to the entire population of law enforcement agencies, differential weighting factors for agencies were applied according to the scheme shown in Table A.5. Each of the five subcategories of stratum 1 was given its own weighting factor (the inverse of its response rate), and all agencies in stratum 2 had a sixth weighting factor. The agencies in stratum 3 were given a weighting factor of 50.7, reflecting both the response rate in this stratum and also the estimated size of the sampling frame in the stratum (8,929 agencies).

Aside from the differential response rates according to the size of the agency surveyed, there were no other response biases apparent in the data. Agencies in states with UCR state programs were neither more nor less likely to respond than those without state programs. Nor was there any response bias distinguishing incident-based state programs from summary-based state programs. In fact, 63.3 percent of sampled agencies in states without state programs responded, 62.5 percent in summary-based states, and 62.6 percent in completely incident-based states. (The remaining states are partially incident-based, partially summary-based.)

The response rates from each surveyed state are shown in Table A.6. The differences reflect primarily the relative mix of large agencies, small volunteer agencies, and small sampled agencies in the states.

Table A.6

RESPONSE RATES BY STATE

State	Number of agencies in survey sample	Number of agencies responding	Response percent
AK	8	6	75
AL	119	56	47
AR	105	37	35
AZ	35	31	89
CA	330	165	50
CO	53	42	79
CT	81	43	53
DC	1	1	100
DE	8	7	88
FL	197	123	62
GA	156	75	48
GM	1	1	100
HI	5	4	80
IA	110	101	92
ID	31	19	61
IL	269	167	62
IN	159	102	64
KS	70	51	73
KY	111	49	44
LA	102	32	31
MA	169	66	39
MD	46	34	74
ME	43	35	81
MI	208	90	43
MN	132	76	58
MO	158	105	66
MS	104	64	62
MT	23	16	70
NB	42	30	71
NC	142	110	77
ND	21	19	90
NH	29	25	86
NJ	237	178	75
NM	43	29	67
NV	15	11	73
NY	229	151	66
OH	307	224	73
OK	130	83	64
OR	61	48	79
PA	274	165	60
PR	1	1	100
RI	31	27	87
SC	78	60	77
SD	23	19	83
TN	131	76	58
TX	347	161	46
UT	41	31	76
VA	123	108	88
VT	11	9	82
WA	81	66	81
WI	141	113	80
WV	83	42	51
WY	35	27	77
Total	5,490	3,411	62

Attachment 1

TOPIC OUTLINE FOR IN-DEPTH INTERVIEWS

ID# _____

Topic Outline for In-depth Interviews
on Uniform Crime Reporting

Name of Respondent _____

Respondent's Address _____

_____

Respondent's Telephone Number _____

Name of Interviewer _____

Date of Completion ____/____/____

INTRODUCTION

- Research sponsored by Bureau of Justice Statistics
- Purpose of research is to examine UCR and recommended changes
- Interview is voluntary and confidential

ID# _____

(ASK EVERYONE)

I. Respondent Characteristics

A. Affiliation

B. Size of Agency

C. Jurisdiction of Agency

D. Size of Population Served by Agency

E. Position in Agency

F. Function (CHECK ALL THAT APPLY)

Administration	( )
Analysis	( )
Data preparation	( )
Planning	( )
Operations	( )

G. Years in:

Criminal justice _____

Present position _____

(ASK USERS ONLY)

II. Familiarity with UCR

A. Frequency of Use

Use routinely ( )
Use occasionally ( )
Used in past ( )

B. Availability of Crime in the U.S.

Own copies ( )
Copy easily accessible ( )
None ( )

C. Use of anything besides Crime in the U.S.
CODE ALL MENTIONED.
DO NOT READ LIST.

None ( )
Law Enforcement Officers Killed ( )
Bomb Summary ( )
Assaults on Federal Officers ( )
Other (SPECIFY) ( )

(ASK USERS ONLY)

III. Use of UCR

A. General attitude toward UCR

1. Ways in which UCR helps you do your job

2. Ways UCR makes your job harder

3. How would you be affected if:

a. Your jurisdiction dropped out of UCR

b. UCR system was terminated

B. Use of Crime Data

1. (Do you)/(does your) department use offense, clearance, or arrest data? If so, for what purposes?

- offense data

- clearance data

- arrest data

[Note: Be sure to record precisely how each is used.]

2. Is the data that is used the UCR data submitted to the state or FBI, or data prepared specifically for internal purposes?

(ASK USERS ONLY)

III. Use of UCR

B. Use of Crime Data (continued)

3. (Do you)/(does your department) use these data for comparisons

- with other jurisdictions?

- between areas within your jurisdiction?

- from one time period to another?

4. (Do you)/(does your department) use this data primarily for management, operations, planning, formulating agency policy or communicating with people outside the department regarding police performance and/or funding needs.

C. Use of Personnel Data

1. (Do you)/(does your department) use any of the UCR data on law enforcement personnel? If so, for what purposes?

2. (Do you)/(does your department) use any of the UCR data on law enforcement personnel killed or assaulted? If so, for what purposes?

D. Does state UCR program (if any) provide you any special tabulations or reports? (If yes, get specifics and query usefulness).

E. Issues

1. What changes, if any, would you recommend to the current UCR system?

2. Which aspects of the current system do you feel strongly should not be changed?

(ASK USERS ONLY)

III. Use of UCR

E. Issues (continued)

3. Should any of the Part I offense categories be changed? If so, how?

- any categories added or deleted

- any changes to definition of existing categories

4. Would it be more useful to you if offense categories were based on characteristics of the offense such as use of force and time of day rather than legal definitions?

5. Would it be more useful to you if crime rates were reported in terms of population at risk or offender-prone population, rather than simply in terms of total population as is currently done?

6. Do you think that changes in citizen reporting practice over time or differences across jurisdictions seriously reduce the usefulness of UCR offense data?

7. Do you think that changes in police reporting practices over time or differences across jurisdictions seriously reduce the usefulness of UCR data on

- offenses?

- clearances?

- arrests?

8. Are there any types of data not included in the arrest system that would be particularly useful to you?

- court data

- corrections data

(ASK USERS ONLY)

III. Use of UCR

E. Issues (continued)

9. Are there any tables or analyses not included in the current system that should be included if the system is revised?

10. Should any of the current tables be discarded?

11. Are there any other changes to the UCR system you would recommend?

F. From your perspective what would be an ideal crime reporting system? Would you recommend an incident-based system?

(ASK LOCAL AGENCY DATA COLLECTORS ONLY)

IV. Local Agency Collection of UCR Data

A. Request copies of all applicable report forms, system documentation, and reports generated from data.

B. Describe complete offense data system, not just UCR component. How are clearances handled?

C. Describe the entire information flow of the crime reporting process from the time a call is received in the Communications Center until the UCR data is sent to either the state program or the FBI.

[Note to interviewer: The level of detail we are after is a broad schematic of paper flows across sections with description of major checks on completeness and accuracy.]

D. Describe quality control of data collection.

1. How are numbers assigned to the reports? Is a log kept to ensure that no reports are missed? Who maintains it? [function, not name] If a report is assigned a number from a preprinted dispatch card, how does the UCR Section know that a report isn't missing, assuming that not all calls for service result in a written report?

2. Are offense reports reviewed by UCR staff for accuracy and completeness? How are errors resolved?

3. Are there mechanisms for review at each stage of transcription within UCR? What are the mechanisms?

4. Who classifies and scores reported incidents?

5. Is classifying and scoring reviewed? By whom? All cases or a sample of cases?

(ASK LOCAL AGENCY DATA COLLECTORS ONLY)

IV. Local Agency Collection of UCR Data

D. Describe quality control of data collection (continued)

6. What happens if there is a difference of opinion between the UCR classifier and the UCR reviewer? Have you ever called the State UCR Program to resolve a problem of this nature? What about the FBI? What is the relatively frequency of calling each?

7. Does anyone check the system output for errors? What happens if an error is noted?

8. Do State UCR personnel ever review your work for accuracy? Describe.

9. What happens if an error in your work is detected at the State level?

10. Do your Department's UCR personnel attend training sessions? When or how often? Are these sessions conducted by the State? FBI? Jointly? Other?

11. What is your personal opinion of the quality of data you receive? What do you see as the major problems or sources of inaccuracy, if any?

E. Descriptions of types of requests for information received, if any. Who makes the requests?

F. Workload

1. Collect information on number and levels of staff involved in UCR.

2. What aspects, if any, of collecting data for the UCR program are particularly burdensome?

G. From your perspective, what would be an ideal crime reporting system? Would you recommend an incident-based system?

(ASK STATE AGENCY DATA COLLECTORS ONLY)

V. State UCR Program Collection of UCR Data

A. Request copies of all forms, documentation, and reports that we do not already have.

B. Describe complete offense data system, not just UCR component, including the entire information flow from the receipt of data from local agencies to the submission of data to the FBI. How often is data submitted? How are clearances handled?

C. In those cases in which classifying and scoring is done at the state level, describe the process.

D. Describe the quality control of data. Is the data routinely edited? By whom? How often?

E. Local agencies vary in the quality and accuracy of the data they submit. How do you find out where the problems are? How do you respond to this difference in reporting?

F. Are audits ever conducted of data submitted by local agencies? Who? How often? Describe the process.

G. What types of errors most frequently occur from the local level? What happens if an error or discrepancy is noted? Are there problems conforming to FBI definitions?

H. Do you do training of local agency personnel? How often?

I. Do State UCR personnel attend training sessions? When and how often? Who conducts the courses?

(ASK STATE AGENCY DATA COLLECTORS ONLY)

V. State UCR Program Collection of UCR Data (continued)

J. What services do you provide to local agencies? To what extent do you think these encourage participation?

K. Collect information on number and levels of staff involved in UCR reporting, on computer costs, and on total cost of UCR reporting.

L. Who uses state system? Description of types of requests for information received, if any. By whom? Are there services they would like to provide but do not? Why not?

M. From your perspective, what would be an ideal crime reporting system? Would you recommend an incident-based system?

Attachment 2

STATE UCR PROGRAM REVIEW

STATE UCR PROGRAM REVIEW

Please list the name(s) and position(s) of the persons who completed this questionnaire.

Name	Position

Address: _____

_____

_____

Telephone Number: _____

Date of Completion: _____

PART I: STATE REPORTING PRACTICES

1. Please describe the size and type of staff responsible for UCR (e.g., one bureau chief, one unit supervisor, six field liaisons, and two statisticians).

_____

_____

_____

_____

_____

2. In the space below, please draw an organizational chart showing the location of the entity responsible for UCR in relation to the overall structure of the agency. If you have a preprinted chart, please attach it.

3. Approximately how much did it cost your agency to operate its state UCR Program last year? If data processing costs are not included in your budget, please add. (If you have a line item budget, please attach a copy.)

$ _____

What are the sources of your funding other than state monies?

Source	Percent of Total Funding
_____	_____ %
_____	_____ %
_____	_____ %

4. Have there been any major changes in your UCR Program in the past two years (e.g., large turnover in staff, reorganization, impact of new laws, redesign of UCR reporting forms)?

Yes (PLEASE DESCRIBE BELOW) ( )

No ( )

_____

_____

_____

_____

_____

5. Are local departments mandated by state law to submit UCR reports to you?

Yes (ANSWER A, B AND C BELOW) ( )

No (GO TO QUESTION 6) ( )

A. When was the legislation passed? _____

B. Is there any recourse against a nonreporting agency?

Yes ( ) What is the recourse? _____

_____

_____

No ( )

C. Are sanctions enforced?

Yes ( )

No ( )

6. How many reporting entities contribute UCR data? _____

7. In what form are local data submitted to you? CHECK ALL THAT APPLY

Hard copy (paper form) ( )

Computer tape ( )

On-line ( )

IF MORE THAN ONE FORM IS CHECKED

How many entities submit data to you....

	# OF ENTITIES
In hard copy (paper) form	_____
In computer tape form	_____
On-line	_____

8. In what form are your data submitted to the FBI?

Hard copy (paper forms) ( )

Computer tape ( )

Other (DESCRIBE) ( )

_____

_____

9. How often do you submit data to the FBI?

_____

10. How often do local reporting entities submit data to you?

_____

11. In general, is timeliness of data submission a problem?

Yes ( )

No ( )

12. In your state, how many reporting entities submit data that are...

	# REPORTING ENTITIES
Incident based	_____
Summary based	_____
Other (DESCRIBE)	
_____	_____
_____	_____

13. **Do you collect information beyond that which is required by the national UCR Program?**

Yes ( ) Describe _____

_____

_____

No ( )

14. **Do you publish UCR or other data periodically?**

Yes ( ) PLEASE ATTACH LIST OF PUBLICATIONS

No ( )

15. **Does another state agency publish your data periodically?**

Yes ( ) PLEASE ATTACH LIST OF PUBLICATIONS

No ( )

16. **Please give a complete description of the entire information flow from the time the data are received until they are submitted to the FBI. Identify the position responsible for each phase in the process. (If you have a work-flow chart, please attach).**

_____

_____

_____

_____

_____

_____

_____

_____

17. What percent of your UCR field representative's time is devoted to assisting local reporting entities with UCR procedures (including classification and scoring)?

_____ %

18. What is the most common classifying and scoring or other procedural problem that local clerks inquire about?

_____

_____

_____

_____

19. Have you ever called the FBI for assistance in this regard?

Yes ( ) Describe the situation _____

_____

_____

No ( )

20. Do local reporting entities ever request that you prepare special reports for them?

Yes (ANSWER A AND B BELOW) ( )

No (GO TO QUESTION 21) ( )

A. Please describe the type of requests.

_____

_____

_____

B. About how many special requests from local repo ng entities do you receive per year?

_____

21. Did your agency provide training to UCR personnel in local reporting entities during 1982?

Yes (ANSWER A AND B BELOW) ( )

No (GO TO QUESTION 22) ( )

A. About how many local personnel did you agency train in 1982?

_____

B. Is this training ever conducted jointly with personnel from the FBI?

Yes ( )

No ( )

22. Does the FBI ever conduct training in local reporting entities without your assistance?

Yes ( )

No ( )

23. Who trained your agency's UCR personnel responsible for handling classification and scoring procedures? CHECK ALL THAT APPLY

FBI staff ( )

Another state's program personnel ( )

Other (SPECIFY) ( )

_____

_____

24. Do your agency's staff members ever attend refresher courses in UCR procedures?

Yes (ANSWER A AND B BELOW) ( )

No (GO TO QUESTION 25) ( )

A. Who provides this in service training?

The FBI ( )

Personnel from another state ( )

Other (SPECIFY) ( )

_____

_____

B. How often do staff attend these courses?

_____

_____

PART II: QUALITY CONTROL

1. Does your agency perform an edit check of the data submitted by local reporting entities?

Yes (ANSWER A-D) ( )

No (GO TO QUESTION 2) ( )

A. Describe how the edits are performed and whether they are done manually or by machine.

_____

_____

_____

B. How many of the edit checks used by the FBI does your agency use? CHECK ONE.

All of them ( )

Some of them ( )

None of them ( )

C. Does your agency use other edit checks than the ones used by the FBI?

Yes ( )

No ( )

D. Do you have a procedures manual that specifies your edit checks?

Yes ( )

No ( )

2. What types of errors (e.g., arithematical, missing data entries, misclassifications, suspect property loss values) most frequently occur at the local level?

3. What are the sources of the errors (e.g., hand tally mistakes, untrained staff, carelessness, differences in state law and UCR definitions)?

4. What corrective actions do you take when an error or discrepancy is noted (e.g., state makes corrections, call local reporting entity, visit local reporting entity, etc.)?

5. Please list briefly the types of corrections to state reports most frequently identifed by the national UCR program.

For each type you list, check whether the source of error is usually state or local.

	TYPE OF CORRECTION	SOURCE OF ERROR STATE	LOCAL
1)		( )	( )
2)		( )	( )
3)		( )	( )

6. What do you do to correct these problems when they arise at the local level?

7. Has the FBI contacted your agency during the last 12 months about a problem with your data?

Yes ( ) Describe

No ( )

8. How do you identify local reporting entities that deviate from the FBI's UCR standards?

9. If you have a problem reporting entity, what corrective action is taken?

10. Do you routinely audit local reporting entities' UCR operations?

Yes (ANSWER A AND B) ( )

No (GO TO QUESTION 11) ( )

A. Describe the procedures.

B. Who conducts the audits?

11. Can you initiate an audit of a local reporting entity on your own or does the reporting entity have to ask for one?

Can initiate an audit ( )

Reporting entity must ask ( )

12. How many audits were conducted last year?

PART III: YOUR COMMENTS

Please add any information which you think will be helpful to us in trying to understand your state's UCR operations. You may attach additional pages as necessary.

Attachment 3

RESEARCHER INTERVIEW PROTOCOL

Researcher Protocol

1. Name _____

   Phone # _____

   Callback info _____

   Position and Title _____

   _____

   Organizations _____

2. We are aware of the following aspects of your work:

   _____

   _____

   _____

   _____

   _____

   _____

How would you characterize your principle research interest?

a. Field:

___ Criminal Justice	___ Other
___ Police	___ Sociology
___ Ajudication	___ Psychology
___ Corrections	___ Public Policy
___ CJ System	___ _____
___ Juveniles	

b. What kind of units do you generally look at?

___ Crimes

___ Offenders

___ Victims

___ CJS employees

___ Institutions

c. How would you describe the kinds of methods you typically use?

____ Qualitative

- ____ field observation
- ____ case studies
- ____ theoretical analysis
- ____ legal research

____ Quantitative

- ____ involving time
- ____ involving place
- ____ within one time and place (e.g. flowchart)

d. General description (if more than above)

_____

_____

_____

_____

3. We're primarily interested in uses of UCR data:

____ Have you actually used Crime in the United States in your research

____ Are you familiar with other FBI Publications:

Which ones?		ever used?
_____	---->	_____
_____	---->	_____
_____	---->	_____

____ In what form did you use the data

- ____ Hard copy
- ____ Keypunched from hard copy
- ____ Tapes from FBI] (if the latter two):
- ____ Special study done by FBI]

were they easy to get ____

adequately documented ____

were they easy to use ____

4(R). Could you describe your most recent substantial use of UCR?

a. What was the question?

_____

_____

_____

_____

Purpose:

____ Evaluation ____ Planning ____ (Other) _____

b. Can you tell me about your analytic methods (e.g. regression, crosstabs . . .)

_____

_____

_____

_____

c. Which UCR data did you use?

_____

_____

_____

_____

d. Which other data?

_____

_____

_____

_____

e. Was the formulation of the question influenced by

____ UCR data availability

____ Other data availability

f. What would the ideal data base for this study look like?

g. What made this study [successful]
[unsuccessful]

4(S). Could you describe your most successful use of UCR?

a. What was the question?

Purpose:

____ Evaluation ____ Planning ____ (Other) _____

b. Can you tell me about your analytic methods (e.g. regression, crosstabs . . .)

c. Which UCR data did you use?

d. Which other data?

CONTINUED

3 OF 4

e. Was the formulation of the question influenced by

____ UCR data availability

____ Other data availability

f. What would the ideal data base for this study look like?

g. What made this study [successful]

4(U). Could you describe your <u>least successful</u> use of UCR?

a. What was the question?

Purpose:

____ Evaluation ____ Planning ____ (Other) _____

b. Can you tell me about your analytic methods (e.g. regression, crosstabs . . .)

c. Which UCR data did you use?

d. Which other data?

e. Was the formulation of the question influenced by

____ UCR data availability

____ Other data availability

f. What would the ideal data base for this study look like?

g. What made this study [unsuccessful]

5. Thinking of your own and other uses of UCR, would you change

____ Scope of one of the existing topics
[Note to interviewers: the topics are:
(1) Offenses Reported
(2) Crimes Cleared by Arrest
(3) Characteristics of Persons Arrested
(4) Disposition of Persons Charged
(5) Law Enforcement Employees
(6) Officers Killed or Assaulted]

____ Presentation of existing topics

____ form
____ timing
____ narration

____ Detailed definitions and counting rules

____ Data collection and Quality assurance procedures

____ Additional topics

6. Thinking about an ideal data system, what would your design suggestions be?

____ Aggregation

____ Linkage with other systems

____ Data elements

____ Form (tape, hard copy, time-shared data base)

Attachment 4

INSTRUMENT FOR MAILED SURVEY
TO LAW ENFORCEMENT AGENCIES

OMB Clearance Number: 1121-0106
Expiration Date: 12/31/84

1-9
10-1

ID#

Uniform Crime Reporting Survey

DIRECTIONS

This questionnaire should be completed by the Chief of Police or Sheriff or a designated deputy and returned to Abt Associates at the address shown on the back of the questionnaire.

This questionnaire has been designed to collect information from a wide range of law enforcement agencies. It has also been designed to take as little of your time as possible. Most items require that you circle a number; some require a short written response.

Completion of this survey is entirely voluntary; however, it is essential to the success of the study that your agency's views be known.

Your answers to this questionnaire will be kept strictly confidential if you so desire. Please be sure to indicate in question 60 on page 22 whether or not you want Abt Associates to keep your answers confidential.

Please complete and return this questionnaire no later than August 24, 1984. If you have any questions concerning how to complete the questionnaire, please call Ms. Diane Stoner at Abt Associates. Their telephone number is (617) 492-7100.

Thank you for your cooperation.

NOTE: If there is no ID# on the cover of the questionnaire, please write in your agency's ORI number.

CD 1

UNIFORM CRIME REPORTING SURVEY

Agency Facts

1. Is your agency best described as... (CIRCLE ONE NUMBER) 11-12/

Municipal police	01
County police	02
Sheriff's office with general police responsibilities	03
Sheriff's office limited to judicial security, prison transport, jails, and warrant service	04
Transit system, public housing agency, port authority or other special local district police	05
State police	06
Federal agency police	07
Private police such as railroad, university or college campus	08
Other (PLEASE SPECIFY)_____	09

2. Does your agency have a logging system that gives every call or incident (whether crime-related or not) a sequential call number before it is dispatched and regardless of whether a crime or incident report is written? 13/

Yes	1
No	2

3. Does your agency use a computer to store or process crime records? 14/

Yes (ANSWER QUESTIONS 4 THROUGH 18)	1
No (SKIP TO QUESTION 19)	2

4. Does your agency have computerized records of calls for service and complaints? 15/

Yes (ANSWER A AND B)	1
No	2

IF YES:

Do these records include ... (CIRCLE ONE ANSWER FOR EACH ITEM)

	Yes	No	
A. A narrative description of the call?	1	2	16/
B. A code for the type of call?	1	2	17/

CD 1

5. Does your agency have computerized records of incident/offense reports filed by officers?

Yes (ANSWER A-C) 1 18
No 2

IF YES:

Do these reports include... (CIRCLE ONE ANSWER FOR EACH ITEM)

	Yes	No	
A. A narrative description of the offense?	1	2	19
B. A code for the type of offense?	1	2	20
C. Codes for other offense characteristics such as time of day, or victim characteristics?	1	2	21

6. Does your agency have computerized records of arrests?

Yes (ANSWER A-B) 1 22
No 2

IF YES:

	Yes	No	
A. Are these records linked to offense records?	1	2	23
B. Do these characteristics include codes for some offender characteristics?	1	2	24

7. Does your agency have other computerized records?

Yes (PLEASE DESCRIBE BRIEFLY) 1 25
No 2

_____ 26-27
_____ 28-29
_____ 30-31
_____

8. Does your agency... (CIRCLE ONE NUMBER)

Have exclusive use of a computer 1 32
Share computer facilities with other government agencies 2
Purchase computer services from a vendor 3
Other (PLEASE SPECIFY) _____ 4

_____ 33-34

CD 1

QUESTIONS 9 THROUGH 17 DEAL WITH SOME TECHNICAL ASPECTS OF YOUR COMPUTER SYSTEM.

9. What is the make (manufacturer) of your computer?

_____ 35-38

10. What is its model number?

_____ 39-44

11. What is the size of its main memory? (RECORD IN EITHER KILOBYTES OR MEGABYTES)

_____ Kilobytes 45-47 _____ Megabytes 48-49

12. What is your computer's available disk storage capacity in megabytes?

_____ Megabytes 50-53

13. How many tape drives does your computer have?

_____ Drives 54-55

14. What densities does your tape drive(s) support? (CIRCLE ALL THAT APPLY)

800 Bpi 1 56
1600 Bpi 2 57
6250 Bpi 3 58

15. Is your computer system capable of communicating with other systems?

Yes (ANSWER A AND B) 1 59
No 2

IF YES:

A. At what baud rate? (CIRCLE ALL THAT APPLY)

300 ..... 1 60
1200 ..... 2 61
4800 ..... 3 62
9600 ..... 4 63

B. With which of the following systems are you capable of communicating? (CIRCLE ALL THAT APPLY)

National Crime Information Center (NCIC).....1 64

National Law Enforcement Telecommunications System (NLETS).....2 65

State system.....3 66

County system (SPECIFY MAKE AND MANUFACTURER OF COUNTY SYSTEM).....4 67

_____ 68-71

_____ 72-77

CD 2 10/2

16. Does your computing system support the following communications protocols? (CIRCLE ONE NUMBER FOR EACH ITEM)

	Yes	No	
Async	1	2	11
Bisync 2780	1	2	12
Bisync 3780	1	2	13
Bisync 3270	1	2	14
Other bisync	1	2	15

17. Does your system have any dial-up ports for remote terminals?

Yes.....1 16

No.....2

18. Will your department make any major changes to your existing computer facility during the next two years?

Yes (ANSWER A).....1 17

No.....2

IF YES:

A. Please briefly outline the changes you will make.

_____ 18-19

_____ 20-21

_____ 22-23

_____

_____

IF YOU ALREADY USE A COMPUTER AND YOU ANSWERED QUESTIONS 4 TO 18, SKIP TO QUESTION 22.

19. Do you plan to start using a computer to store and process crime records in the next two years?

Yes (ANSWER QUESTIONS 20 AND 21).....1 24

No (SKIP TO QUESTION 22).....2

20. As currently planned, will you... (CIRCLE ONE NUMBER)

Have exclusive use of your computer.....1 25

Share computer facilities with other government agencies.....2

Purchase computer services from a vendor.....3

Other (PLEASE SPECIFY)_____ 4

_____ 26-27

_____

Don't know.....8

21. Do you know what computer you plan to use?

Yes (ANSWER A-D).....1 28

No.....2

IF YES:

A. What is the make? _____ 29-32

B. What is the model number? _____ 33-38

C. What is the planned memory size? (RECORD IN EITHER KILOBYTES OR MEGABYTES)

_____ 39-41 Kilobytes _____ 42-43 Megabytes

D. What is the planned storage disc capacity, in megabytes?

_____ 44-47 Megabytes

22. Do you participate in the national or state Uniform Crime Reporting (UCR) program, either directly or through another local agency?

Yes.....1 48

No (GO TO QUESTION 33).....2

UCR Reporting Procedures and Burden

23. Does your agency submit information on each incident individually or do you total incidents and report summary figures to the UCR program?

Individual incidents (ANSWER A)....1 49/
Summary figures (ANSWER B)....2

IF SUBMIT INDIVIDUAL INCIDENTS:

A. Do you think that reporting individual incidents places more or less burden on your department than the old tally system for UCR reporting did?

Incident reporting is... (CIRCLE ONE NUMBER)

Much easier....1 50/
Somewhat easier....2
About the same....3
Somewhat more difficult....4
Much more difficult....5

IF SUBMIT SUMMARY FIGURES:

B. Some people have suggested that it is easier for departments to report each incident individually. If you were to report the same information that you do now for each offense or arrest, but did not have to tally up the totals, would it be... (CIRCLE ONE NUMBER)

Much easier....1 51/
Somewhat easier....2
About the same....3
Somewhat more difficult....4
Much more difficult....5

24. Do you have a computerized system for automatically *generating* UCR reports?

Yes....1 52/
No....2

25. Please estimate the average number of hours per week your employees spend on national and state UCR tasks.

Type of Staff	Number of hours per week	
Sworn	_____	53-56/
Civilian	_____	57-60/

26. Classification in UCR involves placing offenses into the UCR crime categories. Please indicate the description or descriptions that best describe how your agency classifies offenses for UCR. (CIRCLE *ALL* THAT APPLY)

State agency classifies incident report for UCR....1 61/
Offenses are classified for UCR by your agency's central record staff....2 62/
Offenses are classified for UCR by your agency's desk sergeants or other line supervisors....3 63/
Offenses are classified for UCR by the reporting or investigating officer....4 64/
Offenses are classified for UCR by various agency staff, depending on who is available....5 65/
Other (PLEASE SPECIFY)_____ 6 66/
_____ 67-68/
_____ 69-70/

27. Scoring in UCR invoives determining the number of offenses to be counted in a particular incident. While scoring and classification are often done together, they are sometimes done separately. Please indicate the description or descriptions that best describe how your agency scores offenses for UCR. (CIRCLE *ALL* THAT APPLY)

State agency scores incident report for UCR....1 71/
Offenses are scored for UCR by your agency's central record staff....2 72/
Offenses are scored for UCR by your agency's desk sergeants or other line supervisors....3 73/
Offenses are scored for UCR by the reporting or investigating officer....4 74/
Offenses are scored for UCR by various agency staff, depending on who is available....5 75/
Other (PLEASE SPECIFY)_____6 76/
_____ 77-78/
_____ 79-80/

CD 3

CD 3
10/3

28. Reporting clearances accurately for UCR requires that all offenses for which a person is arrested be cleared but that offenses that have already been cleared by a prior arrest not be cleared a second time. Uncleared offenses may also be cleared exceptionally when the identity and whereabouts of the offender are known and the offender would be arrested except for special circumstances (death, previous incarceration). Listed below are a number of different ways agencies handle clearances. Please indicate which of these descriptions best apply to your agency. (CIRCLE *ALL* THAT APPLY)

The state program calculates clearances based on our offense, arrest, and exceptional clearance reports....1	11
We have a system that links each arrest or exceptional clearance to the original offense reports and counts up all offenses that are not indicated as being previously cleared....2	12
We probably miss some clearances because we often clear only one offense even though the arrest was for multiple reported offenses....3	13
We probably double count some clearances because there is no easy way to be sure no one else has been arrested for the offense unless we happen to notice it....4	14
We probably miss some clearances because exceptional clearances are rarely entered in UCR reports....5	15
We don't always know whether a case should be cleared or whether it should be unfounded....6	16
We probably miss some clearances because not all dispositions get entered in our UCR reports....7	17

29. Overall, how do you feel your agency's reported clearances compare with actual clearances? (CIRCLE ONE ANSWER)

Reported clearances are much higher than actual....1	18
Reported clearances are somewhat higher than actual....2	
Reported clearances are just about the same as actual....3	
Reported clearances are somewhat lower than actual....4	
Reported clearances are much lower than actual....5	

30. Is there at least one person in your agency who has received formal training in UCR from either the state or the FBI?

Yes....1	19
No....2	

CD 3

31. Please indicate whether you agree or disagree with each of the following statements. (CIRCLE ONE NUMBER FOR EACH ITEM)

	Agree	Disagree	Don't Know	
Our agency could use more training in UCR reporting rules and procedures....	1	2	8	20
Our agency could use more help in setting up our records system....	1	2	8	21
Our agency could use more help in figuring out how to use crime statistics....	1	2	8	22
We know where to call when we need help with UCR....	1	2	8	23
It is a real problem to free staff time for UCR training....	1	2	8	24
UCR training is not generally available in the areas where we need help....	1	2	8	25

32. If your agency did not contribute to the federal or state UCR program would you... (CIRCLE ONE ANSWER)

Continue to collect and tabulate the same crime statistics that you now do for UCR....1	26
Continue to collect crime statistics but classify and tabulate them differently (ANSWER A)....2	
Drop a major portion of the current reports (ANSWER B)....3	
Not tabulate any crime statistics....4	
Other (PLEASE SPECIFY)_____ 5	
_____	27-28

A. *IF CLASSIFY AND TABULATE DIFFERENTLY:*

Please describe the major changes you would make.

_____	29-30
_____	31-32
_____	33-34
_____	35-36

B. *IF DROP A MAJOR PORTION:*

Please indicate what you would drop.

_____	37-38
_____	39-40
_____	41-42
_____	43-44

33. Listed below are four types of information contained in the FBI's publication *Crime in the United States* and state UCR Program reports. For each type, please indicate whether your agency uses the published data for comparison. (CIRCLE ALL THAT APPLY)

	Use to look at changes from one year to the next in your agency	Use for comparison of your agency with other agencies	Don't use	
Offense data	1	2	3	45/
Clearance data	1	2	3	46/
Arrest data	1	2	3	47/
Personnel data	1	2	3	48/

34. How big a role does UCR data play — whether published by the FBI or provided to you by your state UCR program — in your agency with regard to ... (CIRCLE ONE ANSWER FOR EACH ITEM)

	Essential	Helpful	Not used	
Internal management	1	2	3	49/
Public information	1	2	3	50/
Evaluating your agency's performance	1	2	3	51/
Making budgetary decisions	1	2	3	52/
Supporting budgetary requests	1	2	3	53/

35. Some people have felt that they could not compare their crime rates with those of other jurisdictions — even jurisdictions with similar populations — because citizens are more likely to report a crime in one place than another. Others feel that this is a minor problem. How much of the difference in crime rates across similar jurisdictions do you think is due to differences in citizen reporting practices? (CIRCLE ONE NUMBER)

A great deal....1 54/
Some....2
Very little....3
None....4
No opinion....5

36. Similarly, some people have argued that even changes in crime rates from one year to the next may largely reflect changes in citizens' willingness to report crimes. How much of the year-to-year change in a jurisdiction's crime rates do you think is due to changes in citizens' willingness to report crime? (CIRCLE ONE NUMBER)

A great deal....1 55/
Some....2
Very little....3
None....4
No opinion....5

37. What about changes in crime rates from one decade to the next? (CIRCLE ONE NUMBER)

A great deal....1 56/
Some....2
Very little....3
None....4
No opinion....5

38. The same issues have been raised in terms of differences in police reporting practices. Although UCR rules are the same for all, some people have argued that the way the rules are interpreted and applied is so different in different departments that crime rates, arrest rates, and clearance rates cannot be compared from one jurisdiction to another — even when they appear to be similar places with similar populations. In your opinion, how much of the differences across departments are a reflection of differences in police reporting practices with respect to... (CIRCLE ONE NUMBER FOR EACH ITEM)

	A great deal	Some	Very little	None	No opinion	
Offenses	1	2	3	4	5	57/
Arrests	1	2	3	4	5	58/
Clearances	1	2	3	4	5	59/

39. A given agency may also change its reports as recordkeeping improves or even because different staff interpret the rules differently. How much of year-to-year changes in crime, arrests, and clearance rates do you think is likely to be due to changes in agency reporting practices with respect to... (CIRCLE ONE NUMBER FOR EACH ITEM)

	A great deal	Some	Very little	None	No opinion	
Offenses	1	2	3	4	5	60/
Arrests	1	2	3	4	5	61/
Clearances	1	2	3	4	5	62/

40. What about changes from one decade to another? (CIRCLE ONE NUMBER FOR EACH ITEM)

	A great deal	Some	Very little	None	No opinion	
Offenses	1	2	3	4	5	63/
Arrests	1	2	3	4	5	64/
Clearances	1	2	3	4	5	65/

CD 3

41. Some people have argued that property loss values reported in UCR are simply too inaccurate to use. Would you say that property loss values are... (CIRCLE ONE NUMBER)

Reasonably accurate.....1 66/

Have lots of errors but give a good idea of the general trend.....2

Are better than nothing.....3

Are so inaccurate that we should not bother to collect them.....4

42. Following is a list of criticisms that have been made of the current UCR program. For each item, please indicate how serious a problem it is in terms of your use of UCR data. (CIRCLE ONE ANSWER FOR EACH ITEM)

	Very serious problem	Serious problem	A problem	Slight problem	No problem	
Not all police departments submit reports to UCR.....	1	2	3	4	5	67/
Federal agencies are not included in UCR.....	1	2	3	4	5	68/
National UCR reports are not timely enough.....	1	2	3	4	5	69/
State program does not return data in a timely manner or in a form that can be readily utilized.....	1	2	3	4	5	70/
UCR offense categories are too broad to be useful.....	1	2	3	4	5	71/
There are too many grey areas involved in classifying crimes.....	1	2	3	4	5	72/
There are too many grey areas in determining clearances.....	1	2	3	4	5	73/

43. When UCR was first developed, the designers made two critical decisions.

First, they recognized that vice crimes such as drug offenses, prostitution, and gambling were unlikely to be reported by citizens. For these offenses, they decided not to count offenses and instead only collect information on arrests.

Second, in order to reduce police reporting burden, the designers selected seven broad types of crimes for offense reporting. These crimes (plus arson) are the Part I offenses. These crimes form the basis of the crime index and are the only crimes for which numbers of offenses are published nationally. In the national UCR system, only the numbers of arrests are now published for other crimes (the Part II offenses), though some state UCR programs publish offense data for both Part I and Part II crimes.

This system has been criticized. People have argued that police record systems are more sophisticated and that UCR does not need to be hamstrung by the record systems of fifty years ago. They have argued that the current crime reporting in the UCR is both too broad and too narrow. On the one hand, the public may be unnecessarily frightened by crime index totals that reflect a large volume of petty larceny. On the other hand, the crime index may not adequately reflect the volume of crime-related demands for police services.

CD 4

Following are a series of statements about possible modifications to the current system. Please indicate for each whether you agree or disagree. (CIRCLE ONE ANSWER FOR EACH ITEM)

	Agree Strongly	Agree Somewhat	Neither Agree Nor Disagree	Disagree Somewhat	Disagree Strongly	CD 4 10/4
UCR crime categories should separate crimes against persons and their property from crimes directed at commercial establishments.....	1	2	3	4	5	11/
UCR crime categories should report *attempted* burglaries separately from *actual* ones.....	1	2	3	4	5	12/
In general, all UCR crime categories should report attempted crimes separately from actual ones.....	1	2	3	4	5	13/
Assault reports should distinguish family disputes from other assaults.....	1	2	3	4	5	14/
Arson does not belong in the UCR. It should be reported in another system, if necessary.....	1	2	3	4	5	15/
Criminal homicide in UCR now includes all willfull killings (except the killing of a felon by a police officer in the line of duty or by a citizen during the commission of a felony). UCR should be modified to distinguish all self-defense killings from others.....	1	2	3	4	5	16/
Instead of just reporting clearances, UCR should report a range of law enforcement agency dispositions such as not investigated due to low solvability, warrant issued, arrest made, and so forth.....	1	2	3	4	5	17/
Some method should be found to distinguish major thefts from minor larcenies.....	1	2	3	4	5	18/

Classification rules should be changed to eliminate grey areas. Specifically... (CIRCLE ONE ANSWER FOR EACH ITEM)

	Agree Strongly	Agree Somewhat	Neither Agree Nor Disagree	Disagree Somewhat	Disagree Strongly	
Aggravated assault should be defined in terms of actual injury without regard to intent.....	1	2	3	4	5	19/
Unwitnessed broken windows, doors, etc. should automatically be classified as attempted burglary.....	1	2	3	4	5	20/

We need better information on UCR accuracy. Specifically... (CIRCLE ONE ANSWER FOR EACH ITEM)

	Agree Strongly	Agree Somewhat	Neither Agree Nor Disagree	Disagree Somewhat	Disagree Strongly	
Contributing agency reporting systems should be reviewed and certified to assure that they meet basic standards.....	1	2	3	4	5	21/
Contributing agencies should be audited on a confidential basis to assure reporting accuracy.....	1	2	3	4	5	22/

CD 4

Even if the current crime index is retained, we need other crime indices that distinguish different kinds of crimes better. Specifically... (CIRCLE ONE ANSWER FOR EACH ITEM)

	Agree Strongly	Agree Somewhat	Neither Agree Nor Disagree	Disagree Somewhat	Disagree Strongly	
In addition to the crime counts provided by a crime index, we need some way to indicate the average seriousness of the crimes included in the index	1	2	3	4	5	23/
We need a separate index of serious crime that does not include so many minor crimes	1	2	3	4	5	24/
We need an index of total crime that includes all offenses, including many Part II offenses	1	2	3	4	5	25/

The crime rate expresses crime in terms of the number of index crimes per 100,000 residents. We need to express the crime rate in terms of populations at risk. Specifically... (CIRCLE ONE ANSWER FOR EACH ITEM)

	Agree Strongly	Agree Somewhat	Neither Agree Nor Disagree	Disagree Somewhat	Disagree Strongly	
Some way should be found to adjust local crime rates to take account of the fact that the rate of crimes per resident may include large numbers of crimes against nonresidents such as commuters and tourists	1	2	3	4	5	26/
Auto theft rates should be expressed in terms of thefts per 100,000 vehicles	1	2	3	4	5	27/
Rape rates should be expressed in terms of number of females in the population	1	2	3	4	5	28/

Regardless of how the UCR reports are changed, it would be very useful if UCR publications included more analysis. Specifically, we need... (CIRCLE ONE ANSWER FOR EACH ITEM)

	Agree Strongly	Agree Somewhat	Neither Agree Nor Disagree	Disagree Somewhat	Disagree Strongly	
Analyses that would take account of differences in local populations and conditions so that we could compare crime rates in different places	1	2	3	4	5	29/
Analyses of special topics such as new types of crime and the impact of different police techniques	1	2	3	4	5	30/
Direct reports back to contributors showing them which jurisdictions are comparable to theirs and what crime rates are in those jurisdictions	1	2	3	4	5	31/

CD 4

44. If UCR were to distinguish minor and major larcenies/thefts, a good cut-off point would be...

Fill in the amount you would recommend: $_____ 32-35/

45. The current Hierarchy Rule requires counting only the highest ranked Part I offense and ignoring all other offenses in a given incident. Do you think... (CIRCLE ONE NUMBER)

The current rule should be retained as is.....1 36/

The current rule should be modified to count the most serious offense *for each victim*.....2

No hierarchy rule should be used – all counts of each offense for each victim should be tallied.....3

Other (SPECIFY)_____ 4 37-38/

_____

_____

46. Some people have argued that we need reports like the UCR reports for the rest of the criminal justice system. Specifically, they suggest, we need to know what happens once an arrest is made in terms of prosecution, disposition, and sentencing.

A. How useful do you think it would be to have such a system? (CIRCLE ONE NUMBER)

Very useful.....1 39/

Somewhat useful.....2

Not useful.....3

B. If such a system were to be created, should it be... (CIRCLE ONE NUMBER)

Part of UCR.....1 40/

Separate from UCR but use the same jurisdictions so that the two could be linked together.....2

Completely unrelated to UCR.....3

47. Going back to the crimes reported in UCR, a variety of offenses are listed below. Please indicate...

a. Whether you think that UCR should report offenses and arrests in this category, just report arrests, or not include at all;

b. Whether you think the offense should be tallied separately or should be lumped together with other offenses listed in the same category;

c. Whether, if we had to have only one crime index, this offense should be included.

(Note: for offenses that should be lumped together, you may indicate groupings by drawing a line around the grouping you would like. For example:

	Lump together
Forcible rape of a female	2
Forcible rape of a male	2
Other forcible sexual assault – female	2
Other forcible sexual assault – male	2

Alternatively, you may, if you wish, simply circle "2" under "lump together", without indicating exactly which offenses should be grouped together.)

CD 4-5

FOR THIS OFFENSE, SHOULD UCR REPORTS:

	Count offenses and arrests	a. Count arrests only	a. Do not include at all	b. Tally separately	b. Lump together	c. Include in Index? YES	c. Include in Index? NO	
Murder/Homicide								
Nonnegligent homicide (chargeable)	1	2	3 41/	1	2 42/	1	2	43
Nonnegligent homicide (self-defense)	1	2	3 44/	1	2 45/	1	2	46
Justifiable homicide	1	2	3 47/	1	2 48/	1	2	49
Negligent manslaughter	1	2	3 50/	1	2 51/	1	2	52
Sexual Assaults								
Forcible rape of a female	1	2	3 53/	1	2 54/	1	2	55
Forcible rape of a male	1	2	3 56/	1	2 57/	1	2	58
Other forcible sexual assault (including attempted rape) – female	1	2	3 59/	1	2 60/	1	2	61
Other forcible sexual assault (including attempted rape) – male	1	2	3 62/	1	2 63/	1	2	64
Statutory rape – female	1	2	3 65/	1	2 66/	1	2	67
Statutory rape – male	1	2	3 68/	1	2 69/	1	2	70
Sexual abuse of children	1	2	3 71	1	2 72/	1	2	73
Assault (CD 5 10/5)								
Aggravated assault with actual injury	1	2	3 11/	1	2 12/	1	2	13
Other aggravated assault	1	2	3 14/	1	2 15/	1	2	16
Simple assault	1	2	3 17/	1	2 18/	1	2	19
Child abuse	1	2	3 20/	1	2 21/	1	2	22
Domestic assault of spouse	1	2	3 23/	1	2 24	1	2	25
Robbery								
Robbery	1	2	3 26/	1	2 27/	1	2	28
Attempted robbery	1	2	3 29/	1	2 30/	1	2	31
Burglary								
Burglary of a residence	1	2	3 32/	1	2 33	1	2	34
Attempted burglary of a residence	1	2	3 35/	1	2 36/	1	2	37
Burglary of residential outbuildings	1	2	3 38/	1	2 39/	1	2	40
Attempted burglary of residential outbuildings	1	2	3 41/	1	2 42/	1	2	43
Burglary of commercial buildings	1	2	3 44/	1	2 45/	1	2	46
Attempted burglary of commercial buildings	1	2	3 47/	1	2 48/	1	2	49

CD 5-6

FOR THIS OFFENSE, SHOULD UCR REPORTS:

	Count offenses and arrests	a. Count arrests only	a. Do Not include at all	b. Tally separately	b. Lump together	c. Include in Index? YES	c. Include in Index? NO	
Larceny-Theft								
Purse-snatching	1	2	3 50/	1	2 51/	1	2	52
Pocket-picking	1	2	3 53/	1	2 54/	1	2	55
Shoplifting	1	2	3 56/	1	2 57/	1	2	58
Other thefts from individuals (as opposed to businesses)	1	2	3 59/	1	2 60/	1	2	61
Other theft from businesses or organizations	1	2	3 62/	1	2 63/	1	2	64
Auto Theft								
Auto Theft	1	2	3 65/	1	2 66/	1	2	67
Attempted auto theft	1	2	3 68/	1	2 69/	1	2	70
Joyriding/unauthorized use	1	2	3 71/	1	2 72/	1	2	73
Other (CD 6 10/6)								
Kidnapping	1	2	3 11/	1	2 12/	1	2	13
Arson of a residential building	1	2	3 14	1	2 15/	1	2	16
Arson of a commercial building	1	2	3 17/	1	2 18/	1	2	19
Bad checks	1	2	3 20/	1	2 21/	1	2	22
Embezzlement	1	2	3 23	1	2 24/	1	2	25
Child pornography – production	1	2	3 26/	1	2 27/	1	2	28
Child pornography – sale	1	2	3 29/	1	2 30/	1	2	31
Other pornography – production	1	2	3 32/	1	2 33/	1	2	34
Other pornography – sale	1	2	3 35	1	2 36	1	2	37
Drug abuse – sale	1	2	3 38	1	2 39/	1	2	40
Drug abuse – possession	1	2	3 41/	1	2 42/	1	2	43
Vandalism	1	2	3 44/	1	2 45/	1	2	46
Other (SPECIFY) 47-48	1	2	3 49/	1	2 50	1	2	
52-53/	1	2	3 54/	1	2 55	1	2	56
57-58	1	2	3 59	1	2 60	1	2	61
62-63/	1	2	3 64/	1	2 65/	1	2	66
All other felonies not listed above (e.g., blackmail, counterfeiting)	1	2	3 67/	1	2 68/	1	2	69
All other misdemeanors not listed above	1	2	3 70/	1	2 71/	1	2	72/

73/

CD 6-7

48. Thinking about the items you checked in question 47, how much of a burden would reporting these offenses in separate categories impose on your department? (CIRCLE ONE NUMBER)

A major burden....1 74/
A moderate burden....2
A minor burden....3
No burden....4

49. Some people have argued that we need very different information on crime than that currently supplied by the UCR. For each of the items listed below, please indicate:

A. How useful that type of information would be to your agency: and
B. How easy or difficult it would be for your agency to supply the information.

	A. HOW USEFUL (CIRCLE ONE ANSWER FOR EACH CATEGORY)				B. HOW EASY OR DIFFICULT TO SUPPLY — — — (CIRCLE ONE ANSWER FOR EACH CATEGORY) — — —									
						We already have information on computer and programming to get it would be...			We have in files but reporting it would be...			We don't have this information but...		
	Very	Somewhat	Not at all		Very easy – we already tabulate	Easy	Somewhat difficult	Very difficult	Easy	Somewhat difficult	Very difficult	Could get it	Would be prohibitive to collect	
Calls/complaints														
Including,														
number of calls....	1	2	3	75/	01	02	03	04	05	06	07	08	09	76-77/
number of calls for which an officer is dispatched.....	1	2	3	78/	01	02	03	04	05	06	07	08	09	79-80/
codes that indicate whether the call is apparently crime related.....	CD 7 10/7 1	2	3	11/	01	02	03	04	05	06	07	08	09	12-13/
Offense Reports														
Including,														
type of offense....	1	2	3	14/	01	02	03	04	05	06	07	08	09	15-16/
time of offense....	1	2	3	17/	01	02	03	04	05	06	07	08	09	18-19/
use of force.....	1	2	3	20/	01	02	03	04	05	06	07	08	09	21-22/
geographic location of offense (e.g., census tract 103)...	1	2	3	23/	01	02	03	04	05	06	07	08	09	24-25/
nature of location of offense (park, store, house, etc.)..	1	2	3	26/	01	02	03	04	05	06	07	08	09	27-28/
type of weapons used.....	1	2	3	29/	01	02	03	04	05	06	07	08	09	30-31/

CD 7-8

	A. HOW USEFUL (CIRCLE ONE ANSWER FOR EACH CATEGORY)				B. HOW EASY OR DIFFICULT TO SUPPLY — — — (CIRCLE ONE ANSWER FOR EACH CATEGORY) — — —									
						We already have information on computer and programming to get it would be...			We have in files but reporting it would be...			We don't have this information but...		
Offense Reports (cont'd.)	Very	Somewhat	Not at all		Very easy – we already tabulate	Easy	Somewhat difficult	Very difficult	Easy	Somewhat difficult	Very difficult	Could get it	Would be prohibitive to collect	
type and extent of injuries.....	1	2	3	32/	01	02	03	04	05	06	07	08	09	33-34/
victim-offender relationship, if known.....	1	2	3	35/	01	02	03	04	05	06	07	08	09	36-37/
number of victims..	1	2	3	38/	01	02	03	04	05	06	07	08	09	39-40/
age of victims.....	1	2	3	41/	01	02	03	04	05	06	07	08	09	42-43/
sex of victims.....	1	2	3	44/	01	02	03	04	05	06	07	08	09	45-46/
race of victims....	1	2	3	47/	01	02	03	04	05	06	07	08	09	48-49
residence status of victims.....	1	2	3	50/	01	02	03	04	05	06	07	08	09	51-52/
type of property loss.....	1	2	3	53/	01	02	03	04	05	06	07	08	09	54-55/
value of property loss.....	1	2	3	56/	01	02	03	04	05	06	07	08	09	57-58
File of Arrests														
Including,														
offense report information.....	1	2	3	59/	01	02	03	04	05	06	07	08	09	60-61/
offender age.....	1	2	3	62/	01	02	03	04	05	06	07	08	09	63-64/
offender sex.....	1	2	3	65/	01	02	03	04	05	06	07	08	09	66-67/
offender race.....	1	2	3	68/	01	02	03	04	05	06	07	08	09	69-70
Disposition of Arrests														
Including,														
prosecution charge.	1	2	3	71	01	02	03	04	05	06	07	08	09	72-73
disposition.....	1	2	3	74	01	02	03	04	05	06	07	08	09	75-76
sentence.....	1	2	3	77	01	02	03	04	05	06	07	08	09	78-79
Tabulations of Officer Time Spent on	CD 8 10/8													
administration....	1	2	3	11/	01	02	03	04	05	06	07	08	09	12-13/
courts.....	1	2	3	14/	01	02	03	04	05	06	07	08	09	15-16/
patrol.....	1	2	3	17/	01	02	03	04	05	06	07	08	09	18-19/
noncrime related calls.....	1	2	3	20/	01	02	03	04	05	06	07	08	09	21-22/
crime-related calls.....	1	2	3	23/	01	02	03	04	05	06	07	08	09	24-25/

CD 8

50. One suggestion that has been made would be to have some departments report in substantially more detail than they do under the current system. If this were done, how likely do you think it is that your department would be willing to report the more detailed data?

Very likely 1 26/
Somewhat likely 2
Not at all likely 3

51. Please describe briefly the *three* most important changes that you would like to see made in UCR, if any.

_____ 27-28
_____ 29-30
_____ 31-32
_____
_____
_____

52. What aspects of UCR do you feel should be preserved without change, if any?

_____ 33-34
_____ 35-36
_____ 37-38
_____ 39-40
_____
_____

53. What could be done to make the UCR program substantially more useful to law enforcement agencies?

_____ 41-42
_____ 43-44
_____ 45-46
_____ 47-48
_____
_____

CD 8

54. Please list any other comments you want to make about UCR.

_____ 49-50/
_____ 51-52/
_____ 53-54/
_____ 55-56/
_____
_____

IF YOUR AGENCY IS NOW PARTICIPATING IN UCR, PLEASE SKIP TO QUESTION 60.

For Non-Contributors Only

55. What is the size of the population that you serve? (CIRCLE ONE NUMBER)

Above 1,000,000 ..... 1 57
500,000-1,000,000 2
250,000-499,999 3
100,000-249,999 4
25,000-99,999 5
5,000-24,999 6
Less than 5,000 7

56. How many full time employees does your agency have who are...

	Number of Employees	
Sworn officers	_____	58-62
Civilian staff	_____	63-67

57. Have you contributed to UCR at any time during the last five years?

Yes 1 68
No 2

58. Do you think that you are likely to contribute to UCR in the next year or two?

Yes 1 69
No 2

CD 8

59. Why are you not contributing to UCR (CIRCLE ALL THAT APPLY)

Temporary problem in getting reports together	1	70
Requires too much staff time	2	71
Not useful to me	3	72
My jurisdiction has too little crime for it to matter	4	73
Other (SPECIFY)_____	5	74
_____		75 76
_____		

60. Do you want us to keep your answers to this survey confidential?

Yes	1	77
No	2	

61. Please sign below to indicate that the chief or sheriff completed or reviewed the answers to this questionnaire.

_____
Chief or Sheriff

THANK YOU FOR YOUR COOPERATION. PLEASE RETURN THE COMPLETED QUESTIONNAIRE IN THE ENCLOSED, STAMPED, SELF-ADDRESSED ENVELOPE TO:

UCR Study
SRG Data Receipt
Abt Associates Inc.
55 Wheeler Street
Cambridge, MA 02138

Appendix B

RELATIONSHIPS BETWEEN THE NATIONAL CRIME SURVEY AND THE UNIFORM CRIME REPORTING PROGRAM

This appendix compares the data structures of the National Crime Survey and the UCR and discusses the possibility of integrating the two sets of data into combined estimates of crime rates.

B.1 Structuring the Data to Permit Reconciliation

The UCR and the NCS differ in three fundamental aspects: coverage, classification, and counting. This section discusses changes needed in the UCR data to permit better reconciliation between the two sources. The Level II UCR component would include all the revisions discussed here. In regard to the Level I UCR component, our main conclusions are as follows:

- Commercial victimizations should be distinguished from personal and household crimes in both components of the new UCR system.

- The requirements of reconciling national estimates from the NCS and the UCR do not merit having all participating agencies submit separate UCR counts of personal victimizations not covered by the NCS because of age or residence. The discrepancy between the two systems does not have major policy implications and may be adequately analyzed by sampling or by occasional special studies.

- The UCR definition of aggravated assaults should be clarified to specify in more useful terms the boundary between simple and aggravated assault. The NCS definition seems consistent with the UCR definition except that the former is more precise. We know little about the differential interpretation of these and other definitions by police agencies, and the design phase of a new UCR system provides the opportunity to learn more about the clarity and usefulness of various forms of definitions.

- The NCS should review its treatment of theft in cases where the stolen object does not actually belong to the victim.

- A subcategory of burglary with theft should be defined and tabulated to avoid ambiguous judgments about intent.

- Reconciliation of the differences caused by the UCR Hierarchy Rule could be accomplished through analysis of currently collected NCS data.

- Multiple-victim data should be collected in both components of the new UCR system to allow victim as well as incident counts.

B.1.2 Coverage

The NCS covers only crimes against households or against persons living in households or group quarters, while the UCR seeks to be universal. This means that every Part I crime an NCS respondent reports to the police should be recorded in the UCR. Crimes against businesses (and against persons living in group quarters) are

within the scope of the UCR but not universally within the scope of the NCS. Over one-third of the burglaries and robberies counted in the UCR would not enter NCS coverage because the victims are businesses.

With the present UCR data, it is impossible to say how many larcenies and motor-vehicle thefts are under NCS coverage, because the UCR subclassifications identify targets but not necessarily victims. Some kinds of larceny are inherently directed against businesses (e.g. shoplifting), and some are inherently directed against persons (e.g., pocket-picking), but in about three-quarters of all cases, the target could be a person, a household, or a business.

The initial design of the NCS included surveys of business crime. It was quickly determined that reporting rates for these offenses were much higher than for those against individuals or households, and the NCS data were not entirely satisfactory because the sampling frame for businesses was out of date. So a decision was made to concentrate the NCS on individuals and households, leaving the coverage of business victimizations to official sources, namely the UCR.

Unfortunately, although the UCR includes business victimizations, it does not describe them. Since a major fraction of crimes against businesses are inseparably commingled with personal victimizations, UCR data cannot presently be used to describe, or even count, crimes against businesses. Even if identifying business crimes were not essential for integrating the NCS and the UCR, it would significantly extend the usefulness (and logical coherence) of the UCR. One common complaint against the Crime Index--and even against its eight components--is that fundamentally different events are counted together. Robbery of a convenience store and of a school child are both serious crimes, but their antecedents and policy implications are almost completely different. When robberies increase, one would like to know which kind of occurrences account most for the increase, and the proposed UCR system would provide this capability.

The case for collecting UCR data to distinguish businesses from other crime targets is a strong and simple one: only one additional information item is required, and it is already collected for burglary. The information is reliably and readily obtained, and it is intrinsically useful for purposes other than NCS reconciliation.

Other coverage differences between the NCS and the UCR complicate the reconciliation process but do not seem sufficiently important to include data items for clarifying them in the Level I component of the proposed UCR system. The NCS sample omits many persons who do not live in households: residents of military barracks, patients and inmates, the homeless. This omission involves a small percentage of the population and makes the survey much easier to conduct.

Children under 12 are also omitted from the National Crime Survey. It is not clear how many crimes against this age group occur, or what fraction of them might come to the attention of the police.[1] The youngest people in the survey (age 12-15)

[1] Young victims are only half as likely as the total population to report to the police. Criminal Victimization in the U.S., 1981. Tables 92 and 95.

have victimization rates 50 to 70 percent higher (for crimes of theft and crimes of violence, respectively) than the rate for the total survey sample.[2]

Table B.1 was prepared to show the inadvisability of trying to prepare UCR reporting forms that would collect information for determining exactly which reported crimes victimized people who would be included in the National Crime Survey. The questions shown in the table limit the range of possible answers to the information needed for reconciliation with the NCS, so most of them serve no other purpose. More open-ended questions could yield analytically useful information and would be included in the Level II component of the proposed UCR system.

For example, the question, "How old is the victim?" yields far more specific information than "Is the victim over 12 years of age?" Counterbalancing the potentially greater utility is the problem that the police officer must supply far more information in order to determine the age of every known victim. Roughly one-sixth of violent crimes involve multiple victims.[3] If one of these victims reports the crime, and the other victims are not available, the police officer taking the report is unlikely to know how old the other victims are. However, even in poorly reported circumstances it should usually be clear whether there are any victims under the age of 12.

The lesson that emerges from this example is that, the more information an item tries to capture, the higher the risk that it will capture no information (or no reliable information) at all. One might ask a specific question each time the answer to the general question is unknown, but the result would be to double the complexity of offense reporting forms for all law enforcement agencies, and the reward would be only a small increase in information.

B.1.3 Classifying Crimes

Certain crimes are defined almost identically in the UCR and the NCS. The elements of rape, larceny, and motor-vehicle theft are nearly identical under NCS and UCR definitions. (The NCS definition of rape is gender neutral, but the UCR definition is currently for females only.) Over the past decade, the two data sources have been in substantial agreement about both level and trends in these three offense categories. UCR totals for rape and motor-vehicle theft have consistently differed from NCS levels by less than the NCS sampling error. Larceny counts have been about 14 percent lower in the UCR than in the NCS, but the two sources for this crime are converging. In 1982 the UCR showed about 5 percent more larcenies than NCS respondents said they reported to police. Since at least 13 percent of the UCR crimes involve businesses, this still leaves a small discrepancy, but one well within the known sources of uncertainty in the two data collection systems.

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[2]Children just under 12 are quite different from those just over 12, and generalizing these rates to the unsurveyed population could be done only very speculatively. About the most that can be said is that a few percent of the crimes known to the police involve victims too young to be included in the National Crime Survey. Ibid., Tables 92 and 95.

[3]Criminal Victimizations in the U.S., 1981, Table 50, indicates about seven victims for every six violent crimes.

Table B.1

QUESTIONS THAT WOULD BE NEEDED ON UCR REPORTING FORMS TO ESTABLISH VICTIM COVERAGE IN THE NCS

1. Were the victims people, businesses, or both?

   _____ only businesses

   _____ only people

   _____ people plus businesses

2. How many people were victimized? _____

3. How many of these were over 12 years of age? _____

4. How many of these are residents of the United States? _____[a]

5. How many of these live in households and group quarters covered by the NCS _____, and how many in military barracks or institutions not covered by the NCS? _____

Note: These questions are not recommended for inclusion in the UCR offense reporting forms with this wording.

[a]For exact comparison of in-movers and out-movers between UCR and NCS data, the victims' status six months before and after would be needed. Further, for comparing with NCS data for geographic subareas, the city or county of residence would have to be determined.

For the three other crime classifications covered by both sources (robbery, aggravated assault, and burglary), definitional discrepancies are potentially important, and the published data from the two sources are in substantial disagreement. Burglary in the UCR requires a judgment of intent to steal something or to commit a felony. In NCS tabulations,

> "Burglary refers to the following crimes against households: forcible entry and unlawful entry without force, usually but not necessarily attended by theft, and attempted forcible entry."[4]

More specifically, there are NCS crimes called:

> "Burglary, forcible entry, nothing taken, property damage";
>
> "Burglary, forcible entry, nothing taken, no property damage"; and
>
> "Burglary, unlawful entry without force."[5]

Some of these crimes would be classified as burglary under UCR rules, while others would be vandalism or merely trespassing. If actual theft does not occur, neither the NCS nor the current UCR data provides a basis for determining accurately whether a theft was intended. As a practical matter, such inferences by police, while necessary for classification, are often highly conjectural.

It may be impossible to create a classification scheme in which both sources produced strictly comparable judgments on every crime incident. Twenty-one percent of crimes classified as burglary in the NCS involved property damage but no theft. Another 5 percent were unlawful entries with no force, no property damage, and no theft. A large share of these events probably would not meet the strict UCR standards for burglary classification. The current NCS publications do not detail the number of burglaries with theft that are reported to the police, but this figure can be approximated from data on the relationship between reporting and economic loss. In 1981 there appear to have been about 2.1 million burglaries with theft in NCS households that respondents said they reported to police.[6] This number is about 9.5 percent below the UCR count of completed household burglaries. By 1982 the difference had narrowed slightly, so that the NCS burglaries with theft were only 7.5 percent below the UCR count. Since these calculations involve untested assumptions about a rather substantial number of "don't know" responses (about 10 percent for value of loss), as well as NCS survey error (about 7 percent for a 95 percent confidence interval), this can be taken as quite close agreement. Thus, one might expect that appropriate definitional changes would permit identification of a common core of burglaries for which the two systems could be almost completely reconciled.

Criminal Victimization in the United States, 1981, based on NCS data, gives the following definition of robbery:

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[4] ICPSR. National Crime Surveys: National Sample, 1973-1979 (1981), p.185.

[5] Ibid., p. 97.

[6] Criminal Victimization in the U.S., 1981, Tables 1, 77, 79, and 99.

> "Completed or attempted theft, directly from a person, of property or cash by force or threat of force, with or without a weapon."

This closely resembles the UCR definition:

> "Robbery is the taking or attempting to take anything of value from the care, custody, or control of a person or persons by force or threat of force or violence and/or by putting the victim in fear."

The major difference is NCS's use of the word "directly", where UCR uses "care, custody, or control." In fact, careful examination of the NCS survey instrument suggests that the distinction is more important than it might at first seem. In order to be counted as a robbery victim, the respondent must answer "yes" to the question, "Was something stolen or taken without permission that belonged to you or others in the household?" If the stolen goods were borrowed, rented, or temporarily held, the respondent might answer "no," although by UCR and common law definitions the crime would qualify as a robbery.

Eliminating this discrepancy would not improve the match of UCR and NCS robbery data. In 1982 the UCR showed 537,000 robberies, of which at most 77 percent victimized individuals. In the same year, NCS respondents indicated reporting 750,000 robberies (corresponding to about 650,000 distinct criminal operations) to the police. Thus, under present definitions the UCR figure is at least 17 percent below the NCS figure, and any known adjustment would either decrease the UCR figure or increase the NCS figure.

Aggravated assault presents the most serious definitional problem of the major UCR categories. Quite apart from any issues of matching NCS and UCR rules, we know that police departments have differing policies for distinguishing between aggravated and simple assault. As the UCR definition now stands, it poses two impediments to any attempt to pin down the set of covered crimes. The formal definition is:

> ". . . an unlawful attack by one person upon another for the purpose for inflicting severe or aggravated bodily injury. This type of assault usually is accompanied by the use of a weapon or by means likely to produce death or great bodily harm."[7]

Since the second sentence contains the word "usually," only the first is strictly defining. Even this requires first, a guess about the purpose of the attack, and second, a judgment of severity. The accompanying text provides illustrations of severe injury but does not establish a lower limit on the extent of injury.

The NCS definition would appear to be more restrictive than the UCR, since it requires either the use of a weapon or one of the following injuries:

- broken bones
- teeth knocked out

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[7] UCR Handbook, 1984, p. 16.

- internal injury
- knocked unconscious
- hospitalized more than two days.

The injury examples listed by the UCR are:

- broken bones
- internal injury
- where stitches are required.

Since these are cited only as examples, it is not clear where the loss of teeth or of consciousness should be classified. These borderline cases do not contribute much to the discrepancy between the two sources, since 94 percent of all NCS aggravated assaults involve weapons and are thus automatically covered by both definitions. Some of the discrepancy may be due to the definition of weapon. The NCS excludes what the UCR calls personal weapons (hands and feet) but shows a slightly higher proportion of "other" weapons (i.e., not guns or knives). Even in the presumably unambiguous categories of assaults with guns and knives, however, UCR numbers are about 40 percent below the NCS estimates of crimes reported to the police.

Although exact comparability probably cannot be obtained between the NCS and the UCR definitions of aggravated assault, we have recommended for the new UCR system that aggravated assault be defined more explicitly in terms of the use of weapons and/or the extent of injury.

B.1.4 Counting

UCR rules include a number of complex provisions to avoid inflated or duplicate counts. Some of these are not reproduced by the NCS. For example, if six people are assaulted and one of them dies, the five survivors are not included in UCR counts. The two major counting rules are the multiple victim rule and the Hierarchy Rule. For the crimes of murder, rape, aggravated assault, and auto theft, one offense is counted for each person or auto involved. For robbery, burglary, larceny, and arson, the unit of count is the criminal operation. For these crimes the NCS asks the respondent to guess how many other people were involved. This information indicates that the number of robbery incidents is about 13 percent less than the number of victims; for larceny, the difference is only 1 or 2 percent. Individual victims are not necessarily well informed about the number of other people involved, so these adjustments may conform only poorly to fact, especially in the case of larceny, where the crime may be discovered some time after it occurs.

For burglary, the multiple victim concept results in the Hotel Rule, where the basis of count is how many reports are conjectured to be filed. Transients are assumed to report through a facilities manager, while apartment dwellers are assumed to report individually. On this basis, burglaries of nine rooms in the same hotel are counted as one operation, but burglaries of nine apartments in the same building are counted as nine operations. There is no source of information to indicate how frequently this rule is invoked, but every indirect datum suggests that it is too rare to affect the general crime rates reported.

The Hierarchy Rule provides that only one of the first six Index crimes is to be counted if more than one occurs. Arson is specifically excluded from the Hierarchy Rule, and motor-vehicle theft is excluded by implication in one of the examples in the UCR Handbook.[8] If arson occurs in conjunction with another crime, both are counted. If motor-vehicle theft occurs in conjunction with one of the first five crimes, only the other crime is counted. If motor-vehicle theft occurs in conjunction with another larceny, only the motor-vehicle theft is counted.

The number of multiple crimes in the NCS is substantial. Seventeen percent of all rapes involve theft. The number of rape-burglaries is unknown. Combinations of burglary and motor-vehicle theft are also possible, but again, their frequency is not reported in the NCS. For most other pairs of crime, NCS definitions have the same effect as the Hierarchy Rule (e.g., assault plus theft equals robbery). Although current NCS publications do not show the effects of the Hierarchy Rule, the collected data are sufficient to allow full comparability. Thus, although there are many good reasons for changing or eliminating the Hierarchy Rule, the need to reconcile UCR and NCS data is not one of them.

B.2 Integrating UCR and NCS Data into National Estimates

This section discusses the use of the two independent data sources--the UCR and the NCS--complementarily and as dual frames, to produce national estimates of the incidence of crime by crime type.

The possibility of producing combined estimates of crime rates and victimization rates from both UCR and NCS data is attractive primarily from the perspective of policymakers and the general public. After all, the federal enterprise of collecting data about crime should, from their perspective, at least be able to produce credible and reliable estimates of the amount and trends in the volume of crime--summarized information that can be readily understood without detailed knowledge of the data sources and their limitations.

Researchers who specialize in crime-related issues, on the other hand, have a more subtle understanding of the impossibility of precisely defining what constitutes criminal behavior, much less any particular subcategory of crime. Many of them welcome the richness of information provided by independent data sources and might never consult integrated national estimates that rest on simplified and not fully verified assumptions. For them it will always be necessary to make known, through publications or maintenance of data archives, what the UCR data revealed directly, as opposed to what they revealed after manipulation by analysts.

The notion that NCS and UCR data could be integrated is analogous to a statistical method called multiple-frame sampling.[9] This technique is incorporated in many types of surveys for which a comprehensive list of all possible units to be sur-

[8] Ibid., p. 35.

[9] See, for example, H.O. Hartley, "Multiple Frame Surveys," Proceedings of the Social Statistics Section of the American Statistical Association, 1962.

veyed can be obtained only by combining several different lists. Often, one of the frames covers approximately all units in the population to be sampled but is costly to use for sampling, while other lists are available for less expensive sampling methods. Ordinarily, the individual frames are not independent but contain a greater or lesser degree of overlap; and in most applications it is possible to determine unambiguously whether a given sampled unit is or is not in each of the sampling frames.

In the case of two frames, the units in the population from which the sample comes may be divided into three groups: those covered only by the first frame, those covered only by the second frame, and those covered by both. After the sample is chosen, a dual-frame estimate of a statistic of interest is derived from: the estimate from all sampled units in the first group, the estimate for all sampled units in the second group, the estimate for the overlap group from those overlap units drawn from the first frame, and the estimate for the overlap group from those overlap units drawn from the second frame.

To make an analogy to NCS and UCR data, the unit to be sampled is a criminal event. It is in the "official reports" frame if it is reported to the police; some fraction of these is included in the UCR data according to sampling probabilities that can be measured and analyzed. The crime is in the "victim frame" if there is a victim who is eligible for sampling in the NCS (i.e., resident of a household or eligible living quarters, 12 years of age or older, etc.) and the type of the crime in question is included in the survey instrument. Some fraction of these crimes is explicitly counted in the NCS according to the sampling design of that survey, nonresponse, recall errors by respondents, and so forth.

The analogy, however, is not very far-reaching. In particular, not every crime is necessarily included in one or the other frame, and the extent of overlap between the two frames is not known. A respondent's statement to the crime survey interviewer that a particular crime has been reported to the police is no guarantee that the crime has in fact been reported, or that, if reported it has been included in the UCR statistics.

As with a typical reverse-record check study, criminal events may be divided into the following subsets:[10]

- those that are identified by both the official and the survey reporting system;
- those where the police have an official record and the respondent describes the same event, but the respondent fails to state that it has been reported to the police;
- cases where the respondent says the police were notified but there is no official record of the event;
- those identified by the survey system but not included in official records;

[10]The categories are adapted from Albert J. Reiss, Jr., "Official and Survey Crime Statistics," unpublished, March 1983.

- crimes known to the police but not included among the NCS crime types or eligible populations, for example, burglaries of commercial establishments or assaults against military personnel in barracks; and
- crimes not known to the police nor recorded by the survey system.

Setting aside the last category, which is beyond the scope even of integrating UCR and NCS data, it is apparent that a careful determination of the crimes falling into the other five categories cannot be made routinely; they can only be made infrequently and through laborious special studies. Some kind of technique, such as regression analysis, would then be required to "predict" the relative amounts of crime in each of these categories as a function of more readily observed aspects of a locality's population, UCR crime rates, police operational practices, and so forth.

These prediction equations would be needed to extrapolate from the necessarily limited special studies to the general populations of crimes that are of interest for policy purposes. Considering our presently very limited understanding of the causative factors underlying differential rates of crime reporting to the police in different jurisdictions, it appears that a substantial and extended research effort would be needed to produce believable integrated estimates from appropriately adapted multiple-frame techniques.

Alexander and Singh point out three other reasons why applying a multiple-frame approach would present many technical obstacles to making estimates of crime rates for small geographical areas, such as cities, rather than for the nation as a whole. Their reasons are as follows:

- First, the geographic definitions of crimes differ between the two surveys. A crime is recorded in the NCS according to the location of the person's residence and in the UCR (typically) according to the location of the criminal event. If the location of the event happens not to be one of the geographical areas included in the NCS sample, further definitional and analytic problems arise.
- Second, simple dual frame models assume that there are no systematic differences between the units in the overlap that are in the first frame and those that are in the second. In the case of reported or nonreported crime, this is not a tenable assumption, again requiring further complexity in the statistical model.
- Finally, the dual-frame approach does not apply at all to geographical areas that happen not to be included in the NCS sample. Because the NCS data are intended to provide national estimates, they do not have to be, and are not, representative for small geographical areas. Even if a geographical area is included in the NCS sample, the sample size from that area may be inadequate to yield an acceptable sampling error. UCR data, on the other hand, are provided by the voluntary cooperation of

local agencies and traditionally provide small-area estimates of crime rates.[11]

Alexander and Singh suggest two alternative methods to the multiple-frame sampling approach for integrating UCR and NCS data, especially to provide small-area estimates: synthetic estimation and regression estimation. The synthetic estimation approach has little appeal. Much like cross-tabulation, synthetic estimation of crime rates requires estimation from national or large-area data for various subcategories of victims, say, differentiated according to race, age, sex, and general categories of residence. The estimate for a given locality would then be calculated simply from the relative numbers of residents in the various categories. This method does not take into account any local data. At best, it can describe what the crime rates would be in the locality if it were somehow average in relation to other localities.

In the regression approach, the detailed reasons for disparities between the NCS and the UCR crime counts are ignored. Instead, the difference between the two crime counts is modeled directly as a function of characteristics of the population and the jurisdiction. This method could potentially allow the use of UCR data to estimate the victimization rate that would be obtained from the NCS if it were administered in a jurisdiction, but it does not help much in determining the extent to which "actual" crime counts exceed those recorded in official records.

A Bayesian technique that has been applied to small-area estimates is known as the James-Stein estimator.[12] In this technique, local data and large-area data are combined to derive estimates for local areas, but the weight attached to the estimate from local data (e.g., if some NCS sampled households were in the local jurisdiction) depends on the size of the variance of the estimate from local data alone. For example, if a small city happened to contain ten respondents to the crime survey, their data would be included in the integrated estimate, but without a large weight. If a city happened to include 450 respondents to the NCS, the James-Stein estimator would automatically give high weight to the information obtained from them.

Many technical and conceptual complexities face those who would wish to adapt and apply existing methods to the integration of NCS and UCR data. Since research in this particular application is only in its infancy, we believe that a substantial amount of research and field testing of data collection and validation procedures is needed before any agreement can be reached as to a suitable method.

[11] Charles H. Alexander and Rajendra P. Singh, "Some Potential Uses of UCR by NCS to Produce Local Estimates," paper presented at the national meetings of the American Society of Criminology, November 1984.

[12] For example, see B. Efron and C. Morris, "Data Analysis Using Stein's Estimator and Its Generalizations," Journal of the American Statistical Association, Vol. 70, pp. 311-319, 1975 and R.E. Fay and R.A. Herriot, "Estimates of Income for Small Places: An Application of James-Stein Procedures to Census Data," Journal of the American Statistical Association, Vol. 74, pp. 269-277, 1979.

Appendix C

ESTIMATED COST OF RECOMMENDED SYSTEM BY TASK

Table C-1

ESTIMATED COST OF RECOMMENDED SYSTEM (IN THOUSANDS) BY TASK

Organization With Primary Responsibility	Task Description	National Program				State Program				Contractor			
		Person-Months	Cost Per Person-Month	Labor Cost	Direct Cost	Person-Months	Cost Per Person-Month	Labor Cost	Direct Cost	Person-Months	Cost Per Person-Month	Labor Cost	Direct Cost
	Implementation of Local System												
Contractor	1.1 Develop generic local system												
	Requirements definition									12			
	Design									6			
	Code and verify programs												
	generic mainframe (1)									24			
	micros (3 makes)									12			
	manual system (1)									9			
	Computer system manuals									12			
	Revision of code after testing									6			
	Total labor									81	3.5	283	
	Purchase micros with associated equipment												15
	Data processing												25
Contractor	1.2 Test generic system												
	Mainframe (3 sites)												
	systems specialist (1 person-month per site)									3			
	applications specialist (2 person-months per site)									6			
	Micro (3 sites)												
	applications specialist (2 person-month per site)									6			
	Manual (3 sites)												
	applications specialist (1 person-month per site)									3			
	Total labor									18	3.5	63	
	Purchase 3 micro @ 8K												24
	Travel												15

Table C-1 (continued)

Organization With Primary Responsibility	Task Description	National Program: Person-Months	National Program: Cost Per Person-Month	National Program: Labor Cost	National Program: Direct Cost	State Program: Person-Months	State Program: Cost Per Person-Month	State Program: Labor Cost	State Program: Direct Cost	Contractor: Person-Months	Contractor: Cost Per Person-Month	Contractor: Labor Cost	Contractor: Direct Cost
Contractor	1.3 Develop and produce applications manuals												
	Manual describing data elements expanded system												
	labor									12			
	copies: 800 agencies, 4 per agency, $10 per copy												32
	Census system												
	labor									3			
	copies: 13,000 agencies, 3 per agency, $4 per copy												156
	Manual describing system interface												
	mainframe												
	expanded system									8			
	census system									4			
	Micro (3 makes)												
	expanded system									24			
	census system									12			
	Manual system												
	expanded system									8			
	census system									4			
	Copies												
	expanded system: 800 agencies, 4 per agency, $5												16
	census system: 13,000 agencies, 3 per agency, $4												156
	Editing									1			
	Total labor									76	3.3	251	
Contractor	1.4 Develop prototype crime and arrest reports									3	3.5	10	
Contractor	1.5 Develop training curricula									2	3.5	7	

Table C-1 (continued)

Organization With Primary Responsibility	Task Description	National Program: Person-Months	National Program: Cost Per Person-Month	National Program: Labor Cost	National Program: Direct Cost	State Program: Person-Months	State Program: Cost Per Person-Month	State Program: Labor Cost	State Program: Direct Cost	Contractor: Person-Months	Contractor: Cost Per Person-Month	Contractor: Labor Cost	Contractor: Direct Cost
State Programs	1.6 Train local personnel												
	13,000 agencies, 2 people per agency, 4 days of training per person, 1 trainer for every 10 people, 20 training days/month					520							
	Travel time and preparation					180							
	Total labor					700	3.5	2,450					
	Travel and associated expenses								936[a]				
	TOTAL					700	—	2,450	936	180	—	614	439
	SECRETARIAL LABOR (@ 6% of nonsecretarial labor)							147				37	
	TOTAL LABOR							2,597				651	
	NONITEMIZED DIRECT COSTS (@ 5% of total labor)								130				33
	TOTAL LOADING[b]							390				814	94
	TOTAL COST							2,987	1,066			1,465	566
	GRAND TOTAL: $6,084,000												
	Implementation of state system												
Contractor	2.1 Develop generic state system												
	Requirements definition									12			
	Design									6			
	Code and verify computer programs									24			
	Revision of code after testing									6			
	Total labor									48	3.5	168	
	Purchase 3 micros												15
	Data processing												25
Contractor	2.2 Test generic system (2 sites)												
	System specialist, 1 person-month/site									2			
	Applications specialist, 2 person-months/site									4			
	Total labor									6	3.5	21	

Table C-1 (continued)

Organization With Primary Responsibility	Task Description	National Program				State Program				Contractor			
		Person-Months	Cost Per Person-Month	Labor Cost	Direct Cost	Person-Months	Cost Per Person-Month	Labor Cost	Direct Cost	Person-Months	Cost Per Person-Month	Labor Cost	Direct Cost
Contractor	2.3 Develop and produce manuals to be used by state program to operate generic system												
	Labor									6	3.3	20	
	Copies, 3 per state, 33 states plus 20 extra copies, $10 per copy												1
State Programs	2.4 Install generic state system in states so choosing--2 person-months/state, 33 states[c]					66	3	198					
State Program	2.5 Revise existing software in states choosing this option[a]												
	12 person-months per state, 8 states					96	3.5	336					
National Program	2.6 Train state personnel[d]												
	Labor, national program, 6 days per participant, 2 participants per state, 41 states, 1 trainer per 10 participants	2.5	5.0	13						.5	4	2	
	Labor, contractor, 2 people, 6 days									.5	4	2	
	Travel time and preparation	2.5	5.0	12									
	2.7 Assist states in augmenting national sample 1 person-month per state, 20 states									20	4	80	
	TOTAL	5	---	25		162	---	534		81	---	293	41
	SECRETARIAL LABOR (@ 6% of nonsecretarial labor			2				32				18	
	TOTAL LABOR			27				566				311	
	NONITEMIZED DIRECT COSTS (@ 5% of total labor)				1				28				16
	TOTAL LOADING[b]			4				85				389	11
	TOTAL COST			31	1			651	28			700	68
	GRAND TOTAL: $1,479,000												

Table C-1 (continued)

Organization With Primary Responsibility	Task Description	National Program				State Program				Contractor			
		Person-Months	Cost Per Person-Month	Labor Cost	Direct Cost	Person-Months	Cost Per Person-Month	Labor Cost	Direct Cost	Person-Months	Cost Per Person-Month	Labor Cost	Direct Cost
	Implementation of national system												
National Program	3.1 Develop national system to construct database												
	Requirements definition	40											
	Design	20											
	Code and verify computer programs	40											
	System manuals	20											
	Total labor	120	3.5	420									
	Data processing												25
Contractor (or National Program	3.2 Develop analytic specifications and prototype reports												
	Series 1									12			
	Series 2									3			
	Series 3									6			
	Series 4									12			
	Series 5									0			
	Series 6									6			
	Imputation procedures									6			
	Total labor									45	3.5	158	
Contractor (or National Program	3.3 Develop analytic software[c]												
	Labor									45	3	135	
	Data processing												48
	Lease statistical software												20
Contractor	3.4 Refine sample design and select sample												
	Labor									4	3.5	14	
	Data processing												2

Table C-1 (continued)

Organization With Primary Responsibility	Task Description	National Program				State Program				Contractor			
		Person-Months	Cost Per Person-Month	Labor Cost	Direct Cost	Person-Months	Cost Per Person-Month	Labor Cost	Direct Cost	Person-Months	Cost Per Person-Month	Labor Cost	Direct Cost
Contractor	3.5 Refine audit procedures												
	Design revised procedure for expanded and census systems									12			
	Develop manual									6			
	Test revised procedure									12			
	Develop methodology to estimate national error rates									2			
	Total labor									32	3.5	112	
	Travel												5
Contractor	3.6 Develop sample design and sample selection procedures for audit sample												
	Labor									2	3.5	7	
	Data processing												1
Contractor	3.7 Conduct methodologies study to determine optimal analytic integration of UCR and NCS[c]												
Contractor	3.8 Manage system development for local, state, and national levels[c]									30	4	120	
	TOTAL	120	—	420						158	—	546	101
	SECRETARIAL LABOR (@ 6% of nonsecretarial labor)			25								32	
	TOTAL LABOR			445								578	
	NONITEMIZED DIRECT COSTS (@ 5% of total labor)				22								29
	TOTAL LOADING[b]			67								723	26
	TOTAL COST			512	22							1,301	156
	GRAND TOTAL: $1,991,000												

Table C-1 (continued)

Organization With Primary Responsibility	Task Description	National Program				State Program				Contractor			
		Person-Months	Cost Per Person-Month	Labor Cost	Direct Cost	Person-Months	Cost Per Person-Month	Labor Cost	Direct Cost	Person-Months	Cost Per Person-Month	Labor Cost	Direct Cost
	Operation of national system[8]												
National Program	4.1 Perform training and liaison	90	5	450									
National Program	4.2 Construct database												
	Data receipt	24	1.5	36									
	Data entry	36	1.5	54									
	Read-in machine-readable data	12	3	36			12						
	Data editing and cleaning	180	1.5	270									
	Data processing						400						
National Program	4.3 Produce publications												
	Analysis and write-up	180	3.0	540									
	Edit	36	2.5	90									
	Copies						450						
	Statistical software						10						
	Data processing						500						
National Program	4.4 Provide user services	96	2.5	240									
	Data processing						100						
National Program	4.5 Administer certification program	24	5	120									
National Program	4.6 Conduct audits	48	5	240									
National Program/ State Program/ Contractor	4.7 Conduct special programs/studies												
	Assumes 20 additional studies per year at 6 person-months per study	30	3.5	105			30	3	90	60	3	180	
	Continue current special programs	54	3.5	189									

Table C-1 (continued)

Organization With Primary Responsibility	Task Description	National Program				State Program				Contractor			
		Person-Months	Cost Per Person-Month	Labor Cost	Direct Cost	Person-Months	Cost Per Person-Month	Labor Cost	Direct Cost	Person-Months	Cost Per Person-Month	Labor Cost	Direct Cost
National Program	4.8 Manage national program	36	5.5	198									
	TOTAL	846	---	2,568	1,472	30	---	90		60	3	180	
	SECRETARIAL LABOR (@ 6% of nonsecretarial labor)			154				5				11	
	TOTAL LABOR			2,722				95				191	
	NONITEMIZED DIRECT COSTS (@ 5% of total labor)				136				5				10
	TOTAL LOADING[b]			408				14				239	2
	TOTAL COST			3,130	1,608			109	5			430	12
	GRAND TOTAL: $5,294,000												

NOTE: Estimated costs are given in 1984 dollars; no adjustment is made for inflation during course of project.

[a]Assumes travel by automobile; $80 per day including mileage; 650 person-months of training and travel (excluding preparation); 20 training days per month; and 90 percent of training days require overnight travel.

[b]Loadings: 15% of labor and 0% of direct costs for state and national programs; 125% of direct labor and 20% of direct costs for contractor.

[c]Assumes 33 states opt for generic system, 8 want to revise their existing incident-based system, and 10 states without state programs will remain without a program. It should be recognized that a few states without incident-based systems have hardware for which it would be essentially impossible to implement a generic system. These states would have to develop their system using the design specifications for the generic system; no costs are included for this contingency.

[d]Assumes training held at Quantico. Does not take into account costs of room and board. Also does not take into account travel or time costs of those attending.

[e]Costs not included as study would best be conducted after collection of many years of audit data under revised system.

[f]Assumes management cost equals 10% of contractor labor in implementation tasks.

[g]Operational costs are speculative and will be re-estimated following discussions with BJS/PRI Task Force.

Appendix D

SAMPLE DESIGN FOR LEVEL II COMPONENT

This appendix examines issues of the design of a national probability sample for the expanded UCR system. Following a brief discussion of the objectives of the design, we consider such topics as the choice of sampling unit, the selection of the sampling frame, stratification of the sample, allocation of the sample among strata, and the size of the sample. Finally, we discuss possible augmentation of the sample within states to enable accurate state-level estimates to be made.

D.1 Objectives

In designing any sample, the first step should be a determination of the objectives of the sample. As discussed in Chapter 6, we recommend that the Level II component include all Part II as well as Part I offenses, and that substantial detailed incident data (such as victim characteristics, victim-offender relationships, extent of injury, and use of weapon) be collected on each incident included in the system. It is our recommendation that the objective of the sample design for the Level II component be the provision of accurate national and regional crime statistics. Additionally, state-level estimates could be made (by states that so desired) by sufficiently augmenting the sample within a given state. (See Section D.9.)

The objective of obtaining accurate national and regional estimates would require a wide variety of statistics, generally taking one of the following forms:

- total numbers of offenses, clearances, and arrests in Part II offense categories, as well as in Part I and Part II subcategories defined by the detailed data (e.g., robberies with serious injury to the victim);
- proportions of offenses, clearances, and arrests falling in various classes (e.g., proportion of rapes in which the offender is a stranger to the victim or proportion of reported aggravated assaults between relatives that are cleared by arrest);
- differences in crime rates between years for offense categories available only with the expanded system (i.e., Part II offenses and Part I and Part II offense subcategories); or
- means (such as mean value of loss by embezzlements).

D.2 Sampling Unit

In any sample, the population elements of interest--in this case Part I and Part II offenses in the United States--are grouped into sampling units that cover the entire population and do not overlap (in the sense that every element of the population belongs to one and only one unit).

One option often is to treat the elements themselves--here the individual incidents--as the sampling units. This would be possible for offenses reported under unit-record reporting. A sample of reported offenses could be selected (without regard to the reporting agency) and returned to the reporting agency for further data abstraction to support the Level II component. While spreading the burden across many agencies, this approach has the major disadvantage of requiring implementation of the system at almost 16,000 law enforcement agencies. Further, Part II offenses

would have to be listed by every agency if these were to be included in the Level II component sample of offenses.

A far more natural and practical choice--and the choice we recommend--is to treat individual local, county, and state law enforcement agencies as the sampling units for the incidents occurring within their jurisdictions. With this approach, a sample of law enforcement agencies would be selected and data collected on incidents within the sampled agencies' jurisdictions. (Formally, this approach is called cluster sampling.) This approach has the enormous advantage of requiring implementation at only the sampled agencies, which, as will be discussed, would be vastly fewer than 16,000.

D.3 Sampling Frame

In any sample design, the sampling frame is the list of units--in this case the law enforcement agencies--from which the sample will be selected. The current agency list maintained by the FBI is recommended as an excellent frame from which an initial sample of agencies could be drawn. The sample would need to be updated periodically to reflect changes in the frame as old agencies ceased to exist and new agencies are created.

Table D.1 shows the distribution of agencies in this sampling frame by population size and degree of urbanization. Also shown are the corresponding Index crime counts. One notices immediately the degree to which crime is concentrated in a relatively few large agencies. In fact, 55 percent of the offenses fall within the jurisdictions of less than 2 percent of the agencies, those serving cities and counties with populations in excess of 100,000.

D.4 Stratification

A standard technique used in sample design is stratification--the division of the population of units into mutually exclusive and exhaustive subpopulations, each of which is called a stratum--and the selection of a sample from each stratum independently. There are two principal objectives of stratification: (1) to increase the precision of estimates for the entire population, and (2) to assure adequately precise estimates for certain subpopulations. To achieve the first objective, the population must be divided into strata, each of which is relatively homogeneous as compared to the overall population. To achieve the second, each subpopulation of critical interest should be made a separate stratum (or combination of strata), and an adequately large sample allocated to it.

Three variables--population size, degree of urbanization, and geographic region--suggest themselves as potential stratification variables. Population size is probably the most important of these for improving the precision of national and regional estimates. For example, in estimating national counts of Part II offenses, counts within an agency would obviously be correlated with the size of the jurisdiction that the agency serves. Stratification by population size would make the variation in agency offense or arrest counts within each stratum much smaller than the variation across agencies generally.

Degree of urbanization has potential importance as a stratification variable for two reasons. First, crime rates are highly correlated with degree of urbanization,

Table D.1

LAW ENFORCEMENT AGENCIES IN SAMPLING FRAME BY POPULATION SIZE AND DEGREE OF URBANIZATION

Group	Agencies		Crime Index	
	Number	Percent	Number	Percent
Cities				
≥ 100,000	182	1.1	5,082,000	44.5
50,000 - 99,999	304	1.8	1,166,000	10.2
25,000 - 49,999	653	3.9	1,186,000	10.4
10,000 - 24,999	1,695	10.0	1,084,000	9.5
< 10,000	8,762	51.8	881,000	7.7
Suburban counties				
≥ 100,000	102	0.6	983,000	8.6
25,000-99,999	353	2.1	374,000	3.3
10,000-24,999	177	1.0	} 135,000	1.2
< 10,000	1,016	6.0		
Rural counties				
≥ 100,000	2	0.0	} 215,000	1.9
25,000-99,999	325	1.9		
10,000-24,999	959	5.7	175,000	1.5
< 10,000	2,375	14.0	131,000	1.1
Other[a]	8	0.0	-	-
Total	16,913	100.0	11,432,000	100.0

Sources: Computations from FBI 1983, Return A file and from Crime in the United States, 1983, Table 13.

Note: Crime Index counts are for agencies reporting; no adjustment is made for nonreporting agencies.

[a]Includes four state police agencies and four agencies in U.S. Possessions.

so that stratification in this dimension would increase the precision of many estimates. As shown in Table D.2, the Index crime rate is 6,406 per 100,000 in cities, whereas in rural counties it is only 1,990 per 100,000. Secondly, since it is of national interest to understand the nature of crime in both urban and rural areas, separate estimates are highly desirable and could be best assured by stratification in this dimension.

Finally, if indeed we wish to be able to make separate estimates of adequate precision, geographic region should be used, at least for the four major regions of the U.S.--the Northeast, the North Central, the South, and the West. Stratification in this dimension should also increase the precision of many estimates, since crime rates differ from one region to another (as shown in Table D.3, from 4,768 Index crimes per 100,000 in the North Central to 6,358 per 100,000 in the West in 1983).[1]

The choice of the number of strata to define with these variables must depend in part on the total sample size to be used. If we were to assume a sample size of perhaps 500 to 1,000 agencies, a stratification such as that shown in Table D.4 might be a reasonable choice.[2] Agencies serving populations over 100,000 are not subdivided further, under the assumption that all of these agencies would be included in the sample (see Section D.7).

D.5 Method of Estimation

Another aspect of the sample design that must be considered is the method of estimation, which in some instances can have large effects on the precision of estimates. For example, in estimating total national counts (or, equivalently, rates) for a given offense category, at least three possible estimates could be used. (Formulas for these estimates are shown in Table D.5.[3]) One is an unbiased estimate, which is simply a weighted sum of the counts within each stratum, where the weights are the inverses of the sampling rates for agencies within each stratum. The two others are so-called ratio estimates that attempt to take advantage of correlation between the variables of interest (in this case, the offense count) and an auxiliary variable known for all agencies whether included in the sample or not. The auxiliary variable that we have in mind for possible use is the size of the population served by individual agencies. One of these estimates, called a separate ratio estimate, uses ratios of total offense counts in sampled agencies to total population of sampled agencies within each stratum to derive a national estimate. Each ratio is multiplied by the total population of all agencies in the stratum, and these products are summed to obtain the national estimate. The other, the combined ratio estimate, uses instead the ratio of the estimated national offense count (based on the unbiased estimate discussed above) to the national population as estimated from the sampled agencies. This ratio is multiplied by the known national population to obtain the estimated

[1] FBI, Crime in the United States, 1983, pp. 44-48.

[2] A more nearly optimal choice could be made in the final design using regression analysis to examine the amount of variation explained by each stratification variable.

[3] See, William G. Cochran, Sampling Techniques (New York: John Wiley and Sons), 1977, pp. 164-165 and p. 270.

Table D.2

INDEX CRIME RATE PER 100,000 BY DEGREE OF URBANIZATION

Urbanization	Crime rate
Cities	6,406
Suburban counties	3,734
Rural counties	1,990
Overall	5,346

Source: Computed from Crime in the United States, 1983, Table 13.

Table D.3

INDEX CRIME RATE PER 100,000 BY GEOGRAPHIC REGION

Region	Crime rate
North Central	4,768
Northeast	4,842
South	4,953
West	6,358
Overall	5,159

Source: Computed from Crime in the United States, 1983, Table 3.

Table D.4

STRATIFICATION OF LAW ENFORCEMENT AGENCY SAMPLING FRAME BY POPULATION SIZE, DEGREE OF URBANIZATION, AND GEOGRAPHIC REGION

Stratum	Northeast	North Central	South	West	Total
Cities and counties ≥ 100,000[a]	34	54	120	82	290
Cities 50,000 - 99,999	87	77	60	80	304
Cities 25,000 - 49,999	181	189	145	138	653
Cities 10,000 - 24,999	572	509	415	199	1,695
Cities < 10,000	2,264	2,229	3,151	1,118	8,762
Suburban counties 25,000 - 99,999	44	116	163	30	353
Suburban counties 10,000 - 24,999	25	54	88	10	177
Suburban counties < 10,000	423	90	381	122	1,016
Rural counties 25,000 - 99,999	47	82	149	47	325
Rural counties 10,000 - 24,999	33	353	488	85	959
Rural counties < 10,000	274	639	1,125	337	2,375
Total	3,984	4,392	6,285	2,248	16,909

Source: Computations from FBI 1983 Return A file.

Note: Excludes four agencies in U.S. Possessions.

[a]Includes four state police agencies.

Table D.5

ALTERNATIVE ESTIMATES

Notation

H = number of strata

N_h = number of agencies in stratum h in population

n_h = number of agencies in stratum h in sample

y_h = total number of offenses of a specified type in all sampled agencies in stratum h

x_h = total population served by all sampled agencies in stratum h

X_h = total population served by all agencies in stratum h

X = total population

Unbiased estimate $(\hat{Y}_u)$

$$\hat{Y}_u = \sum_{h=1}^{H} \frac{N_h}{n_h} y_h$$

Separate ratio estimate $(\hat{Y}_{Rs})$

$$\hat{Y}_{Rs} = \sum_{h=1}^{H} \frac{y_h}{x_h} X_h$$

Combined ratio estimate $(\hat{Y}_{Rc})$

$$\hat{Y}_{Rc} = \frac{\hat{Y}_u}{\hat{X}_u} X \qquad \text{where } \hat{X}_u = \sum_{h=1}^{H} \frac{N_R}{n_h} x_h$$

national offense count.

The final sample design work should examine the precision of alternative estimators for each of the various classes of estimates to be made. In the following discussion, we assume use of the unbiased estimate, recognizing that a ratio estimate may improve the precision of some estimates. In fact, preliminary analyses did indicate that the ratio estimates would sometimes yield increased precision.

D.6 Allocation of Sample

Sampling theory indicates the optimal allocation of a sample among strata for estimating a mean (or total) over the entire population for a variable Y, the allocation depending on the form of estimator used. For the unbiased estimate, the optimal allocation is that which assigns to stratum h a sample size n_h proportional to the quantity, $W_h S_h / \sqrt{c_h}$ where W_h is the weight associated with stratum h and is equal to the proportion of agencies in the population in stratum h, S_h is the standard deviation of the variable Y within stratum h, and c_h is the cost per unit of data collection in stratum h. (If costs are equal across strata, the denominator can be ignored.)

This result is not specifically applicable to the case at hand, since, as discussed earlier, we wish to estimate a variety of quantities, and the S_h will differ from one variable of interest to another. However, only the relative sizes of the S_h, and not the absolute levels, affect the allocation, and the relative sizes of the S_h might reasonably be expected to be roughly similar from one variable of interest to another. Indeed, an analysis of the S_h for the seven original Index offenses suggests this is so. For example, the ratios of the S_h for burglary to the S_h for the Index offenses as a whole ranged from only .224 to .396 across the ten population groups from which agencies would be sampled.

Further, moderately sized deviations from the optimal allocation usually have small effect on the precision of estimates.[4] Thus, one might reasonably use as the basis of allocation the S_h for almost any offense count variable. A particularly good choice is likely to be the Index crime count, as it will reflect crime counts more generally than any single offense variable. One would use the S_h for the Index crime count for the most recently available year at the time the allocation is made. In this section, we show an allocation based on the S_h for the Crime Index counts for 1983 and examine the precision of the resulting estimates.

For simplicity of computation, we have disregarded the geographic stratification. Since region is correlated with crime rates, the effect of this will be to underestimate the precision of estimates that would be obtained were this stratification taken into account, and to overestimate somewhat the required sample sizes.

In allocating the sample, we have assumed that all agencies serving jurisdictions of at least 100,000 people will be included. We have done so for several reasons, but the consequences in terms of reduction in the precision of national and regional estimates as compared with an unconstrained optimal allocation would have to be examined before making any final decision in this regard. One reason for including all of these agencies is that the optimal allocation would undoubtedly sample a large

[4] Ibid., pp. 115-117.

fraction of them and, for a sufficiently large total sample size, would in fact include them all. Second, if most of these agencies are to be sampled in any case, it may be advantageous, in terms of securing the cooperation of these agencies, to ask that all contribute. Third, these agencies are generally expected to be able to supply Level II data at relatively little cost to themselves and in the form (tapes) that is most easily processed by the UCR Program. Finally, data from these agencies are of particular import, since crime is more prevalent in large metropolitan areas, and it will be of interest to make estimates specifically for this group of agencies.

Table D.6 shows the optimal allocation among strata, assuming 100 percent sampling of the over-100,000 stratum,[5] and percentage sampling rates when the additional sample size allocated to all other strata is 500. Putting aside the 290 agencies sampled in the over-100,000 stratum, one sees in the first column that 71 percent of the additional sample is allocated to cities and the remaining 29 percent to suburban and rural counties. From a different perspective, one finds 40 percent allocated to agencies serving cities and counties with populations between 25,000 and 100,000, 20 percent allocated to agencies in jurisdictions with populations between 10,000 and 25,000, and 40 percent allocated to agencies serving smaller populations.

Sampling rates within strata for an additional sample size of 500 range from 1.6 to 21. Generally, the rates are higher in the strata for agencies serving larger populations, and they are also higher in strata for cities than for counties. The former fact reflects greater within-strata variability, while the latter reflects both greater variability and greater numbers of agencies.

D.7 Sample Size

One of the major issues to be addressed in designing any sample is the choice of sample size--the ultimate choice representing a trade-off between costs and the precision of estimates (or the power of statistical tests). Table D.7 shows the effects of alternative sample sizes on the precision of estimated crime rates for a range of offenses of varying frequency of occurrence. The first column of the table gives the sample size to be allocated among all strata except the stratum of cities and counties over 100,000. In addition, all 290 agencies in the latter stratum are assumed to be sampled. The second column gives the total sample size as the sum of these. The remaining columns give the standard error of estimated crime rates for Index offenses as a group, as well as for burglary, aggravated assault, forcible rape, and murder considered individually. Standard errors are given both in absolute value and as a percentage of the corresponding rate. Standard errors can be translated directly into 95 percent confidence intervals by multiplying by 1.96. For example, if the estimated crime rate were 5,000 per 100,000 and the standard error were 100, we would be 95 percent certain that the true rate was between 5,000 ± 196, that is, between 4,804 and 5,196. Further, if the standard error as a percentage of the rate were 2.0 percent, we would be 95 percent certain that the estimated rate was within 3.9 percent of the true rate.

Part I offenses are used in this table because data were available from FBI files to allow direct computation of the variances of estimates for these offenses. Since actual counts of Part I offenses would be available from the Level I component,

[5]This stratum also includes four state police agencies.

Table D.6

SAMPLE ALLOCATION AND SAMPLING RATES

Stratum	Percent allocated to stratum[a]	Percentage sampling rate[b]
Cities and counties ≥ 100,000	-	100.0
Cities 50,000 - 99,999	12.8	21.1
Cities 25,000 - 49,999	15.7	12.0
Cities 10,000 - 24,999	16.5	4.9
Cities < 10,000	26.4	1.5
Suburban counties 25,000 - 99,999	6.9	9.8
Suburban counties 10,000 - 24,999	0.8	2.3
Suburban counties < 10,000	4.3	2.1
Rural counties 25,000 - 99,999	4.6	7.1
Rural counties 10,000 - 24,999	3.1	1.6
Rural counties < 10,000	8.9	1.9
Total	100.0	-

[a]Ignores allocation to stratum of cities and counties over 100,000 sampled at 100 percent.

[b]Sampling rates shown are for an additional sample size of 500 over and above the 290 assigned to the stratum of cities and counties over 100,000; rates for other additional sample sizes are proportional.

Table D.7

STANDARD ERRORS OF ESTIMATED CRIME RATES PER 100,000

Additional sample size	Total sample size	Index offenses (rate = 5,159)		Burglary (rate = 1,334)		Aggravated assault (rate = 429)		Forcible rape (rate = 33.7)		Murder (rate = 8.3)	
		Standard error	Standard error as percent of rate	Standard error	Standard error as percent of rate	Standard error	Standard error as percent of rate	Standard error	Standard error as percent of rate	Standard error	Standard error as percent of rate
100	390	185	3.6	52.4	3.9	16.9	3.9	1.82	5.4	.544	6.6
200	490	130	2.5	36.8	2.8	11.8	2.8	1.27	3.8	.382	4.6
300	590	105	2.0	29.8	2.2	9.6	2.2	1.03	3.1	.309	3.7
400	690	90	1.7	25.6	1.9	8.2	1.9	.88	2.6	.266	3.2
500	790	80	1.6	22.7	1.7	7.2	1.7	.78	2.3	.236	2.8
600	890	73	1.4	20.5	1.5	6.5	1.5	.71	2.1	.214	2.6
700	990	67	1.3	18.8	1.4	6.0	1.4	.65	1.9	.197	2.4
800	1,090	62	1.2	17.5	1.3	5.5	1.3	.60	1.8	.182	2.2

Source: Computations based on FBI 1983 Return A file.

the Level II component would actually be more useful for estimating the frequency of Part II offenses. However, the precision of estimates for Part II offenses is expected to be quite close to the precision shown here for Part I offenses of similar frequency of occurrence.

Table D.7 indicates important increases in the precision of estimates as one increases the sample size for the additional strata from 100 to 800, and perhaps surprisingly small differences across offense categories. For Index offenses considered as a whole, the standard error expressed as a percentage of the rate decreases from 3.6 percent to 1.2 percent. For burglary and aggravated assault, the percent standard errors are just slightly larger. For the least frequent of the offenses considered--forcible rape and murder--the percent standard errors are significantly greater. For murder, they range from 6.6 percent with 100 agencies in the additional strata, to 2.2 with 800 agencies.

The precision of estimates for the ultimate sample design will, without doubt, be better than those shown in Table D.7, for several reasons. First, as already noted, these figures do not take into account the substratification by geographic region, which would reduce the within-strata variance and hence increase precision. Secondly, the design can and should be refined when a better idea of the total sample size is known, by examining the choice of number of strata as well as the population cut-offs dividing strata. With sufficiently large sample sizes, breaking the strata into finer population divisions would almost certainly increase precision. A further increase in precision could likely be obtained by assignment of agencies such as the county field offices of state police (currently grouped with county agencies serving populations less than 10,000) to their own strata. Also, as discussed previously, use of one of the ratio estimates might provide greater precision than the unbiased estimate. Finally, if the (unconstrained) optimal allocation would sample the over-100,000 stratum at less than 100 percent, overall precision would be improved if we were not to insist on including all such agencies in the sample. This could make a large difference for small sample sizes.

In Section D.1, we identified four classes of estimates to be made with expanded system data. Thus far we have considered the precision of only one class--estimates of numbers of offenses, clearances, and arrests--which we have examined by transforming them into rates per 100,000 population. Before finalizing any decision on the size of the sample, the precision of each type of estimate at both national and regional levels should be considered. Examination of the precision of estimates of differences between years is particularly important, as such estimates are of critical interest. From the analysis presented here, we would recommend a sample size of at least 600 to 800 agencies.

D.8 Sample Rotation

Inclusion in the sample of agencies selected for participation might ultimately result in some systematic differences between these agencies and/or their jurisdictions and the agencies and jurisdictions not included. Such differences would result if, for example, the additional data and analyses produced for such departments ultimately led to greater police effectiveness in reducing the incidence of crime or to increasing the number of arrests in the selected jurisdictions. One might also imagine that the additional information from the expanded system might result in increased press coverage, and that such coverage might cause changes in the behavior of either victims or offenders. Victims, for example, might report offenses more frequently

than previously.

If such differences did develop, estimates based on a fixed sample of agencies would be biased. The selected agencies would no longer be representative of the nonselected agencies.

In order to assure that the estimates remain unbiased, we recommend that the sample be slowly rotated (i.e., changed). Agencies in strata sampled at 100 percent would be unaffected, since such agencies are necessarily included. In strata sampled at less than 100 percent, a small proportion of the sampled agencies would be replaced by a new sample of agencies on a periodic basis. As an example, perhaps 10 percent of the sample might be rotated every five years. Analyses should be conducted periodically to compare the newly sampled agencies with the originally sampled agencies for the extent of any systematic differences. The result of these analyses would be used to determine the frequency and extent of rotation necessary to assure that any bias in the estimates is negligible.

D.9 State-Level Augmentation of Sample

While the principal purpose of the Level II component should be, in our view, obtaining accurate national and regional estimates, individual state programs may wish to be able to make accurate state-level estimates as well. Expected sample sizes for the Level II component sufficient for national and regional estimates would not generally be adequate for state-level estimates. The system should be designed to enable such states to augment the national sample by selecting additional agencies within the state sufficient in number to allow precise state-level estimates to be made. Some states might well wish to collect Level II data for all agencies within the state. The national system must be designed to allow for this.

A separate issue is whether or not such additional Level II-type data should be forwarded to the national level, processed, analyzed, and published. We have no recommendation now on this issue, as its resolution should depend on both available resources at the national level and the results of audits of both the Level I and Level II components, which would indicate any differences in accuracy between the two.

D.10 Summary of Sample Design

The sample for Level II would probably include all agencies serving populations of 100,000 or more plus a sample of perhaps smaller agencies stratified by region and size. This sample would be sufficient for regional and national estimates and could be augmented by state UCR programs to provide state-level estimates. However, details of this sample design should be reexamined before final implementation. In particular, the issue of sample size needs to be investigated with respect to the precision of estimates of proportion of offenses, clearances, and arrests falling in various classes and differences in crime rates between years for offense categories available only in the Level II component. The final decision should also reflect more precise information on the availability of resources.

LIST OF ACRONYMS

ABCR	Attribute-Based Crime Reporting
ANSI	American National Standards Institute (standards for computer programs and files)
ANSI COBOL	American National Standards Institute Common Business-Oriented Language
BJS	Bureau of Justice Statistics
BPI	Bits per inch (measure of computer tape data density)
CCS	Crime Classification System
CJS	Criminal Justice System
FBI	Federal Bureau of Investigation
FORTRAN	Formula Translation Language
ICPSR	Inter-University Consortium for Political and Social Research
LEOKA	Law Enforcement Officers Killed or Assaulted
MARK IV	A data base management system
NCIC	National Crime Information Center
NCS	National Crime Survey
OBTS	Offender-Based Transaction Statistics
SHR	Supplementary Homicide Report
SIR	Scientific Information Retrieval (data base management system)
UCR	Uniform Crime Reporting

BIBLIOGRAPHY

General Materials

Adirondack Systems Associates. POSSE: Police Operations Support System--Elementary; Data General COBOL User Manual. Saratoga Springs, NY: Adirondack Systems Associates, February 1982.

Alexander, Charles H. and Singh, Rajendra P. "Some Potential Uses of UCR by NCS to Produce Local Estimates," paper presented at the national meetings of the American Society of Criminology, November 1984.

Attorney General's Task Force on Family Violence (final report). Washington, D.C., September 1984.

Bartell Associates, Inc. "Executive Summary: Tri-City Impact Project Evaluation." State College, PA, n.d.

Bates, S. "Criminal Records and Statistics." Journal of the American Institute of Criminal Law and Criminology 19 (1928): 8-14.

Beattie, Ronald H. "Criminal Statistics in the United States--1960." Journal of Criminal Law, Criminology and Police Science 51 (1960): 49-65.

Beattie, Ronald H. "Problems of Criminal Statistics in the United States." Journal of Criminal Law, Criminology and Police Science 46 (July-August 1955): 181-185.

Biderman, Albert D. "Social Indicators and Goals." In Social Indicators, edited by R.A. Bauer. Cambridge, MA: MIT Press, 1965.

Biderman, Albert D.; Lynch, James P.; and Peterson, James L. "Why NCS Diverges from UCR Index Trends." Washington, D.C.: Bureau of Social Science Research, Draft Document, July 15, 1982.

Biderman, Albert D., and Reiss, Albert J. Jr. "On Exploring the 'Dark Figure' of Crime." The Annals of the American Academy of Political and Social Science 374 (1967): 1-15.

Bielec, John A. "Uniform Crime Report Participation: Mixing Apples and Oranges." Campus Law Enforcement Journal 11 (January-February 1981): 26-28.

Black, Donald. "The Production of Crime Rates." In Crime and Society, edited by Leonard D. Savitz and Norman Johnson. New York: John Wiley and Sons, 1978. (Originally in American Sociological Review, 1970.)

Blackman, Paul H. "Analyses of the 1980 FBI Uniform Crime Reports." National Rifle Association-ILA Information and Member Services Division, n.d.

Blackman, Paul H. "Crime in the United States, 1979: FBI Uniform Crime Reports." National Rifle Association-ILA Information and Member Services Division, October 16, 1980.

Blackmore, John. "Are Crime Rates Really Soaring?" Police Magazine (January 1981): 35-37.

Block, Carolyn Rebecca and Block, Richard L. "Crime Definition, Crime Measurement, and Victim Surveys," forthcoming.

Blumstein, Alfred. "Seriousness Weights in an Index of Crime." American Sociological Review 39 (December 1974): 854-864.

Bowler, Lee H. "The Incidence of Female Crime and Delinquency: A Comparison of Official and Self-Report Statistics." International Journal of Women's Studies 1 (March/April 1978): 178-192.

Brown, Donna. "The UCR Program, Development of a Standardized Audit." The Police Chief 41 (December 1974): 34-39.

Bureau of Justice Statistics, U.S. Department of Justice. The National Crime Survey: Working Papers. Volume I: Current and Historical Perspectives, edited by Robert G. Lehnen and Wesley G. Skogan. Washington, D.C.: Government Printing Office, December 1981.

Bureau of Justice Statistics. "Victims of Crime." Bureau of Justice Statistics Bulletin, November 1981.

Bureau of Justice Statistics, U.S. Department of Justice. Criminal Victimizations in the United States, 1981. Washington, D.C., November 1983.

"Burying Crime in Chicago," Newsweek, 16 May 1983.

California, State of. "Design Requirements: Crime and Clearance." Prepared by Dorothy Freshour, June 1977.

Caporale, Rocco. "Toward the Formulation of Crime Indicators: Robberies in Los Angeles County." Paper presented at the Annual Meeting of the American Sociological Association in New York, August 28, 1973.

Center, Lawrence J., and Smith, Thomas G. "Crime Statistics--Can They be Trusted." The American Criminal Law Review 11 (Summer 1973): 1045-1086

Center for Studies in Criminology and Criminal Law. The Seriousness of Crime: Results of a National Survey. Philadelphia: University of Pennsylvania, 1983. (See also, Wolfgang.)

Chaiken, Jan M. The Criminal Investigation Process: Survey of Municipal and County Police Departments. Santa Monica, CA: The Rand Corporation, Report R-1777-DOJ, 1975.

Chambliss, William J., and Nagasawa, Richard H. "On the Validity of Official Statistics." Journal of Research in Crime and Delinquency 6 (January 1969): 71-77.

Chelimsky, Eleanor. "The Need for Better Data to Support Crime Control Policy." Evaluation Quarterly 1 (August 1977): 439-474.

"Chicago Police Found to Discard Cases Erroneously," New York Times, 2 May 1983, p. A-2c.

Chilton, Roland. "Politics and the Production of Crime Statistics." Draft. Paper presented at the Annual Meeting of the Society for the Study of Social Problems in Boston, 1979.

Cochran, William G. Sampling Techniques. New York: John Wiley and Sons, 1977.

Conniff, M.A. Beyond Crime: Law Enforcement Operational and Cost Data. National Association of Criminal Justice Planners, December 1980.

Cressey, D. "The State of Criminal Statistics." National Probation and Parole Association Journal 3 (1957): 230-241.

Cunniff, M.A. Beyond Crime: Law Enforcement Operational and Cost Data. National Association of Criminal Justice Planners, December 1980.

Decker, Scott H. "The Evolution of Crime Statistics as a Police Problem." Journal of Police Science and Administration 1 (1978): 67-73.

Decker, Scott H. Criminalization, Victimization and Structural Correlates of Twenty Six American Cities. Saratoga, CA: Century Twenty One Publishing, 1980.

Deutsch, Stuart J. Deterrence Effectiveness Measurement. Unpublished manuscript, 1979.

Doleschal, E. Criminal Statistics. Crime and Delinquency Topics: A Monograph Series. Rockville, MD: National Institute of Mental Health, Center for Studies of Crime and Delinquency. n.d.

Duncan, Brad, and Eglin, Peter. "Making Sense of the Reliability and Validity of Official Crime Statistics: Review and Prospect." Canadian Criminology Forum 2 (1979): 7-19.

Eck, J. Ernst, and Riccio, Lucius J. "Relationship Between Reported Crime Rates and Victimization Survey Results: An Empirical and Analytic Study." Journal of Criminal Justice 7 (Winter 1979): 293-308.

Efron, B. and Morris, C. "Data Analyhsis Using Stein's Estimator and Its Generalizations." Journal of the American Statisical Association, 70 (1975) 311-319.

Ehrlich, Isaac. "Participation in Illegitimate Activities: A Theoretical and Empirical Investigation." In The Economics of Crime and Law Enforcement, edited by Lee R. McPheters and William B. Stronge. Springfield, IL: Charles C. Thomas, Publisher, 1976.

Fay, R.E. and Herriot, R.A. "Estimates of Income for Small Places: An Application of James-Stein Procedures to Census Data," Journal of the American Statistical Association 74 (1979) 269-271.

[Federal Bureau of Investigation.] ADP Programming Guidelines for State UCR Programs. Technical Manual. June 15, 1981.

[Federal Bureau of Investigation.] "The UCR Hierarchy Rule," 1979. Internal document, unpublished.

[Federal Bureau of Investigation.] "Crime Indicators System: First Semi-annual Briefing on Crime." Prepared for Director William H. Webster, Uniform Crime Reporting Program, April 1982.

[Federal Bureau of Investigation.] "Crime Indicators System: Second Semi-annual Briefing on Crime." Prepared for Director William H. Webster, Uniform Crime Reporting Program, October 1982.

[Federal Bureau of Investigation.] "Crime Indicators System: Third Semi-annual Briefing on Crime." Prepared for Director William H. Webster, Uniform Crime Reporting Program, April 1983.

Federal Bureau of Investigation. Ten Years of Uniform Crime Reporting 1930-1939. Washington, D.C., November 1939.

[Federal Bureau of Investigation.] "Uniform Crime Reporting Data Base," 1982. Internal document, unpublished.

Federal Bureau of Investigation. Uniform Crime Reporting Handbook. Washington, D.C.: Government Printing Office, 1984.

Federal Bureau of Investigation. Uniform Crime Reporting Procedures Manual. n.d. Internal document, unpublished.

Federal Bureau of Investigation. Uniform Crime Reports: Assaults on Federal Officers, 1981. Washington, D.C.: Government Printing Office, 1982.

Federal Bureau of Investigation. Uniform Crime Reports: Bomb Summary, 1981. Washington, D.C.: Government Printing Office, 1982.

Federal Bureau of Investigation. Uniform Crime Reports: Special Issue 1958. Washington, D.C.: Government Printing Office, 1958.

Federal Bureau of Investigation. Uniform Crime Reports: Crime in the United States, 1980. Washington, D.C.: Government Printing Office, September 10, 1981.

Federal Bureau of Investigation. Uniform Crime Reports: Crime in the United States, 1981. Washington, D.C.: Government Printing Office, August 26, 1982.

Federal Bureau of Investigation. Uniform Crime Reports: Crime in the United States, 1982. Washington, D.C.: Government Printing Office, September 11, 1983.

Federal Bureau of Investigation. Uniform Crime Reports: Crime in the United States, 1983. Washington, D.C.: Government Printing Office, 1984.

Federal Bureau of Investigation. Uniform Crime Reports: Law Enforcement Officers Killed, 1981. Washington, D.C.: Government Printing Office, 1982.

Federal Bureau of Investigation, Uniform Crime Reports. Manual of Law Enforcement Records. Washington, D.C.: Government Printing Office, 1980.

Ferdinand, Theodore N. "The Criminal Patterns of Boston Since 1849." American Journal of Sociology 73 (January 1967): 84-89.

"Fighting Crime with Erasers," Chicago Tribune, February 1983, p. 10.

Fischer, Claude S. "The Spread of Violent Crime From City to Countryside, 1955-1975." Institute of Urban and Regional Development, University of California, Berkeley. [Working Papers, #293, August 1978]

Fox, James Alan. "Crime Trends and Police Expenditures: An Investigation of the Lag Structure." Evaluation Quarterly 3 (February 1979): 41-58.

Gillespie, Robert W. "An Empirical Analysis of the Impact of Measurement Error in UCR Data." In Proceedings of the August 1978 Conference (Criminal Justice Statistics Association, Inc.) in Minneapolis, pp. 159-167.

Glaser, Daniel. "National Goals and Indicators for the Reduction of Crime and Delinquency." Annals of the American Academy of Political and Social Science 371 (January 1967):104-126.

Goldner, Norman S. "Rape as a Heinous but understudied offense." In Clifton D. Bryant, ed., Sexual Deviancy in Social Context. New York: New Viewpoints/Franklin Watts, 1977.

Goldstein, Herman. "Improving Policing: A Problem-Oriented Approach." Crime and Delinquency (April 1979): 236-258.

Groves, Robert M.; Lepkowski, James M.; and Miller, Peter V., the University of Michigan. "Measuring Victimization: NCS Questionnaire and Sample Redesign Issues." n.d.

Harries, Keith D. "Consultant's Report to the Police Executive Research Forum. Subject: Crime Classification System." June 1981.

Hartley, H.L. "Multiple Frame Surveys," Proceedings of the Social Sciences Statistics Section of the American Statistical Association, 1962.

Hellman, Daryl A. The Economics of Crime. New York: St. Martins Press, 1980.

Hindelang, Michael J. "The Uniform Crime Reports Revisited." Journal of Criminal Justice 2 (1974): 1-17.

Howard, M. Katherine. "Police Reports and Victimization Survey Results: An Empirical Study." Criminology 12 (February 1975): 433-446.

Illinois, State of. Illinois Criminal Justice Information Authority. How to Handle Seasonality: Introduction to the Detection and Analysis of Seasonal Fluctuation in Criminal Justice Time Series, by Carolyn Rebecca Block, Statistical Analysis Center. State of Ilinois, May 1983.

Inciardi, James A. "The Uniform Crime Reports: Some Considerations on Their Shortcomings and Utility." Public Data Use 6 (November 1978): 3-16.

International Association of Chiefs of Police. Crime Analysis System Support (CASS): Data General Basic User Manual, prepared by SIMCON, Inc. McLean, VA: SIMCON, Inc., n.d.

International Association of Chiefs of Police. Crime Analysis System Support (CASS): System Design, prepared by SIMCON, Inc. McLean, VA: SIMCON, Inc., June, 1981.

International Association of Chiefs of Police. The IACP-UCR Audit/Evaluation: Final Report. Gaithersburg, MD: International Association of Chiefs of Police, 1976. 2 vols.

International Association of Chiefs of Police. The IACP-UCR Audit/Evaluation Manual. Gaithersburg, MD: International Association of Chiefs of Police, 1976.

International Association of Chiefs of Police. Investigative Management Information System (IMIS): System Design, prepared by SIMCON, Inc. McLean, VA: SIMCON, Inc., n.d.

International Association of Chiefs of Police. IMIS User Manual (Data General - COBOL), prepared by SIMCON, Inc. McLean, VA: SIMCON, Inc., September 1981.

International Association of Chiefs of Police, Committee on Uniform Crime Records. "Tentative Program of the Committee." March 30, 1928.

International Association of Chiefs of Police, Committee on Uniform Crime Records. Uniform Crime Reporting. New York: IACP, 1929.

International Association of Chiefs of Police, Committee on Uniform Crime Records. Uniform Crime Reports: Monthly Bulletin for July 1930 1:7. New York: Committee on Uniform Crime Records, 1930.

Jacobson, Alvin L. "Crime Trends in Southern and Nonsouthern Cities: A Twenty-Year Perspective." Social Forces 54 (September 1975): 226-242.

Jones, E. Terrence. "Evaluating Everyday Policies: Police Activity and Crime Incidence." In The Economics of Crime and Law Enforcement, edited by Lee R. McPheters and William B. Stronge. Springfield, IL: Charles C. Thomas, Publisher, 1976.

Justice Center, University of Alaska, Anchorage. "Bibliography on Crime Forecasting and Related Topics". Prepared by the Research Team--Knowlton Johnson, Richard McCleary, John Angell, and Janet Eidson, in collaboration with the Project Advisory Group--James Fox, Robert Willstadter, and Clinton Goff. n.d.

Justice Center, University of Alaska, Anchorage. "Crime and Arrest Rate Predictions for the States of Alaska and Oregon: Box-Jenkins Monthly Forecasts." Prepared by the Research Team: Knowlton Johnson, Richard McCleary, John Angell, and Janet Eidson. n.d.

Justice Center, University of Alaska, Anchorage. "Crime and Arrest Rate Predictions for the States of Alaska and Oregon: Executive Summary." Prepared by the Research Team: Knowlton Johnson, Richard McCleary, John Angell, and Janet Eidson. n.d.

Justice Center, University of Alaska, Anchorage. "Crime and Arrest Rate Predictions for the States of Alaska and Oregon: Final Report." Prepared by the Research Team: Knowlton Johnson, Richard McCleary, John Angell, and Janet Eidson. n.d.

Kelly, Delos H. "Conceptions, Definitions, and the Measurement of Delinquency and Delinquent Involvement." In Delos H. Kelly, ed., Delinquent Behavior: Interactional and Motivational Aspects. Belmont, CA: Dickenson Publishing Co., 1978.

Kennedy, S.D. and Poggio, E.C. First Steps Towards Phase II of the Study of the National UCR Program of the FBI. Cambridge, MA: Abt Associates Inc., January 1984.

King, Nick, "Crime as Statistics; Crime as Reality," Boston Globe, 22 April 1983, p. 1.

Kitsuse, J. "Societal Reaction to Deviate Behavior: Problems of Theory and Methods." Social Problems 9 (1962): 247-56.

Kitsuse, John I. and Cicourel, Aaron V. "A Note on the Uses of Offical Statistics." Social Problems 11: 131-139.

Kowalski, Gregory S., Dittman, Robert C., Jr., and Bung, Wayne L. "Spatial Distribution of Criminal Offenses by States, 1970-76," Journal of Research in Crime and Delinquency (NCCD) 17 (Jan. 80): 4-25.

Ledger and Examiner, Columbus, Georgia, September 4, 1984.

Lejins, Peter P. "Uniform Crime Reports." Michigan Law Review 64 (1966): 1011-1030.

Lejins, Peter P.; Chute, Charlton F.; and Schrotel, Stanley R. Uniform Crime Reporting: Report of the Consultant Committee, submitted to the Federal Bureau of Investigation. September 1958.

Levine, James P. "A Critique of Criminal Victimization Surveys." In Crime in Society, edited by Leonard D. Savitz and Norman Johnston. New York: John Wiley and Sons, 1978. (Originally in Criminology, November 1976).

Lewin, David, and Keith, John H. "Managerial Responses to Perceived Labor Shortages: The Case of Police." Criminology 14 (May 1976): 65-92.

Lewin, Julie. "Understanding Crime Statistics." n.d.

Lourich, Nicholas P., Jr. "Police Community Outreach and the Reduction of Crime: Evidence of the Effectiveness of Police Community Relations Training and Affirmative Action from a Study of 161 U.S. Cities," pp. 135-148, in Ralph Baker and Fred A Meyer, eds., Evaluating Alternative Law-Enforcement Policies, Lexington, MA: Lexington Books, 1979.

Maltz, Michael D. "Crime Statistics: A Historical Perspective." Crime and Delinquency (January 1977): 32-40.

Maltz, Michael D. "Secondary Analysis of the UCR: An Index of the Risk of Death Due to Robbery." Journal of Criminal Justice 4 (1976): 153-156.

[Maryland, State of.] "A Review of Maryland's Definition and Statistical Reporting of Rape and Sexual Offenses." (Staff report for Maryland's Governors Advisory Board on Rape and Sexual Offenses prepared by Catherine H. Conly, n.d.).

Massachusetts, Commonwealth of. Committee on Criminal Justice, Statistical Analysis Center. 1975 Massachusetts Crime Rates: What the Figures Do and Don't Tell Us. Volume 1: Analysis. Prepared by Robert Patrician, Carolyn Shettle, Marion McEttrick, and Stephen Garry. December 1977.

Mastrofski, Stephen. "Beware of Crime Statistics," Philadelphia Inquirer, 15 May 1983, p. 19-A.

Maxfield, Michael G.; Lewis, Dan A.; and Szoc, Ron. "Producing Official Crimes: Verified Crime Reports as Measures of Police Output." Social Science Quarterly (September 1980): 221-236.

McEwen Thomas J. "Report on Crime Classification System Project." Prepared for the Police Executive Research Forum. n.d.

McGovern, James L. "Crime on the Campus 1980." Campus Law Enforcement Journal 12 (January-February 1982): 16-17.

McPheters, Lee R. "Criminal Behavior and the Gains from Crime." Criminology 14 (May 1976): 137-152.

Milakovich, Michael E., and Weis, Kurt. "Politics and Measures of Success in the War on Crime." Crime and Delinquency 21 (January 1975): 1-10.

National Commission on Law Observance and Enforcement, Report on Criminal Statistics, Vol. 1. Washington, D.C.: Government Printing Office, 1931.

National Institute of Justice, U.S. Department of Justice. A Balance of Forces, Executive Summary, by Kenneth J. Matulia. Washington, D.C.: Government Printing Office, September 1982.

National Institute of Justice, U.S. Department of Justice. Weapons, Crime, and Violence in America: Executive Summary, by James D. Wright and Peter H. Rossi. Washington, D.C.: Government Printing Office, November 1981.

National Institute of Law Enforcement and Criminal Justice, Law Enforcement Assistance Administration, Department of Justice. The National Manpower Survey of the Criminal Justice System. Volume Two: Law Enforcement, by the National Planning Association. Washington, D.C.: Government Printing Office, September 1978.

National Symposium on Methods, Procedures and Techniques for Crime Analysis, Prevention and Planning. Proceedings and Recommendations. St. Louis, Missouri, October 10-12, 1974.

Nelson, Jack. Computer Systems Analyst, Software Operational Support Unit, Operations Management Section, Technical Services Division. "Uniform Crime Reporting, Feasibility Study." [FBI], September, 1979. Internal document, unpublished.

Nelson, James. "Implications for the Ecological Study of Crime: A Research Note." In Perspectives on Victimology, edited by William H. Parsonage. New York: Sage Publications, 1979, pp. 21-28.

Newman, Donald J. "The Effect of Accommodations in Justice Administration on Criminal Statistics." Sociology and Social Research 46 (January 1962): 144-156.

New York City Police Department, Office of Management Analysis, Crime Analysis Section. Procedure for the Performance of Precinct Crime Analyses, 2nd ed., prepared by Sgt. Gerard P. Simpson and A.S.A. Gabriel Rosenberg. New York: New York Police Department, n.d.

O'Brien, Robert M.; Shichor, David S.; and Decker, David L. "An Empirical Comparison of the Validity of UCR and NCS Crime Rates." The Sociological Quarterly 21 (Summer 1980): 391-402.

O'Connor, Terry T. "Preventive Objectives for Law Enforcement." The Police College, Command Course Part II, 1978.

On the Future of the UCR Program: Proceedings of the Belmont Conference. Cambridge, MA: Abt Associates Inc., June 1984 (revised).

Oosthoek, A. The Utilization of Official Crime Data. Ottawa: Communication Division, Ministry of the Solicitor General of Canada, 1978.

Owens, Dennis, Coordinator, Criminal Justice Information Section, Minnesota Bureau of Criminal Apprehension. "A Binary Approach to Criminal Justice Reporting Systems."

Pennsylvania Joint Council on Criminal Justice, Inc. "Who are Pennsylvania's Violent Youthful Offenders?" Harrisburg, PA, February 1980.

Pittman, David J., and Handy, William F. "Uniform Crime Reporting: Suggested Improvements." Sociology and Social Research 46 (1962): 135-143.

Poggio, E.C., et al. Study of the National Uniform Crime Reporting Program of the FBI: Phase I Interim Report. Cambridge, MA: Abt Associates Inc., December 1983 (rev. June 1984).

Police Executive Research Forum. "Crime Classification System, Phase II, Coding and Entry Manual." Prepared for the Peoria (Illinois) Police Department. Draft for Review, May 6, 1983.

Police Executive Research Forum. Crime Classification Project Status Report. Washington, D.C.: Police Executive Research Forum, October 1980.

Police Executive Research Forum. Crime Classification System: Documentation, prepared for PERF by SEARCH Group, Inc. Sacramento, CA: SEARCH Group Inc., n.d.

Police Executive Research Forum. Summary Report on the Crime Classification System for the City of Colorado Springs, CO. Washington, D.C.: Police Executive Research Forum, n.d.

Police Executive Research Forum. Summary Report on the Crime Classification System for the City of Peoria, IL. Washington, D.C.: Police Executive Research Forum, n.d.

Powell, Elwin H. "Crime as a Function of Anomie." Journal of Criminal Law, Criminology and Police Science 57 (February 1966): 161-171.

President's Commission on Law Enforcement and Administration of Justice. Task Force Report: Crime and Its Impact--an Assessment. Washington, D.C.: Government Printing Office, 1967.

Price, James E. "A Test of the Accuracy of Crime Statistics." Social Problems 14 (1966): 214-222.

Project SEARCH Standardized Crime Reporting System Committee, Captain Ronald E. Ayres, Chairman. "Design of a Standardized Crime Reporting System." Technical Report No. 9, December 1973.

Rankin, Joseph H. "Changing Attitudes Toward Capital Punishment." Social Forces 58 (Sept. 1979): 194-211.

Rans, Laurel L. "Women's Crime: Much Ado About. . .?" Federal Probation 42 (March 1978): 45-49.

Reiss, Albert J. "Discussion: Estimating Victimization Prevalance in a Rotation Panel Survey."

Reiss, Albert J. "How Serious is Serious Crime?" Vanderbilt Law Review 35 (April 1982): 541-585.

Reiss, Albert J., Jr. "Official and Survey Crime Statistics." Unpublished, March 1983.

Riccio, Lucius J. and Heaphy, John F. (Police Foundation). "Apprehension Productivity of Policy in Large U.S. Cities." Journal of Criminal Justice 5 (1977): 271-278.

Rideout, John. "Numbers Can Be Misleading." Campus Law Enforcement Journal 10 (March-April 1980): 34-35.

Robinson, L. History and Organization of Criminal Statistics in the United States. Boston: Houghton-Mifflin, 1911.

Robinson, L. "History of Criminal Statistics 1908-1933." Journal of Criminal Law and Criminology 24 (1933).

Robison, Sophia M. "A Critical View of the Uniform Crime Reports." Michigan Law Review 64 (April 1966): 1031-1054.

Rovetch, Emily L.; Poggio, Eugene C.; and Rossman, Henry H. A Listing and Classification of Identified Issues Regarding the Uniform Crime Reporting Program of the FBI. Cambridge, MA: Abt Associates Inc., 1984.

Rubel, Robert J. "Trends in Student Violence and Crime in Secondary Schools from 1950 to 1975: A Historical View." In National Council on Crime and Delinquency, Theoretical Perspectives on School Crime, Vol. I, Section 1. Submitted to DHEW, February 1978.

Sanford, Judy; Crycer, Linda; Christenson, Bobbie L; and Mattox, Kenneth L. "Patterns of Reported Rape in a Tri-Ethnic Population: Houston, TX, 1974-1975. American Journal of Public Health 69 (May 1979): 480-484.

Savitz, Leonard D. "Official Police Statistics and Their Limitations." In Crime in Society, edited by Leonard D. Savitz and Norman Johnston. New York: John Wiley and Sons, 1978, pp. 69-81.

Schneider, Anne L. "Victimization Surveys and Criminal Justice System Evaluation." In Sample Surveys of the Victims of Crime, edited by Wesley G. Skogan. Cambridge, MA: Ballinger Publishikng Co., 1976, pp. 135-150.

Schumach, Murray. "FBI Crime Data Called Misleading by Sociologists." New York Times (March 22, 1965): 1,28.

SEARCH Group, Inc. Attribute-Based Crime Reporting in a Law Enforcement Environment, Technical Report No. 24. Sacramento, CA: SEARCH Group, Inc., February 1979.

SEARCH Group, Inc. Crime Classification Using Attribute-Based Crime Reporting, Technical Report No. 18. Sacramento, CA: SEARCH Group, Inc., October 1976.

SEARCH Group, Inc. Standardized Crime Reporting System. Volume 5: Case Studies of SCRS Implementations. Sacramento, CA: SEARCH Group, Inc., 1981.

Seidman, David, and Couzens, Michael, "Getting the Crime Rate Down: Political Pressure and Crime Reporting." Law and Society Review 8 (Spring 1974):

Sellin, T. "The Basis of a Crime Index." Journal of Criminal Law and Criminology (September 1931).

Sellin, Thorsten. "Systems of Reporting 'Crimes Known To The Police' In Selected Foreign Counties." Submitted to the President's Commission on Law Enforcement and Administration of Justice, 1967.

Sellin, Thorsten and Wolfgang, Marvin E. The Measurement of Delinquency. New YHork: John Wiley and Sons, 1964.

Sherman, Lawrence W., and Glick, Barry D. "The Regulation of Arrest Rates." Paper presented to the American Sociological Association in San Francisco, September 9, 1982.

Shulman, Harry M. "The Measurement of Crime In the United States." Journal of Criminal Law, Criminology and Political Science 57 (1966): 483-492.

Silberman, Charles E. Criminal Violence, Criminal Justice. New York: Vintage Books.

Singer, Max. "Mythical Numbers and the Cost of Crime." In Crime in Society, edited by Leonard D. Savitz and Norman Johnston. New York: John Wiley and Sons, 1978.

Sipchen, Bob. "Funny, You Don't Look Like Efrem Zimbalist, Jr." Los Angeles Times, May 1983.

Skogan, Wesley G. "Citizen Reporting of Crime: Some National Panel Data." Criminology 13 (February 1976): 535-549.

Skogan, Wesley G. "The Dark Figure of Unreported Crime." In Crime in Society, edited by Leonard D. Savitz and Norman Johnston. New York: John Wiley and Sons, 1978. (Originally in Crime and Delinquency, 1977).

Skogan, Wesley G. "Measurement Problems in Official and Survey Crime Rates." In Criminal Justice Research: Approaches, Problems, and Policy, edited by Susette M. Talarico. New York: Anderson Publishing Company, 1980, pp. 45-61.

Skogan, Wesley G. "The Validity of Official Crime Statistics: An Empirical Investigation." Social Science Quarterly 55: 25-38.

Smith, David Lewis, and Warren, Charles Wicker. "Use of Victimization Data to Measure Deterrence." In Preventing Crime, edited by James A. Cramer. Beverly Hills: Sage Publications, 1978.

Smith, David M. "Crime Rates as Territorial Indicators: The Case of the United States." Occasional Paper No.1. Department of Geography, Queen Mary College, University of London. October 1974.

Terry, Robert M. "Trends in Female Crime: A Comparison of Adler, Simon and Steffensmeier." California Sociologist 2 (Summer 1979): 200-212.

Texas, State of. Homicide Trends in Texas 1972 to 1981. Research by Sam Houston State University Criminal Justice Center, in cooperation with the Uniform Crime Reporting Bureau, Texas Department of Public Safety. [Austin, Texas], September, 1982.

Thompson, John L. "UCR: Historical IACP Landmark." Police Chief (February 1968): 22-34.

Uchida, C.D.; Bridgeforth, C.; and Wellford, C.F. Law Enforcement Statistics: The State of the Art. Institute of Criminal Justice and Criminology, April 1984.

U.S. Congress. Senate. Committee on the Judiciary. Arson for Profit. Hearing Before the Subcommittee on Criminal Justice of the Committee on the Judiciary, 96th Congress, 2nd session, September 10, 1980. Serial No. 96-86. Washington, D.C.: Government Printing Office, 1981.

Von Hentig, Haus. "The Delinquency of the American Indian." Journal of Criminal Law and Criminology 36 (1945): 75-84.

Wallace, Robert. "Crime in the United States: Part I." Life Magazine 43 (September 9, 1957): 46-70.

Ward, Paul. "Careers in Crime: The FBI Story." Journal of Research in Crime and Delinquency 7 (July 1970): 207-218.

Warner, Sam Bass. "Crimes Known to the Police--An Index of Crime." Harvard Law Review 45 (1931): 307-331.

Weis, Kurt, and Milakovich, Michael E. "How Crime Statistics Can Lie." Skeptic: The Forum for Contemporary History, Special Issue #4 (1976): 5-9.

Wheeler, Stanton. "Criminal Statistics: A Reformation of the Problem." Journal of Criminal Law, Criminology and Police Science 58 (1967): 317-324.

Wiechman, Dennis Jay. "Crime and Selected Measures of Education Achievement." The Southern Journal of Education Research 13: 21-36.

Williams, Kristen M. "Criminal Justice Statistics: Data from a Non-System." Paper presented at the annual meeting of the American Society of Criminology, in Toronto, Canada, October 31, 1975.

Wolfgang, Marvin E. "Uniform Crime Reports: A Critical Appraisal." University of Pennsylvania Law Review 3 (1962-1963): 708-738.

Wolfgang, Marvin E. "Urban Crime." In The Metropolitan Enigma, edited by James Q. Wilson. Cambridge, MA: Harvard University Press, 1968.

Wolfgang, Marvin, E.; Figlio, Robert; Singer, Simon; and Tracy, Paul. The National Survey of Crime Seriousness. Washington, D.C.: Bureau of Justice Statistics, 1985.

Zedlewski, Edwin W. "Deterrence Findings and Data Sources: A Comparison of the Uniform Crime Reports and the National Crime Surveys." Journal of Research in Crime and Delinquency (July 1983): 262-276.

Zeisel, Hans. "FBI Statistics--A Detective Story." American Bar Association Journal 59 (May 1973): 510-513.

Canadian Materials

The following materials on the Canadian Uniform Crime Reporting Program were brought to our attention by L. Douglas Brown and Dennis Conly of the Canadian Centre for Justice Statistics.

Canadian Centre for Justice Statistics, Minister of Supply and Services. Crime and Traffic Enforcement Statistics 1981, Ottawa, November 1982.

Canadian Centre for Justice Statistics. Developing Canada's National Crime Statistics: An Agenda for Action, by John Townesend, Ottawa, April 1983.

Canadian Centre for Justice Statistics, Minister of Supply and Services. Homicide Statistics 1981, Ottawa, November 1982.

Canadian Centre for Justice Statistics. Perceptions on National Crime Reporting in Canada, by John Townesend, Ottawa, February 1983.

Director of Personnel Justice Information and Statistics 1983, Canadian Centre for Justice Statistics, Ottawa, January 1983.

Government of Quebec, Minister of Justice. Justice Information Report: Police Services in Canada, 1978/79 and 1979/80. Implementation Work Group on Justice Information and Statistics, Ottawa, July 1982.

Juristat Service Bulletin, "1981 Preliminary Crime Statistics: A Review of Crime in Canada, 1977-1981," Vol. 2, No. 5 (August 1982). Canadian Centre for Justice Statistics, Ottawa.

Juristat Service Bulletin, "Police Administration: Statistical Highlights 1981," Vol. 2, No. 2 (June 1982). Canadian Centre for Justice Statistics, Ottawa.

Justice Statistics Division, Statistics Canada. Uniform Crime Reporting Manual. Ottawa, Ontario, January 1979.

Seminar on the Rules of Scoring for Uniform Crime Reporting: Exercise Book, Canadian Centre for Justice Statistics, Ottawa.

Seminar on the Rules of Scoring for Uniform Crime Reporting: Reference Manual, Canadian Centre for Justice Statistics, Ottawa.

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