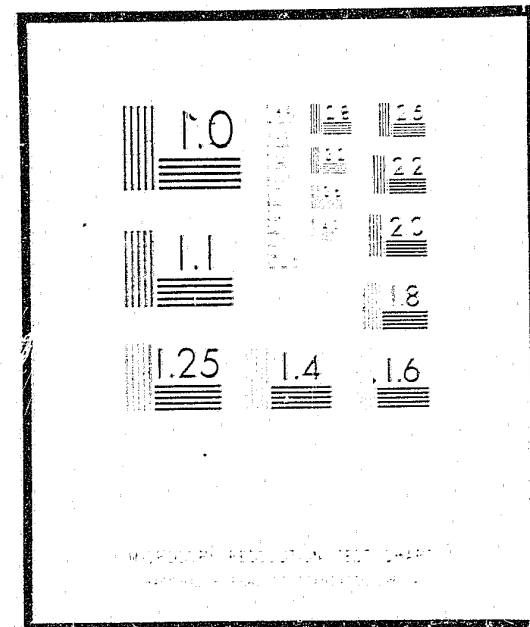


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NATIONAL EVALUATION PROGRAM PHASE I REPORT

MITRE Technical Report
MTR-7122

Early-Warning Robbery Reduction Projects: Individual Project Evaluation Design

W.A. ELIOT
J.R. STRACK
A.E. WITTER

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THE
MITRE
CORPORATION
McLEAN, VIRGINIA 22101

Date filmed

4/30/76

Department Approval: Brown Chelms

MITRE Project Approval: Warner A. Ellet

ABSTRACT

A companion document to a report of a Phase I National Evaluation Program Investigation of Early-Warning Robbery Reduction (EWRR) projects, this evaluation design outlines the data needs, evaluation method and record-keeping necessary for individual project monitoring and assessment.

ACKNOWLEDGMENT

The authors are grateful to police officers and agency officials in literally dozens of communities across the nation for their time and assistance in locating the available data about Early-Warning Robbery Reduction projects. In addition, the authors are grateful to John M. Chester and Jacob H. Parness of The MITRE Corporation for critical guidance and assistance in planning the work and collecting the data; and to Lawrence M. Gunn, formerly of The MITRE Corporation, and now with the Seattle, Washington, Law and Justice Planning Office, whose original research into EWRR in 1973 contributed significantly to the design of this study. Finally, the authors also thank Mary Grooms, also of The MITRE Corporation, for her unflagging support throughout the entire effort.

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EXECUTIVE SUMMARY

While commercial robbery is not an economically consequential crime nationwide -- there are perhaps 100,000 such crimes a year accounting for an estimated total loss of \$35,000,000 -- the risk of personal violence associated with robbery calls for major law enforcement countermeasures. One countermeasure that has been tried in recent years involves Early-Warning Robbery Reduction (EWRR) projects that use silent alarm devices to transmit alarms directly to the police, permitting response by a uniformed or tactical patrol unit in time to arrest a suspect at the scene of the crime. Heretofore, research into the effectiveness of such projects has been limited, in part because evaluation research data collection has not been incorporated in project designs. This document outlines both the general context for evaluating such projects and the individual evaluation design that can be used by community officials for performance monitoring and by local and federal authorities for determining the effectiveness of the approach.

In addition to the prospect for on-site apprehension of robbery suspects, EWRR offers the benefit of reduced incidence of robbery. It is this benefit that constitutes the foundation for project evaluation; reduced incidence of robbery is the ultimate benefit sought by the implementation of an EWRR project.

An evaluation design for an EWRR project views the project in the context of police operations: EWRR is a way of improving the delivery of a standard police service -- robbery investigation -- by shortening the time required for police to respond. Evaluation is intended to show how much of an improvement a given project achieves over conventional police operations. The assumptions that underlie project operations, therefore, focus on the characteristics of that service delivery and outline the framework for project assessment: activation of silent alarms during robbery will lead to earlier warning of police that the crime has occurred; earlier warning will permit a timelier response; timelier response will permit police to arrest suspects on-scene; on-scene arrest will lead to an increased robbery conviction rate; the existence of the project will result in a reduced incidence of robbery in participating stores.

Evaluating an individual project consists of collecting data concerning conventional police anti-robbery activities to establish a baseline from which to project an expected value for future performance levels, and then measure the performance levels actually achieved by the EWRR project in order to determine the change that results. For earlier warning, the measure would be the increase in the percentage of robbery reports received by police while the suspect is still on-scene. Timelier response would be measured in terms of the increased percentage of police arrivals on-scene in time to witness the crime or the fleeing suspect. Increased apprehension would be indicated by a percentage increase in on-scene arrests where EWRR alarms are installed. Correspondingly, increased convictions would be measured as the percentage increase in robbery convictions of suspects arrested as a result of EWRR operations. Reduced incidence would be a decrease in robberies below what would be expected in stores equipped with EWRR alarm devices.

EWRR productivity would be assessed in terms of costs associated with the alternate ways available to the police to meet project objectives.

Required data elements, evaluation method, and evaluation records to support project assessment are keyed to the measures described.

Properly implemented, such an evaluation will permit informed decisions regarding the operational changes needed to optimize the performance of the project or to modify the robbery reduction approach.

SECTION I

GENERAL KNOWLEDGE ABOUT COMMERCIAL ROBBERY

A. Background

Robbery in the United States is a major social problem, accounting for nearly half of all crimes of violence reported to police.¹ Approximately one-quarter of the 382,680 robberies reported in 1973 may be categorized as commercial.² In comparison with other types of crime, robbery accounts for a relatively small fraction of the overall value of property stolen each year: \$100 million vs. a total of \$1.6 billion;³ nevertheless, the total take associated with commercial robbery -- \$30 million in 1973 and as much as \$35 million in 1974⁴ -- is not insignificant, making the need for countermeasures even more compelling.

From the above, it may be concluded that the principal motivation for undertaking commercial robbery countermeasures such as EWRR projects is not the average dollar loss -- approximately \$350 per hit⁵ -- but the risk of personal violence associated with the crime. People are afraid of robbery -- and with good reason: as many as 30 percent of all robbery victims suffer some injury.⁶

¹Clarence M. Kelley, Uniform Crime Reports for the United States--1973, (Federal Bureau of Investigation, U.S. Department of Justice; Washington, D.C.: U.S. Government Printing Office, 1974), p. 15. (Hereafter cited as UCR 1973.) The F.B.I. estimate is 44 percent of crimes of violence.

²UCR 1973, pp. 58, 120. The imprecision is partly due to differences in the definition of commercial robbery (which is limited in this report to holdups of retail outlets and other businesses at specified locations that are vulnerable to walk-in robbery), which makes isolation of the value from UCR statistics impossible. A second factor is the reliability of the absolute numbers reported in the UCR: victimization studies indicate a substantial portion of all crime goes unreported to the police. It is not clear whether commercial robbery would be subject to the same degree of error as other forms of crime -- especially street crime -- but the question has not been resolved.

³In addition to robberies excluded in Footnote 2 (above), bank robberies and hijacking are considered to be outside the scope of the EWRR study.

⁴Clarence M. Kelley, Uniform Crime Reports (1974 Preliminary Annual Release), (Federal Bureau of Investigation, U.S. Department of Justice; Washington, D.C.: March 31, 1975.) Preliminary indications are that robbery rose by 14 percent in 1974, hence the \$30 million estimate is adjusted upward. The UCR 1974 was received too late to incorporate in this section. It appears, however, that findings reported here are consistent with 1974 statistics.

⁵UCR 1973, p. 120. The estimate includes "commercial house, gas or service station, and chain store" robberies.

⁶John E. Conklin, Robbery and the Criminal Justice System (Philadelphia: J. B. Lippincott, 1972), pp. 119 ff.

Until the advent of federally-sponsored research in the mid-1960's, robbery as a category of crime had not been researched in depth. Even today, much of the knowledge about robbery apparently remains unorganized although efforts are underway to systematize research findings.⁷ Nonetheless, a literature search has revealed that enough is known about the crime, its perpetrators and victims, and the success of various police and community efforts to control it to permit the development of a context for Early Warning Robbery Reduction (EWRR) projects.⁸

Research into the effectiveness of EWRR projects has also been meager. University of California researchers Russell Grindle and Thomas Aceituno, summarize the state of knowledge about this anti-robbery approach as follows:

On the whole, very little is known about these [EWRR project] innovations. Their use has been largely unevaluated and in many instances has been episodic and unstandardized in any way.⁹

This document provides a general context for evaluating the performance of individual EWRR projects. It describes the logical assumptions that underlie the characteristic activities of the EWRR project and defines a method for assessing the performance of the project in accordance with the assumptions.

⁷ Arnold Sagalyn, The Crime of Robbery in the United States, U.S. Department of Justice, Law Enforcement Assistance Administration, Publication ICR 71-1, (Washington, D.C.: U.S. Government Printing Office, 1971), presents a useful, readily available survey of issues and the literature dealing with them.

⁸ See the Bibliography.

⁹ Russell Grindle and Thomas Aceituno, The Robbery Setting, Vol. I of The Prevention and Control of Robbery, ed. Floyd Feeney and Adrienne Weir (5 vols.: University of California, Davis, April 1973), p. 313.

SECTION II

DEFINITION OF AN EWRR PROJECT

A. Concept of Early-Warning Robbery Reduction

Early-warning robbery reduction projects are police operations directed against robbery of convenience stores, gas stations and other vulnerable, largely storefront businesses. The basic concept involves the use of covert dedicated response forces stationed near the threatened stores (see Exhibit II-1). By maintaining the stake-out patrol only a short distance from the store, often in a cruising, unmarked car, and by providing the direct radio alarm to alert the patrol when a robbery is in progress, the police are able to arrive at the scene while the robbery is still in progress, in some instances in a matter of seconds, and to apprehend the robber with the stolen goods in hand. This is the tactical benefit sought by the patrol force (see Exhibit II-2).

An alternate benefit, perhaps stemming in part from this apprehension capability, is to reduce the incidence of robbery. Increasing the apparent risk of apprehension and conviction would presumably reduce the inclination of a would-be robber to commit a robbery in the project area and robbery incidence would decline.

Projects of this type have been undertaken by a number of police departments using a variety of tactical approaches and alarm equipment designs (see Exhibit II-3, which summarizes the characteristics of 21 active projects). Some projects use undercover officers in unmarked cars equipped to receive the alarm signals directly over dedicated communications channels. Others use uniformed patrol officers dispatched by means of the regular communications channels in response to alarms transmitted to headquarters. Some use only victim-actuated "sensors" to activate the alarm; others use bill-clips and cash register sensors in addition. All are characterized by the use of a police-owned and -deployed alarm system to trigger a planned response.

B. Law Enforcement Operations: The Context for EWRR

Analysis of the concept reveals that EWRR does not alter the fundamental character of police response to robbery. Conventionally, victims of robbery report the crime--after it has taken place--via a telephone call to a police switchboard. There, the receiving operator relays the report to a dispatcher who, in turn, assigns a patrol officer or team to investigate. The elapsed time from the victim's call until the arrival of the officer is ordinarily considered in terms of minutes (in a few instances, as many as ten minutes). The patrol officer's initial investigation leads to a report that serves as the basis for a follow-up investigation by a robbery detective. The detective subsequently assembles evidence to establish both the fact

PROJECT FOCUS:	48% 52%	ROBBERY SPECIFIC ROBBERY, BURGLARY & OTHER
ALARM SYSTEM:	45% 55%	VOICE TRANSMISSION CODE TRANSMISSION
ALARM ACTIVATION:	38% 10% 52%	VICTIM ACTIVATED BILL-CLIP ACTIVATED BOTH
RESPONSE FORCE:	62% 38%	DEDICATED PATROL
RESPONSE DEPLOYMENT:	48% 38% 14%	STAKE-OUT PATROL BOTH
RESPONSE TO ALARM: (INTERVENTION ON SCENE)	60% 40%	OVERT COVERT
VEHICLES:	*29% 43% 24% 5%	PATROL CAR UNMARKED CAR CIVILIAN CAR BOTH PATROL & UNMARKED
COMMUNICATIONS CHANNEL:	50% 50%	DEDICATED CHANNEL NORMAL DISPATCH CHANNEL
CAMERAS:	29%	INCLUDED WITH ALARM
PUBLICITY:	33% 67%	DELIBERATE PUBLICITY COVERT
OPERATING HOURS:	43% 57%	FULL TIME HIGH CRIME HOURS ONLY

*Total greater than 100% due to rounding effects.

EXHIBIT II-3 -- SUMMARY OF PROJECT FEATURES

of the crime and the probable cause for the arrest of a suspect. Thereafter, when the investigation is successful, the detective attempts to locate and apprehend the suspect, thereby clearing the crime from the police caseload, and to provide the evidence needed for prosecution and conviction. As in all police response to actual crime, the object is to lower the robbery rate by apprehending and convicting perpetrators.

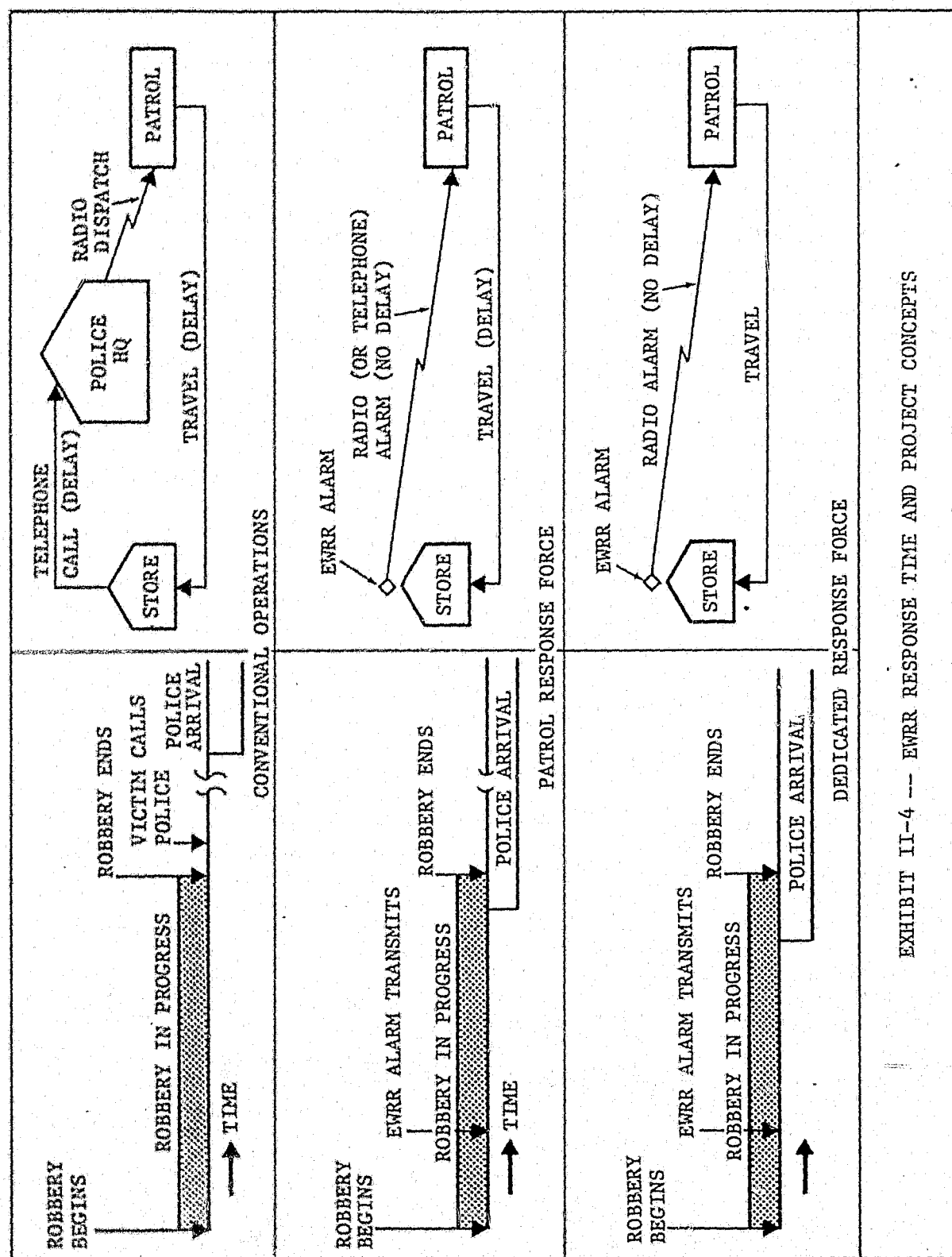
EWRR alters this process in only two areas: (1) the alarm devices permit robbery victims to report crime while it is still in progress, directly to police in the field, and (2) police forces attempt to reach the scene of the robbery alarm while the suspect is still in the vicinity (see Exhibit II-4). Once on-scene, the police carry out their normal functions: if a robbery is underway, the responding officers establish the fact of the crime and the identity of the perpetrator within seconds, and then make an arrest, thereby immediately clearing the case. Conviction would be based on testimony of the arresting officer as well as the victim. Viewed in this light EWRR emerges as simply a way to deliver a police service--robbery investigation--in a very rapid manner. The yardstick for measuring EWRR thus is based on conventional police operations and it can show how successful projects are in accelerating the delivery of service.

C. Project Assumptions: The Basis for Evaluation

Determining the value of an innovation such as EWRR requires measuring the impact of critical differences between normal operations and the new project. These differences represent the assumptions made by project planners about the improvements EWRR can make in departmental operations against robbery. They also serve as the basis for evaluating projects.

EWRR adds to police operations the element of silent-alarm notification, on the assumption that early warning can lead to more timely police response to a robbery. Many EWRR projects explicitly have as their rationale the need to arrive at the scene of a robbery earlier than normal procedures permit in the interest of arresting perpetrators on or near the scene. Thus, early warning can lead to more timely response--especially in conjunction with dedicated response force--which can lead to increased apprehension for robbery. The effect of arresting suspects is to clear robbery cases and pave the way for robbery convictions. The overall objective is to reduce the incidence of robbery in commercial areas.

Implicit in the chain of assumptions are judgements about the feasibility of electronic systems, victim cooperation, and police operations in general. Thus, the assumption that the implementation of an EWRR project will lead to earlier warning of robbery is supported by collateral assumptions: Storeowners will permit installation of alarm devices. Clerks will use the alarm switches (or at least will not interfere with their operation). Hardware and electronic components



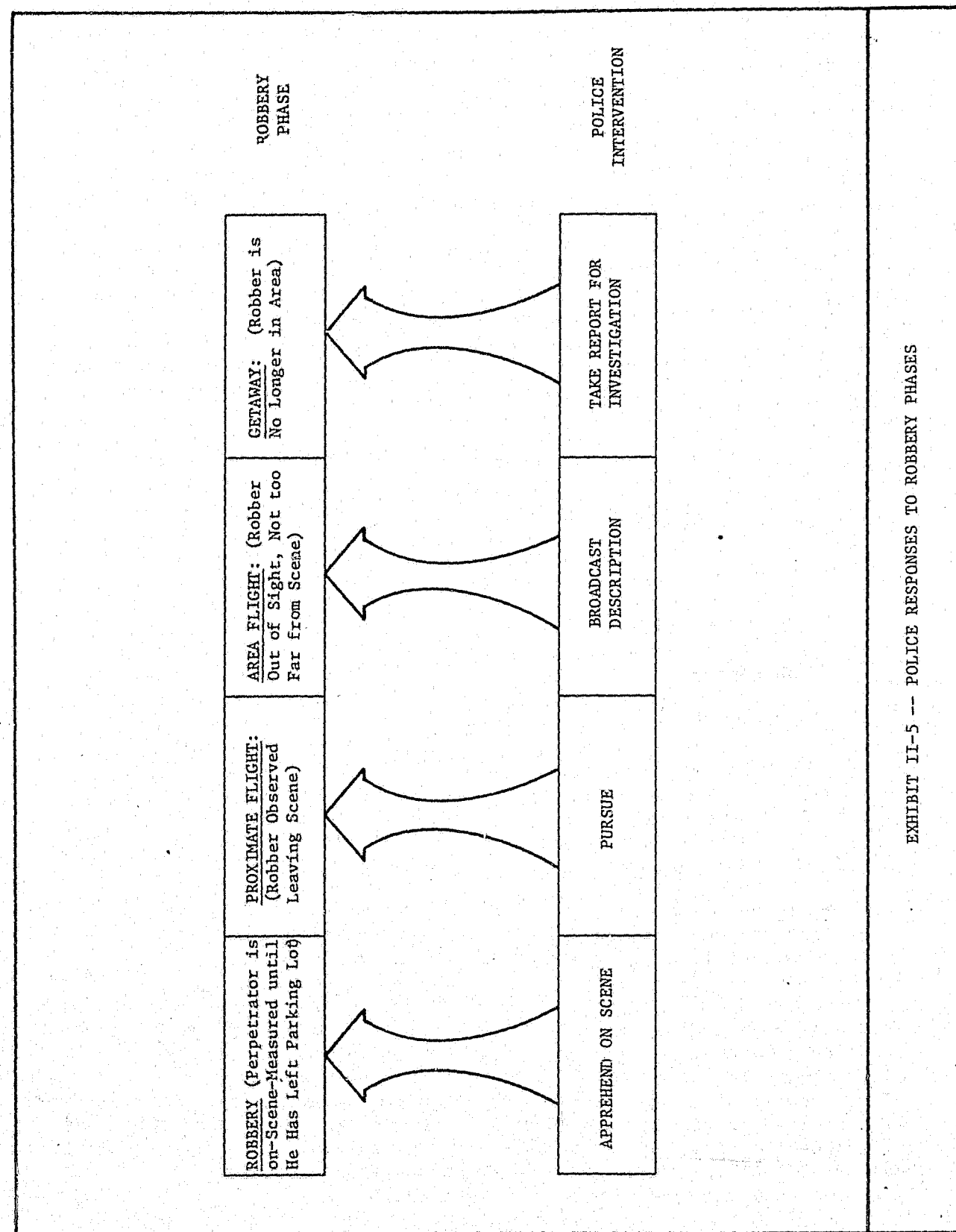
will function reliably. Stores that are likely candidates for robbery can be identified. Police will recognize quickly that an alarm signal is an indication of a potential crime at a specific location.

By the same token, the assumption that implementing an EWRR project will lead to timelier arrival by police depends on the assumption that earlier warning, in fact, is achieved and that police take no longer than ordinarily to move to the location of the crime. It further assumes that police response by itself is sufficient (although some EWRR projects add the element of alarm-activated cameras to provide a photographic or video-tape record of the crime). More than half the projects surveyed for Exhibit II-3 enhance the police response by incorporating tactical stake-out units dedicated to robbery (and burglary, frequently, as well) reduction, on the assumption that the early warning achieved by the alarm system can best be completed by the very short response times such units are capable of. Governing both early warning and timely arrival assumptions is the judgement that robbery execution times are short (30 to 60 seconds) and that intervention by police during the crime in progress or immediately thereafter is more productive in terms of case clearance than after-the-fact investigation.

The consequence of arriving on-scene in a more timely fashion gives rise to the next major assumption: an EWRR project will increase the number of robbery apprehensions. In part, the selection of apprehension as a prime project goal is governed by the timing of the arrival of police on-site. As Exhibit II-5 indicates, four police responses are possible: arresting a suspect during the robbery, pursuing a suspect observed fleeing from the scene, broadcasting a description of the suspect for look-out arrest by other officers, and finally taking a report for subsequent investigation by a robbery detective. EWRR systems permit police to arrive on-scene before a robber begins flight; clearly the most appropriate response is apprehension. Lacking that, the arriving police can, in turn, pursue, broadcast a description or take a report, as appropriate. For this reason, subordinate assumptions are that EWRR will permit more suspect pursuits or more timely broadcasts of descriptions. There is no indication that earlier arrival improves the effectiveness of report-taking, hence most departments that use tactical response units assign that responsibility to regular patrol officers.

The assumption of increased apprehensions introduces an intermediate outcome measure for EWRR projects; earlier warning and timelier arrival are activity outcomes that lead to apprehensions.*

* A derivative outcome from EWRR stems directly from increased apprehensions: increased robbery clearances. The assumption is that EWRR will "solve" more robberies in the sense that further police investigation is unnecessary. Increased clearances are achieved in two ways: directly, by arrest of the perpetrator, and indirectly, by associating the arrested suspects with other robberies. Supporting this is the assumption that EWRR will clear more robberies directly than conventional investigation does (approximately 29% nation-wide). It further assumes that robbery perpetrators are responsible for a number of crimes; thus EWRR may result in the apprehension of 10 suspects a year stemming from five robberies, but those suspects may be involved in 25 additional robberies.



A second intermediate outcome directly tied to EWRR operations is conviction of robbery suspects. The assumption is that an EWRR project will lead to a greater number of robbery convictions. Supporting assumptions are that evidence of both the crime and the guilt of the suspect provided by on-site arrest are sufficiently strong to lead to prosecution and conviction of or confession by the suspect and sentencing. The assumption here is that many instances of diversion of suspects from prosecution result from inadequate case preparation or insufficient evidence. In some projects, on-site arrest evidence is augmented by cameras. In one project, Prince George's County, Maryland, a special prosecutor is available for assignment to EWRR-arrested suspects.

The final critical assumption for EWRR concerns its overall impact on robbery: an EWRR project will reduce the number of robberies. The mechanism by which a reduction is achieved is not immediately obvious; establishing the cause of the absence of a phenomenon cannot be done with the confidence associated with establishing the cause of its occurrence. Nonetheless, the assumption that EWRR leads to a reduction in incidence rests on the fundamental deterrent effect of police operations in general. It may be assumed that one factor that discourages criminals from additional crimes is the fear of "getting caught" by police. "Getting caught", of course, implies more than apprehension: it involves the possible prosecution, conviction, and loss of freedom. Since EWRR increases the likelihood that police will "catch" robbers, the existence of an on-going project serves to deter, whether it is publicized or not. The reduced incidence assumption, therefore, rests on the judgement that robbers will learn of the enhanced police capability either by discovering the project or by observing its effect--on-site apprehensions of robbers, which indicates that police are taking some measure to improve their response to robbery. The relationship among the assumptions is shown in Exhibit II-6.

D. EWRR Project Goals

The assumptions referred to in preceding paragraphs constitute the basis on which the EWRR project is designed and on which the performance goals are based. Exhibit II-7 is a summary of these goals expressed as measurable hypotheses.

The next section of the evaluation plan discusses the measures that apply to these goals.

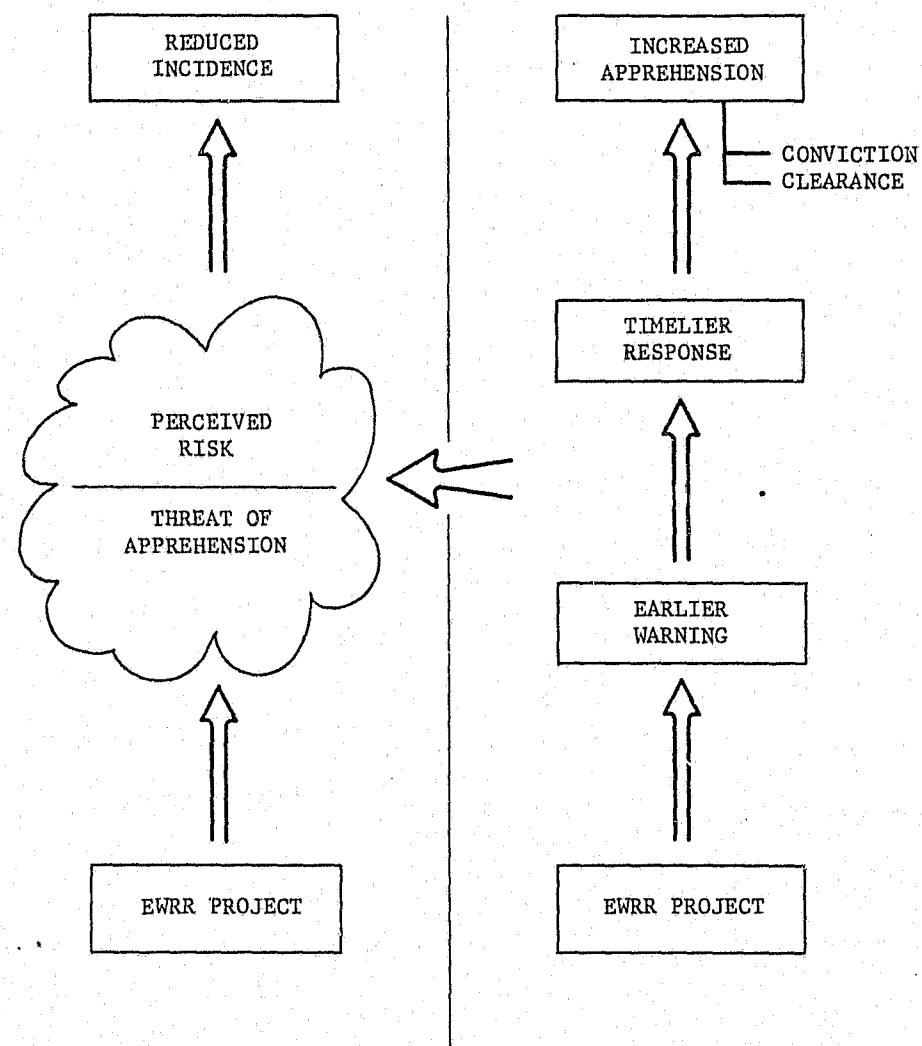


EXHIBIT II-6 -- EWRR PROJECT OBJECTIVES

ACTIVITY GOALS

EARLIER WARNING TO THE POLICE WHEN A STORE EQUIPPED WITH AN EWRR DEVICE IS ROBBED.

TIMELIER RESPONSE OF THE POLICE WHEN A STORE EQUIPPED WITH AN EWRR DEVICE IS ROBBED.

INTERMEDIATE GOALS

INCREASED RATE OF APPREHENSION OF SUSPECTS ON OR NEAR THE SCENE OF ROBBERY OF STORES EQUIPPED WITH EWRR DEVICES.*

INCREASED RATE OF CONVICTION OF SUSPECTS APPREHENDED AS A RESULT OF ROBBERY OF STORES EQUIPPED WITH EWRR DEVICES.

ULTIMATE GOALS

REDUCED INCIDENCE OF ROBBERY OF STORES EQUIPPED WITH EWRR DEVICES.

REDUCED INCIDENCE OF ROBBERY OF STORES IN THE COMMUNITY SERVED BY THE AGENCY

* THIS GOAL IS EASIER TO DEAL WITH IF EXPRESSED AS INCREASED RATE OF CLEARANCE BY ON-SCENE APPREHENSION. THE QUESTION OF MULTIPLE OFFENDERS DOES NOT THEN ENTER THE ANALYSIS.

EXHIBIT II-7--SUMMARY OF PROJECT GOALS

SECTION III

INDIVIDUAL PROJECT EVALUATION

The five goals for the EWRR project summarized in Exhibit II-7 of the preceding section constitute the basis for determining how successfully EWRR projects operate. They can be regarded as the framework for assessing EWRR because they allow EWRR to be compared with alternate methods for addressing the same goals. This section describes the measures that can be applied to the operations of the EWRR project to support general conclusions about the effectiveness of the EWRR concept. It identifies the operational and baseline data elements and the analysis needed to support the conclusions.

A. Operational Measures

Earlier Warning

The intent of the early warning alarm feature of the EWRR project is to notify the police of a robbery before the suspect leaves the scene and thereby to remove at least one of the impediments to timely police response. A measure of earliness could be the reduction in time delay between the onset of the robbery and the report to the police. This would provide precise data on the degree of improvement offered by the EWRR approach but would require involvement of the victim in the measurement process.

A more direct though perhaps less precise measure would be the increase in the percentage of robbery reports received by the police while the suspect is still at the scene. Information of this type could be obtained as an integral part of the incident report for all commercial robberies during the period of the evaluation. It has the distinct advantage that it relates directly to the impediment that the EWRR alarm is supposed to remove, namely, the reporting of robbery after the suspect has fled. This is the measure recommended for earlier warning.

Timelier Response

The intent of the earlier warning and special police response features of the EWRR project is to place the police response force at the robbery scene while the robbery is still in progress and before the suspect has fled the scene. This would remove an impediment to police witness of the crime and apprehension of the suspect at or near the scene with the fruits of the robbery in hand.

A direct measure of timeliness would be the increase in the percentage of police arrivals in time to witness the crime in progress or the suspect fleeing the scene. Information of this type could be obtained as an integral part of the incident report. This is the measure recommended for timelier response.

Increased Apprehension

This goal has meant different things to different EWRR projects in the past. In some it has meant an increase in the total number of apprehensions for robbery in the area assigned to the project. In others it has meant more specifically an increase in the percentage of robberies cleared by arrest as a result of project activity. The former has the disadvantage that if the ultimate goal of reducing the incidence of robbery is achieved, the opportunities for apprehension are reduced and the apprehension goal cannot be met. A measure of the increase in percentage cleared by arrest is more representative of the increased capability for apprehension afforded by the timelier arrival of the EWRR response force and is therefore a more direct indication of EWRR success.

A useful measure of increased apprehension would therefore be the increase in the percentage of robberies of EWRR protected stores in which a suspect is apprehended by the responding patrol at or near the scene of the crime. Information of this type could be obtained as an integral part of the incident report. This is the measure recommended for increased apprehension.

Increased Conviction

This is a concomitant part of increased apprehension. If more suspects are apprehended, other things being equal, more suspects will be prosecuted and convicted. In addition, if more suspects are apprehended as a result of police eyewitness of the robbery, and if more suspects are caught with the fruits of the robbery in hand, the presumption is that more suspects will be convicted. As with the goal of increased apprehension, however, the more direct measure of increased conviction is the increase in the percentage of suspects, arrested as a result of EWRR response to robbery of protected stores, who are subsequently convicted as charged. This information is not always noted in police records but is always recoverable from case records maintained by the courts. This is the measure recommended for increased conviction.

Reduced Incidence

Reduced incidence of commercial robbery is the ultimate goal of the EWRR project. Ideally the increased risk perceived by the would-be robber as a result of EWRR activities would act as a general deterrent and would be measured as a reduction in robbery throughout the area of activity of the EWRR project or even throughout the community. A more direct measure, however, is the reduction of the incidence of robbery of stores equipped with EWRR alarm devices while they are so equipped. Information to measure reduced incidence both for the stores protected and for stores throughout the community can be drawn from department incident reports as long as steps are taken to allow identification and isolation of commercial robberies from all the rest. These are the measures recommended for reduced incidence.

B. Productivity Measures

The value of EWRR as a mechanism for addressing the goal of robbery reduction is determined by the relative productivity of EWRR and alternate

methods for addressing the same goals. There are, for instance, numerous ways available to the police to increase the apprehension of robbery suspects, every one with its own advantages, disadvantages and costs, and each with its own relatively unknown capability. The merits of committing limited resources to an EWRR program, in the final analysis, must be influenced by at least a perception of this relative productivity.

Exhibit III-1 lists a number of the more obvious alternative methods. For each goal, the alternative method is considered only in the light of its contribution to that goal and not in terms of its contribution to other goals or to robbery reduction in general. Also, the list of alternative methods is limited to aspects of conventional operations for which a history of productivity can be developed, and expressly avoids alternative innovative programs for which separate evaluations have to be made.

For purposes of comparing productivity, data of the type referred to in the following subsections could be drawn from agency files for the alternative methods. Costs would be assigned a pro rata share of the normal operating cost of the function. The comparisons are then based on the units of goal achievement per dollar cost, e.g., responding force apprehensions per dollar cost of the responding force, including cars and equipment if these are included in the cost of the EWRR program.

C. Operational Data Elements

Legend: (D) refers to case files
(I) refers to incident reports
(C) refers to court case records
(P) refers to project records

1. Date/time/location of all robberies of stores* in the area of consideration. (D)
2. Identification of robberies in Item 1. from which robbery-in-progress reports were received. (D)
3. Identification of robberies in Item 1. in which suspect was sighted by the responding patrol(s). (I)
4. Identification of robberies in Item 1. in which suspect was arrested by the responding patrol(s). (I)
5. Identification of robberies in Item 1. cleared by warrant arrest. (D)
6. Identification of robberies in Item 1. cleared by exception. (D)

*Stores - Commercial establishments of the type selected for inclusion in the EWRR project.

- EARLIER WARNING
POLICE STAKE-OUT
- TIMELIER RESPONSE
POLICE STAKE-OUT
SATURATION PATROL
- INCREASED APPREHENSION
POLICE STAKE-OUT
ADDITIONAL INVESTIGATION
- INCREASED CONVICTION
ADDITIONAL INVESTIGATORS
ADDITIONAL PROSECUTORS
- REDUCED INCIDENCE
POLICE STAKE-OUT
SATURATION PATROL

EXHIBIT III-1 -- ALTERNATIVE METHODS FOR ADDRESSING EWRR GOALS

7. Identification of apprehensions in Item 4. in which at least one suspect was convicted as charged. (C)
 8. Identification of apprehensions in Item 5. in which at least one suspect was convicted as charged. (C)
 9. Identification of robberies in Item 1. in which assault or hostage-taking occurred. (D)
 10. Identification of robberies in Item 3. in which assault or hostage-taking appeared to be triggered by the presence of responding patrol. (I)
 11. Date/time/location of activation of EWRR alarm devices.* (P)
 12. Date/time/location of EWRR alarm devices deactivated for maintenance. (P)
- D. Baseline Data Elements
1. Same as for operational data elements 1 through 10, where available from agency files, for preceding three years.
 2. Design features of the EWRR project per Exhibit III-2. (P)
 3. Cost features of the EWRR project per Exhibit III-2** (P)
 4. Estimate of pro rata investigative cost per commercial robbery clearance by warrant arrest.** (P)
 5. Estimate of pro rata stake-out patrol cost per commercial robbery clearance by on-scene arrest.** (P)

* Re-activation of EWRR alarm device following maintenance constitutes a new activation as if at a different location.

** Collecting cost data pre-supposes a careful cost-accounting system is available and can be implemented.

PROJECT FOCUS:	ROBBERY SPECIFIC ROBBERY, BURGLARY & OTHER
ALARM SYSTEM:	VOICE TRANSMISSION CODE TRANSMISSION
ALARM ACTIVATION:	VICTIM ACTIVATED BILL-CLIP ACTIVATED BOTH
RESPONSE FORCE:	DEDICATED PATROL
RESPONSE DEPLOYMENT:	STAKE-OUT PATROL BOTH
RESPONSE TO ALARM: (INTERVENTION ON SCENE)	OVERT COVERT
VEHICLES:	PATROL CAR UNMARKED CAR CIVILIAN CAR BOTH PATROL & UNMARKED
COMMUNICATIONS CHANNEL:	DEDICATED CHANNEL NORMAL DISPATCH CHANNEL
CAMERAS:	INCLUDED WITH ALARM
PUBLICITY:	DELIBERATE PUBLICITY COVERT
OPERATING HOURS:	FULL TIME HIGH CRIME HOURS ONLY

EXHIBIT III-2 OPTIONAL PROJECT DESIGN FEATURES

E. Evaluation Method

1. Gather baseline data for all stores in the operational area.*
2. Gather operational data for all stores in the operational area for a period of one year from the start of routine EWRR operations.
3. Identify the stores involved at one time or another in EWRR operations and determine an expected average range for the operational period value** for those stores for the measures of III-A for which baseline data are available.
4. Determine the significance of the change experienced with the operational data from the expected value determined in Item 3.
5. If the operational data values fall within the range of expected values then there is no basis for concluding that the EWRR had an impact. If the values fall outside the range then the data can be interpreted to mean that the EWRR has had a statistically significant impact; the likelihood that such a change resulted purely from chance is small.

F. Evaluation Records

The evaluation files for the project will contain the following at a minimum:

1. Project description narrative,
2. All baseline data,
3. All operational data,
4. All data analysis calculations,
5. A summary report of performance relative to the project goals and measures.

*The operational area is the area bounded by the agency jurisdictional limits or the high risk area limits, whichever is smaller. The number of stores included in the area should be at least twice the number expected to be involved in the first year of EWRR operations.

**Expected average value based on a trend line calculated by classical methods, e.g., moving average, exponential smoothing, etc.

G. Evaluation Role in Project Management

The primary purpose of individual project evaluation is to enable project managers to make informed decisions regarding project management. In addition to indicating the level of success EWRR is achieving in an individual community, the evaluation can permit a project manager to identify sub-par performance in critical areas of project activity. This can enable the project design to be adjusted to improve the performance. It also supports critical decisions about whether to continue projects beyond their initial funding periods and whether to broaden the scope of project activities to deal with other types of crime, (e.g., burglary, street robbery).

SELECTED BIBLIOGRAPHY

No attempt has been made to provide an exhaustive listing of literature relevant to robbery, robbery control, or evaluation of public programs. Rather, the intent has been to identify work that is readily available to the broadest range of users. Readers wishing to pursue any of these subjects in depth may consult the bibliographies cited in some of the entries below. Another source is Wolfgang, Marvin E., et al. Criminology Index. 2 vols. New York: Elsevier Publishing Co., 1975.

Bottoms, Albert M. Police Tactics Against Robbery, Final Report (Pilot Grant NI 70-065-PG-2). Washington, D.C.: Law Enforcement Assistance Administration, August 1971.

A proposal for modified tactics, this report examines aspects of the robbery situation in the Washington, D.C., Police Department, Special Operations Division, with an eye to applying lessons learned in the Chicago Police Department exploration of operations research techniques. It contains statistical data and after-action reports as a context for innovative countermeasures that might be applied to robbery.

Budnick, Frank S. An Examination of the Impact of Intensive Police Patrol Activities (NI 71-114-PG). University of Rhode Island, undated.

This study of intensive patrol in the Washington, D.C., Metropolitan Police Department for a three-month period in 1970 is one of a number that should be reviewed in any investigation of countermeasures to robbery.

Bunn, Verne A. "Business Management for Crime Prevention, II. Robbery," in Combating Crime Against Small Business, edited by Richard S. Post. Springfield, Illinois: Charles C. Thomas, 1972, pp. 49-54.

Bunn outlines the general preventive measures a businessman should take in dealing with robbery.

Camp, George M. Nothing to Lose: A Study of Bank Robbery in America (Ph.D. Dissertation, Yale University, 1968). Ann Arbor, Michigan: University Microfilms, 1973.

This is an important study of a highly publicized form of commercial robbery. From the standpoint of EWRR investigation, it is most valuable in highlighting the differences between bank robbers and other types of robbers.

Carper, R. S., and Roth, S. H. A Review of the Tampa STAVS Operation: An Anti-Robbery Alarm System (MTR-6730). Washington, D.C.: The MITRE Corporation, July 1974.

An after-the-fact review of the STAVS program, this report is useful for its detailed presentation of the conduct of a convenience-store robbery, showing typical actions of participants along a time line.

Chleboun, T. P., and Duvall, K. M. An Evaluation of Small Business and Residential Alarm Systems. 2 vols. (J-LEAA-003072, Report M-1442) Mountain View, California: GTE Sylvania Incorporated, Security Systems Department, June 1972.

This report is a survey and assessment of alarm systems used in the reduction of burglary, robbery and related crimes. It is of peripheral interest insofar as robbery reduction is concerned; however, it does offer a methodology for comparative system evaluation.

Clift, Raymond E. A Guide to Modern Police Thinking. Third edition. Cincinnati: The W. H. Anderson Co., 1970.

A standard text, this book is a good introduction to police work in general. It contains a guide to further reading for each of its subject headings.

Conklin, John E. Robbery and the Criminal Justice System. Philadelphia: J. B. Lippincott Co., 1972.

This is a very useful examination of robbery and the community and criminal justice system response to it. It is notable for its succinct presentation of robbery-related issues and for its citation of important recent studies of robbery. It is perhaps the first book to consult for the reader seeking to learn what is known about robbery.

Einstadter, Werner J. Armed Robbery: A Career Study in Perspective (Ph.D. Dissertation, University of California, 1967). Ann Arbor, Michigan: University Microfilms, 1973.

A selective review of the phenomenon of robbery that studied 25 Caucasian males "who were felt to be most representative of the systematic robber and consequently more knowledgeable about robbery and, what might be termed, the dynamics of the robbing process" (p. 38). This dissertation offers a more detailed breakout of robbery loss rates than do the general statistics.

Kelley, Clarence M. Uniform Crime Reports for the United States: --1973. Washington, D.C.: U.S. Department of Justice, Federal Bureau of Investigation, 1974.

The UCR is the standard reference for crime statistics in the United States.

Kelley, Clarence M. Uniform Crime Reports (1974 Preliminary Annual Release). Washington, D.C.: U.S. Department of Justice, Federal Bureau of Investigation, March 31, 1975.

This three-page press release previews findings of the UCR 1974 issued in late 1975.

Law Enforcement Assistance Administration. The Report of the LEAA Evaluation Policy Task Force. Washington, D.C.: U.S. Department of Justice, March 1975.

This is one of the basic documents that outline LEAA evaluation objectives. It presents preliminary details of the "Knowledge" National Evaluation Program.

Maltz, Michael D. Evaluation of Crime Control Programs. (Stock No. 2700-00163) Washington, D.C.: U.S. Government Printing Office, April 1972.

This study describes methodology for evaluating projects to control crime. It should be used together with David Stanley's report for the Brookings Institution, below. The footnotes offer valuable guidance for further reading.

Mannheim, Hermann. Comparative Criminology. Boston: Houghton Mifflin Co., 1965, reprinted 1967.

This is a survey of European and American criminological theory that identifies and attempts to set in perspective virtually the entire body of modern study of the subject. It is an indispensable text for any reader wishing to review alternate approaches to the problem of crime. The subjects of commercial robbery and countermeasures to it are not, however, dealt with directly.

National Advisory Commission on Criminal Justice Standards and Goals. Police. Washington, D.C.: 1973.

This report is one of the Standards and Goals series published by the National Advisory Commission. It is important reading for any review of contemporary police operations.

National Crime Prevention Institute, School of Police Administration, University of Louisville. False Alarm Study. (LEAA Grant #72-DF-99-0009; No date).

This report focuses on penalties and legal sanctions as devices for controlling false alarm rates in commercial establishments in the few communities that have taken such measures. The EWRR project designer should consult it to examine alternative approaches to reducing cashier-originated false alarms.

National Criminal Justice Information and Statistics Service, Law Enforcement Assistance Administration. Crime in Eight American Cities, Advance Report. Washington, D.C.: U.S. Department of Justice, 1974.

A victimization study, this report presents results of a sample survey taken in the summer and fall of 1972. It is a useful supplement to police-derived statistics that can assist researchers in estimating the magnitude of unreported crime.

National Criminal Justice Information and Statistics Service, Law Enforcement Assistance Administration. Crime in the Nation's Five Largest Cities: Advance Report. Washington, D.C.: U.S. Department of Justice, April 1974.

This is another victimization study conducted by sampling households and commercial establishments in selected cities. It attempts to establish the level of discrepancies from official records represented by unreported crime.

Nichols, John F. Final Report, Development of Electronic Robbery Stake-out Alarm System. (LEAA Grant 69-DF-006; unpublished, available through NCJRS.)

This report details the design, development and operation of the SEAR (Selective Enforcement Against Robbery) EWRR program in Detroit. It is a valuable case study for other jurisdictions to use in anticipating operational problems.

Normandeau, Andre. Trends and Patterns in Crimes of Robbery (Ph.D. Dissertation, University of Pennsylvania, 1968.) Ann Arbor, Michigan: University Microfilms, 1973.

This is a major contribution to recent research into robbery. Focusing on Philadelphia, the study is representative of the "typological" category of investigation. It is additionally valuable as a guide to the literature.

O'Neill, William P. "Security Camera in a Crime Prevention Program," Law and Order, April 1975, pp. 46-49.

Captain O'Neill summarizes the experience of his department (Wilmington, Delaware) with a Special Operations Unit that employs a silent alarm coupled with a motion-picture camera in an anti-robbery role.

Peak, Kenneth J. "Grantsmanship: A Necessary Addendum to the Police Administrator's Workload," The Police Chief, April 1975, pp. 52-53.

The article is a brief review of the steps needed to obtain grants.

Rae, Richard F. "Crime Statistics -- Science or Mythology," The Police Chief, January 1975, pp. 72-73.

Lieutenant Rae (Chicago Police Department) offers a brief review of the history and interpretation problems of UCR data.

Reckless, Walter C. American Criminology: New Directions. New York: Appleton-Century-Crofts, 1973.

This study of the perpetrator of crime and his behavior in the context of the criminal justice system as an operating process with inputs and outputs reflects "new directions or new pathways of study and research" (p. v). It is a more advanced text than the general surveys included in this listing, with frequent citation of testing methodology, research findings, and data collection instruments currently in use. It is intended for the reader interested in broadening his familiarity with current criminological literature. It does not deal extensively with robbery reduction.

Sagalyn, Arnold. The Crime of Robbery in the United States (NILE&CJ, ICR-71-1 Washington, D.C.: January 1971.)

A review of five years' previous research into robbery, this is a useful overview of earlier literature.

Sellin, Thorsten, and Wolfgang, Marvin E. The Measurement of Delinquency. New York: John Wiley & Sons., 1964.

This study presents details of the Sellin-Wolfgang index of the seriousness of various crimes. It is an essential work for any reader examining alternate approaches to defining the threat of crime to social order.

Stanley, David T. Evaluating Progress in Criminal Justice: A Report to the Law Enforcement Assistance Administration. (Grant NI 71-150-G) Washington, D.C.: The Brookings Institution, April 1972.

This study deals with the problem of performance evaluation in the LEAA context that offers valuable insights to designing project evaluations. It contains an excellent annotated bibliography prepared by Susan W. Mull.

Sutherland, Edwin H., and Cressey, Donald R. Criminology. 8th ed., revised. Philadelphia: J. B. Lippincott Co., 1970.

This standard text, a classic in the field, serves equally well as a basic introduction to criminology and as a comprehensive review of issues in society's response to crime. It contains a valuable guide to recent literature, although readers may wish to consult the fifth edition as well for a broader range of listings.

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Wholey, Joseph S., et al. Federal Evaluation Policy -- Analyzing the Effects of Public Programs. Washington, D.C.: The Urban Institute, 1970.

This is one of the basic modern studies of evaluation in government social programs. It outlines the issues involved in program evaluation and offers a set of recommendations for program revision.

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