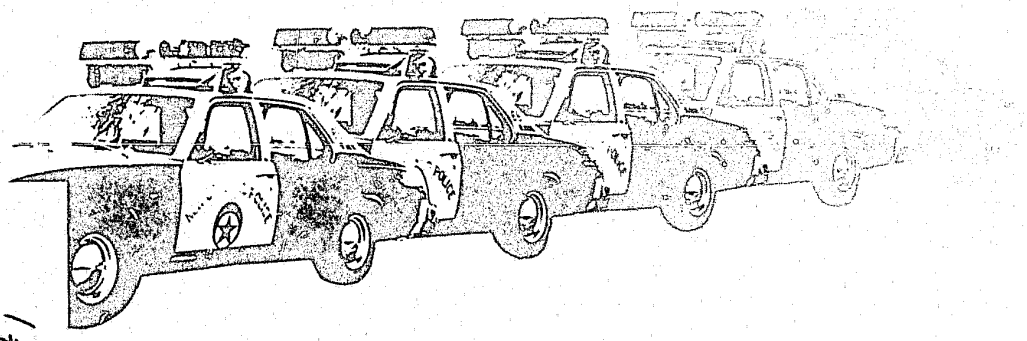
RESEARCH

Volume II: Analysis

RESPONSE TIME ANALYSIS



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ıent Assistance Administration
Department of Justice

RESPONSE TIME ANALYSIS

Volume II: Analysis

Kansas City, Missouri, Police Department
Marvin Van Kirk
Chief of Police

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National Institute of Law Enforcement and Criminal Justice
Blair G. Ewing, Acting Director

Law Enforcement Assistance Administration
James M. H. Gregg, Acting Administrator

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ABSTRACT

This research was initiated to evaluate assumptions regarding rapid police response as an effective operational strategy and to identify problems and patterns which account for citizen delays in reporting crimes to the police.

To test these assumptions, response time was conceptualized as consisting of three intervals, citizen reporting, communications dispatching, and police travel time. Variations in these intervals were then analyzed to see how they affected the probability of making an on-scene arrest, contacting a witness on-scene, and how they affected recovery from injuries sustained during the commission of Part I crimes.

Additionally, the problems citizens encounter when reporting crimes, and the patterns or actions citizens follow prior to reporting were identified and analyzed for their effects on reporting delays. Relationships between citizens' social characteristics and both reporting time and problems and patterns were analyzed.

To see if the length of response time affected citizen satisfaction, police response times were again analyzed, along with other factors considered possible determinants of citizen satisfaction. These factors included citizens' social characteristics, how long citizens expected response to be, citizens' perceptions of how long response took, and how important citizens thought response time was to the outcomes of the incident they reported or in which they were involved.

Results indicated that reporting time was longer than either the time taken to dispatch a call or the time taken to travel to a call and nearly as long as the combined time taken to dispatch and travel to a call. Response time was found to be unrelated to the probability of making an arrest or locating a witness for the large proportion of Part I crimes that were discovered after the crime had occurred. For those crimes involving a victim or witness, reporting

time was the strongest time determinant of arrest and witness availability. Travel time generally had a limited effect on these outcomes, though for some types of crime the influence was strong. Citizen satisfaction was more closely related to citizens' expectations and perceptions about response time than actual response time. Several problems citizens encounter and patterns they follow in reporting crime were identified and were found to produce delay in contacting the police. Voluntary actions by citizens explained more delay in reporting than did problems experienced by citizens in contacting the police.

TABLE OF CONTENTS

APPENDICES

LIST OF FIGURES

LIST OF TABLES

PREFACE

Rapid police response has long been an accepted procedure in law enforcement. The need to reduce response time has served as justification for bolstering officer strength and for large expenditures on equipment. While it is not unreasonable to assume that rapid police response will produce more arrests, more witnesses, fewer serious citizen injuries, and more satisfied citizens, little empirical data exists which can support that assumption.

The Response Time Analysis study was designed to provide a comprehensive assessment of issues and assumptions regarding the value of police response to a variety of crime and noncrime, emergency and nonemergency, incidents. Specifically, two objectives were established for study:

1. Analysis of the relationship of response time to the outcomes of on-scene criminal apprehension, witness availability, citizen satisfaction, and the frequency of citizen injuries in connection with crime and noncrime incidents.
2. Identification of problems and patterns in reporting crime or requesting police assistance.

This is the second in a series of reports which examine the nexus between the time taken by citizens to report crime or request police service, the time required for the police to process, dispatch, and respond to calls, and various outcomes related to police response. This volume presents a description of analysis techniques and discussion regarding findings. Volume I provides a review of pertinent literature and an overview of the study's methodology, data collection procedures, and quality control system. The Executive Summary concisely addresses the methods and findings of the Part I crime analysis. Additional reports, which are currently in various stages of development, will focus upon

the following areas:

1. An analysis of Part II crimes similar to that conducted for Part I offenses.
2. A prosecution and disposition follow-up of suspects who were arrested either on-scene or through subsequent investigation for both Part I and Part II crimes.
3. An analysis of "general service" calls including traffic, potential crime calls, e.g., alarms, disturbances, suspicious parties, etc., and noncrime medical-emergency incidents.
4. A summary of results presented in previous reports which provides an overall assessment of operational implications regarding the value of police response strategies.

Although technical treatment of data is necessary to perform statistical analysis of relationships studied, emphasis was placed upon preparing a report conducive to functional interpretation by police administrators. Administrative interpretation of findings regarding crime and noncrime incidents must include realization that only citizen generated calls processed through the department's communications unit were eligible for inclusion in sample data analyzed. Calls resulting from officer self-initiated activities, citizen flagdowns, and either walk-in or phone-in self reporting of crimes were excluded from data analysis.

Unlike the more prestigious experimental research which controls outside factors which might influence predicted results, the design and implementation of the project methodology was exploratory. Hence, effort has been devoted to report all procedures rather than testing hypotheses. It would not have been unprecedented to report all procedures as if they had resulted from sagacious insight and logical deduction. This, however, was not the case, and an effort has been made to report all deficiencies and deviations from the original design. Those instances

where it was discovered after the fact that an alternative procedure might have produced a more desirable result have been documented.

It is hoped that while taking admitted limitations of the study into account, the questions stimulated by this research and the implications cited within might provoke serious discussion which will help improve police policies enabling police to more effectively serve the public.

Appreciation is extended to project consultants Dr. Albert J. Reiss, Jr., Yale University, New Haven, Conn., Dr. Lee Sechrest, Florida State University, Tallahassee, Fla., and Dr. Cris R. Kukuk, University of Missouri, Kansas City, Mo., for their guidance and evaluations during the analysis of the data and preparation of this volume.

Lt. Col. Lester N. Harris
Project Director

PROJECT STAFF

Project Director:

Lt. Col. Lester N. Harris

Principal Analyst:

William H. Bieck

Operations Analysts:

Ret'd Sgt. Thomas J. Cook
Richard L. Johnson
David A. Kessler
Joyce J. Newman
Eric M. Palmer
Bruce M. Perrin

Administrative and Clerical Assistance:

Nancy R. Hartman
Deborah J. Payne
Trisia M. Spencer

Research Assistant:

Helen M. Marcott

Graphics Work Assistance:

Susan E. Lorenz

CONSULTANTS

Cris R. Kukuk, University of Missouri at Kansas City, Kansas City, Mo.
Albert J. Reiss, Jr., Yale University, New Haven, Conn.
Lee Sechrest, Florida State University, Tallahassee, Fla.
Thomas J. Sweeney, Portsmouth, Virginia, Police Department

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CHAPTER ONE

INTRODUCTION

The Response Time Analysis study was developed and designed to broaden the knowledge of the role of police response to calls by taking an in-depth look at the relationships of response time to various outcomes. The following two objectives were established for the study:

1. Analysis of the relationships of response time to the outcomes of on-scene arrest, witness availability, citizen satisfaction with response time, and the frequency of citizens' injuries in connection with crime and noncrime incidents.
2. Identification of problems and patterns in reporting crime or requesting police assistance.

This volume of the study will focus upon the analyses and findings for Part I crimes only.

Data Base

The Part I crime data used in this analysis were collected between March 1975 and January 1976, primarily from 56 beat-watches composing the upper 27th percentile of beat-watches in frequency of robbery and aggravated assaults based upon 1974 Kansas City, Mo., crime statistics. There were 949* eligible Part I crimes in the data base. Although the data collection design was for the data to be

*A review and verification of the Part I data base showed that one offense was included which should not have been, and one case was deleted which should have been included. The case which was incorrectly included was a supplemental crime service call made by an officer accompanied by an observer to take additional information about a larceny of auto accessories. The original report had been taken earlier in the day by another officer. The observed call was misclassified as a larceny from auto instead of a supplemental crime call. The offense which was deleted was a strong-arm robbery. It was originally classified as a "flag-down," and guidelines for inclusion in the data base excluded any calls not initiated by a phone call to police by a citizen. Subsequent inspection revealed that response to the crime had not been instigated by a flag-down but had, in fact, been instigated by a citizen's telephone call.

gathered in the 56 target beat-watches, police officers accompanied by civilian observers were sometimes dispatched to nontarget beat-watches, i.e., beat-watches not in the upper 27th percentile. Observed calls from nontarget beat-watches resulted in 199 of the 949 Part I crimes in the data base or about 21.0 percent of the eligible crimes, although some of these calls were in beats which were in the target area during a different watch. Accordingly, data were obtained on 113 cases (11.9 percent) which occurred in beats outside of the target beats.

The 949 Part I crimes were divided into three overlapping categories, type of crime, violent and nonviolent, and discovery and involvement. The type of crime designation was based upon the FBI Uniform Crime Report (UCR) definitions of Part I crimes, which include homicide, forcible rape, robbery, aggravated assault, burglary, larceny, and motor vehicle theft. The designations of violent and nonviolent also adhere to UCR definitions. Homicide, rape, robbery, and aggravated assault are classified as violent Part I crimes, while burglary, larceny, and motor vehicle theft are classified as nonviolent Part I crimes. The designations of discovery and involvement were created for crime cases since it was assumed rapid police response would have little effect upon a discovered crime. Discovery crimes were operationalized as those crimes detected by a citizen after the crime occurred, unobserved or unreported. Crimes were classified as involvement crimes if a citizen saw, heard, or became involved at any time during the commission of the offense. If a crime was witnessed and the witness to the crime reported it to the police, then the crime was classified as an involvement crime. If the crime was witnessed but the witness to the crime did not report it to the police, and the crime was subsequently discovered and reported, then the crime was classified as a discovery crime.

The 949 crimes were divided among the several Part I crimes as presented in Table 1-1.

Table 1-1

Part I Crime	Number	Percent
Homicide	0	0.00
Forcible Rape	10	1.05
Robbery	127	13.38
Aggravated Assault	84	8.85
Burglary	352	37.09
Larceny	297	31.29
Motor Vehicle Theft*	79	8.32
Total	949	100.00

Homicide was not represented in the data base because there were no homicides observed during data collection.** This is not surprising since there were only 114 homicides in Kansas City, Mo., in 1975, the year of data collection, which accounted for only 0.25 percent of the reported Part I crimes for the city that year.

There were 221 violent crimes accounting for 23.3 percent of the data base and 728 nonviolent crimes making up the remaining 76.7 percent of the data base. Since by definition violent crimes involve a victim, all 221 violent crimes were also classified as involvement crimes. The involvement crimes also included 131 nonviolent crimes, 35 burglaries, 91 larcenies, and 5 auto thefts. There were a total of 352 involvement crimes which comprised 37.1 percent of the data base.

There were 597 discovery crimes, 317 burglaries, 206 larcenies, and 74 auto thefts. Fifteen of the 317 discovery burglaries were detected by alarms. These

*For brevity, from this point on, motor vehicle theft will be referred to as auto theft.

**The victim of one incident was shot but did not die at the scene of the crime, and the responding officer classified the offense in his report as an aggravated assault. Later, however, the victim died. In compliance with study criteria which classified calls according to the original offense report, the call was included in the data base as an aggravated assault.

were classified as discovery crimes since there was no citizen involved in reporting them. Like other discovery crimes, alarm-detected crimes did not yield any data about how long it took for the crime to occur. Data on how long it took for the alarm-discovered crimes to be reported were also unobtainable from the private alarm services. However, in terms of police response and outcomes such as arrests, it will be noted later that the alarm-detected discovery crimes were more closely related to involvement crimes. The discovery crimes made up 62.9 percent of the data base.

Once an officer accompanied by an observer arrived at the scene of a call, it was sometimes discovered that more than one offense had occurred necessitating more than one offense report being taken. When this occurred, the most serious offense for which an offense report was written was included in the data sample. Multiple offenses occurred in 35 of the Part I crime incidents included in the data base. For those 35 cases, 33 additional Part I offense reports were written but these offenses were not included in the data base.

Of the 35 cases involving multiple offenses, two cases involved three Part I offenses. Twenty-one cases involved two reports written for the same type of Part I offense, while in six robberies, one burglary, and one larceny an auto theft had also occurred. Three cases involved one Part I offense and one Part II offense, and one case involved one Part I offense and a traffic violation.

Social Characteristics

At the end of telephone interviews with victims, witnesses, and callers related to the eligible Part I crimes, the citizens were asked to answer 12 questions pertaining to such social characteristics as age, race, income, and education. The information was collected so it could be tested for its relationship to other data, e.g., the impact of social characteristics on citizen satisfaction with police re-

sponse time, the relation of social characteristics to the length of reporting time, etc. Because interviews were considered complete whether or not citizens answered any or all of the questions on social characteristics, the sample size varied for each of the 12 variables tested. Statistics for the 12 variables are provided in Table 1-2.

The first four variables pertained to the citizens' patterns of residency. Length of residency in Kansas City, Mo., ranged from less than 1 year to 73 years; any amount of time less than 1 year was coded as 1 year. Answers given in years and months were rounded to the nearest whole number of years. The distribution was somewhat skewed; less than 25 percent of those responding had lived in the city more than 30 years. Twenty-five percent had lived in Kansas City, Mo., less than 10 years. The median length of residency was 20.5 years. The second residency variable, length of time at a citizen's current address, varied from less than 1 year to 50 years, with a median of 3.1 years. Seventy-five percent of the citizens responding said they had lived at their present address less than 10 years; 35 percent gave a response of 1 year or less.

The third question asked the citizens to estimate the population of the community in which they had lived most of their lives in order to test the assumption that the size of persons communities influences their attitudes about police response time and/or perceptions. The population at the time the citizen lived there was categorized on an ordinal scale with "city over 500,000" at the top.* Of the 774 persons responding, 72.5 percent said they had lived most of their lives in a city over 500,000. The remaining 27.5 percent of the responses were fairly evenly distributed among the nine responses ranging from 1.3 to 5.3 percent in each category.

*The population of a city was based on its metropolitan population and not on its specific population within the city boundaries.

Table 1 - 2.-- Social characteristics of citizens interviewed for reporting time data.

Social Characteristic	N	$\bar{X}$	Median	Mode	Range	Frequencies
Length Residence in K.C., Mo.	758	22.1 years	20.5 years	n.a.	<1 to 73 years	——
Length Residence at Present Address	844	6.9 years	3.1 years	1 year (35.0%)	<1 to 50 years	——
Population of Community in Which Citizen Lived Most of Life	774	n.a.	n.a.	500,000 and above (72.5%)	rural area to 500,000 and above	——
Tenure	844	n.a.	n.a.	n.a.	n.a.	own 46.0% rent 44.7% board 9.4%
Marital Status	843	n.a.	n.a.	n.a.	n.a.	married 46.7% not married 53.3%
Type of Work (Duncan socio-economic scale)	836	n.a.	19	0 (28.0%)	0 to 99	——
Age	835	37.0 years	n.a.	n.a.	13 to 84 years	——
Education	835	high school completed	high school completed	high school completed (30.4%)	less than 8th grade to graduate school	——
Head of Household	835	n.a.	n.a.	n.a.	n.a.	head of household 74.9% not head of household 25.2%
Income (annual-household)	676	n.a.	$10,000 to $11,999	$15,000 to $19,999 (11.4%)	under $2,000 to $25,000 and over	——
Race	834	n.a.	n.a.	n.a.	n.a.	white 54.8% black 43.6% other 1.6%
Sex	844	n.a.	n.a.	n.a.	n.a.	male 56.9% female 43.1%

n.a. = Not applicable.

The fourth variable pertained to the stability of persons living arrangements. An ordinal scale was devised according to whether persons lived 1) in their own home, 2) in rental property, or 3) in a boarding home. Forty-six percent of those responding lived in their own home, 44.7 percent rented, and 9.4 percent lived in a boarding arrangement.

The Duncan Socioeconomic Status Scale,* an ordinal scale of nearly 500 different types of jobs, was used to rate the type of work a citizen did. Occupations listed in the 1950 U.S. Census of Population are rated from 1 to 99, according to combined educational status and income level with a slight adjustment for the age ranges in some categories. Seventy-three ratings were used in this study, with a median rating of 19.4. Twenty-eight percent of those responding were given a rating of zero because their occupation was not listed on the scale, e.g., homemakers, students, retired persons, or unemployed; these responses were not included in the analysis.

Education and income were organized into nine educational ranges and 13 income levels. The mean, median, and mode of the response on education all fell within level four, "high school complete." Citizens were asked to select the category of income which applied to the total annual household income. The median of the income level selected was 8.98; the ninth category of income ranged from $10,000 to $11,999.

Ages ranged from 13 to 84 years with a mean of 37.0 years; those persons 12 years and younger were not eligible to be interviewed according to criterion set by the study. Less than half (46.7 percent) of the citizens interviewed were married and shared the same household with their spouse; the remainder who said they were either single, separated, divorced, or widowed were classified as unmarried.

*Reiss, A., Duncan, O., Hatt, P., and North, C., Occupations and social status. New York: The Free Press of Glencoe, 1961.

Citizens were also asked to state whether or not they considered themselves the head of their household; an option was provided for those persons living as a couple who said both persons were the head. The vast majority of persons (74.9 percent) classified themselves as the head of a household, including the 3.9 percent who said they shared head of household status.

The citizen's race and sex were obtained from several sources, e.g., personal observation by the interviewer, information listed on the police offense report, or on the Attachment A, a form completed during data collection by field observers which gave certain identifying information about citizens eligible for an interview. Males outnumbered females (56.9 percent). Whites made up slightly more than half the sample (54.8 percent) and blacks, 43.6 percent; the remaining 1.6 percent of the sample included persons from various minority groups and was not included in the analysis.

The Analysis Strategy

Because of the diversity of the outcomes being investigated, the analysis techniques utilized were also varied and diverse. This section discusses relationships that were being sought in the analysis of each outcome and analysis techniques which were specific to that outcome.

Chapter Two provides a division of the total response time continuum into the time taken by citizens to report crimes, the time taken by dispatchers to process the information, and the time taken by officers to respond to the crime calls. For the dispatching process and officer responses, exact point times were obtained. Dispatching times were taken from Communications Unit tape recordings, and officer response times were obtained by civilian observers using digital watches. The citizen reporting times were constructed from estimates obtained during subsequent interviews of the citizens who had called police. If the citizens interviewed were not consistent in their estimations of how long it took to report

a crime, the minimum reporting delay cited was employed.

Despite the choice of minimum reporting times given by citizens, some lengthy reporting delays were noted, resulting in a skewed distribution of reporting data. The dispatching and officer response time distributions were also skewed, although not as severely as the reporting distribution. As these extreme times were not mistakes but the results of actual crime incidents, they were included throughout the analysis. Because the skewness is reflected in the means and standard deviations of the response times reported, the median time is suggested as more representative of the time taken to report, dispatch, and respond to a crime incident. Furthermore, logarithmic transformations were used to normalize the time distributions so differences in response times among types of crimes could be better analyzed.

The relationship of response time to arrest and the availability of witnesses is presented in Chapters Three and Five, respectively. The dependent variables of arrest and witness availability were dichotomous, coded 1 if one or more arrests were made or one or more witnesses contacted for a call, 0 if not. Response time was the independent variable of primary concern.

Each crime incident was analyzed, rather than a number of cases grouped by response times. Grouping results in a proportion of cases with an outcome for an average, instead of a precise time. It also severely restricts the number of additional factors which can be assessed as predictors since these factors would have to relate to a group rather than an incident.

Scattergrams of the arrest and witness data illustrated that both tended to cluster at the lower ends of the response time intervals, and that fitting a straight line to this data would be inappropriate and impossible in many cases. Transformations of the time data were therefore employed to assess the fit of non-linear functions. The possibility that the relationship between response time and

arrest or witness availability might differ by type of crime was also examined.

The strong intuitive appeal of rapid police response, as evidenced by the emphasis and reliance upon this tactic to gain on-scene arrests, demanded its thorough evaluation. It was not reasonable to assume rapid response was the primary determinant of all on-scene arrests in the sample, so the data were sampled by excluding arrests stemming from factors other than rapid response. This procedure was expected to reveal more clearly the relationship between rapid response and arrest. The relationship was again assessed for differences among types of crimes.

Chapter Four presents the results of relating traditional patrol procedures, designed to minimize response time, with actual response time and with arrest. As the distance an officer must travel to a crime was expected to affect response time, the officer's location at the time of dispatch was examined. In addition to distance, other variables considered included: a) whether the officer was in or out of the car at the time of dispatch and whether the car was stationary or mobile; b) the assigned code of the call; c) the number of officers in a car that responded to the call; d) the type of crime; and e) if two cars responded, whether the officer arriving first waited for a backup or proceeded to the crime scene. Finally, these variables, in addition to actual response times, were assessed as predictors of on-scene arrest.

Chapter Six presents the results of an exploratory effort made to assess the impact of response on injuries sustained in Part I crimes. Kansas City, Mo., police officers are often called to the scene of injuries before an ambulance and are expected to determine the need for an ambulance, render emergency first aid, supervise and expedite the handling of the injured person, etc. The study was interested in determining, therefore, if an injury incident receiving prompt emergency field treatment by an officer results in more rapid recovery, fewer impair-

ments, and the need for less specialized medical treatment compared to an injury of equal seriousness but receiving a slower response.

Chapter Seven outlines an attempt which was made to identify the problems citizens encountered and their voluntary actions or attitudes (patterns) which resulted in significant delays in contacting police. Five problem and eight pattern variables were identified.

Although the chief objective was to assess the relationship between these variables and the time taken to report a Part I crime offense, several possible interrelationships were examined. The social characteristics of the reporting citizens were examined to determine if they varied by type of crime, affected the types of problems encountered or patterns followed, or directly related to reporting time. Type of crime was also analyzed for its influence on problems and patterns and for its impact on reporting time. With these possible interrelationships considered, the important determinants of reporting time were isolated. As before, the logarithmic transformation was used as the primary dependent variable to normalize the reporting time distribution.

The process of reporting Part I crimes is examined in Chapter Eight according to the following variables: a) who called the police -- i.e., a victim, a witness, or a third party who was not directly involved in the incident but who was requested to call by another citizen; b) whose telephone was used -- i.e., business, personal (the victim's or someone else's), or pay phone; c) what telephone number was used -- i.e., police emergency, police administrative, or "0" for the telephone company operator; and d) how the caller knew the number -- i.e., telephone directory, operator assistance, having the number written down, or knowing the number from memory.

Differences in the social characteristics of the citizens who called police were sought for each of the four variables. Additionally, the urgency of the call

being placed was rated according to the following index: 1) whether the incident was in progress or an injury was involved; 2) whether the crime was violent (rape, robbery, assault) but with no injuries and not in progress; 3) whether the crime was nonviolent (burglary, larceny, auto theft) and witnessed; or 4) whether the crime was nonviolent and not witnessed. Mean differences in this urgency index were assessed according to the number used and how the caller knew the number. Also, the type of caller variable was examined to see if the length of reporting time was affected by whether the citizen calling police was a victim, witness, or a caller not involved in the crime.

Also found in Chapter Eight are the results of a separate experimental analysis conducted on the variable of telephone number used to contact the police department. Staff members placed calls to the department at various times of the day using the Crime Alert and police administrative numbers and "0" for the telephone company operator, who in turn called police. The primary dependent variable was the time lapsed from the end of dialing until the dispatcher was contacted and was ready to receive information. Independent variables included the time of day the call was placed, whether the call was placed in close temporal proximity to the communications unit shift change, and the message given to identify the type of service needed. The time components involved in reaching the dispatcher were also analyzed to see if they differed in length.

Citizen satisfaction with the officer's response time was examined and is reported in Chapter Nine. Because of the number of factors considered and the interrelationships expected, a causal model was developed and tested through path analysis. The citizen's expectations and perceptions of police response time was specifically expected to affect the citizen's satisfaction, along with whether the citizen thought a faster response would have produced a more favorable outcome to the incident. A citizen's social characteristics, the type of crime, and the of-

ficer response time were considered possible influences' and their direct and indirect impacts upon citizen satisfaction were analyzed.

CHAPTER TWO

RESPONSE TIME

Of primary importance to the objectives of the study was the meaningful division of the total response time continuum into a number of time intervals which could then be related to incident outcomes. Also of interest were the component processes in each of these intervals which would provide descriptive information on the total response process.

Accordingly, the total response time continuum, from the point when either the citizen's involvement in the crime was ended or the citizen discovered the crime to the point when an officer began his on-scene investigation, was divided into seven independent components. These components were then conceptually combined to form three main response time intervals, the reporting, dispatch, and travel intervals, which were used to assess the study's objectives.

Response Time Components

While not considered a part of the response time continuum, data were collected on how long a citizen was detained during the commission of a violent crime, i.e., crime occurrence. By interviewing victims of and witnesses to violent crimes, it was possible to get an estimate of how long a citizen was detained during the commission of violent crimes. This component of time was not related to study objectives, but occurrence time data were included for descriptive purposes.

Figure 2-1 illustrates the seven components of the response time continuum used in the study:

1. From the time a citizen was free from involvement in a crime or discovered a crime until initial connection between the citizen and a police dispatcher. If the crime was reported by a witness

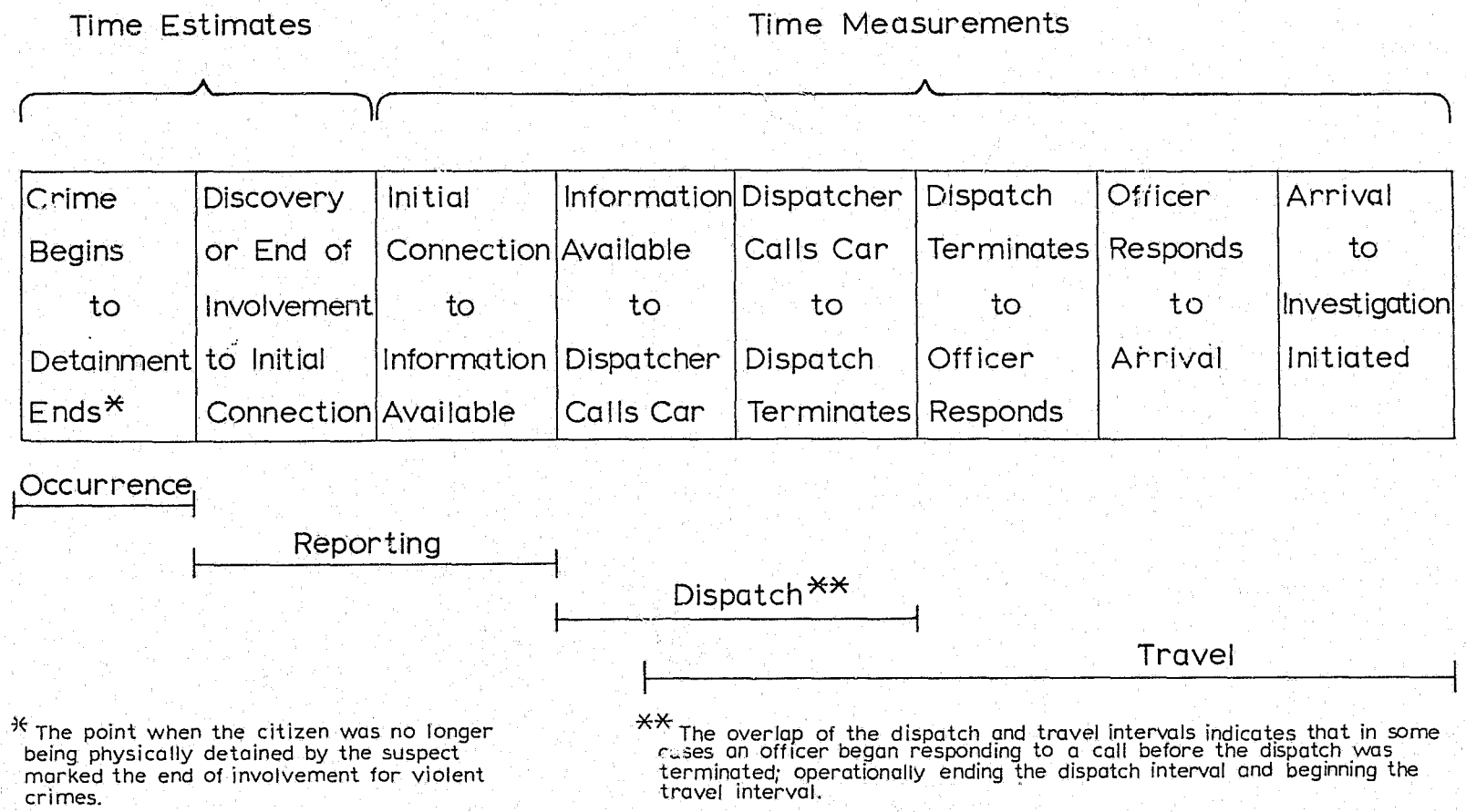


Figure 2-1.-- Conceptual model of response time components and response time intervals of the total response time continuum.

who had been on scene, then the witness' involvement was considered over when the witness left the scene. If it was reported by a witness who was not on scene, the witness' involvement was considered terminated 1 minute after the witness first witnessed the crime. If police were contacted during the commission of the crime, either by a victim or a witness on scene, the total component was arbitrarily estimated to take 1 minute. When police were notified by means of a private alarm company, this interval could not be obtained.

2. From the time of initial connection until the dispatcher understood the nature of the incident and location to which the officer should be dispatched.
3. From the time when the dispatcher understood the nature of the incident and the location to which an officer should be dispatched until the end of the transmission in which the dispatcher requested the location of a specific car with an observer or any car in the vicinity, and a car with an observer answered that call by giving its location.
4. From the end of this initial transmission until a specific car with an observer was assigned to the call. The end of this interval was determined by when the dispatcher gave the time over the air, terminating the dispatch.
5. From the time a car was assigned to a call until the officer began responding to the call. Because information concerning a call was often broadcast before the dispatcher called for a specific car or before the dispatch terminated, an officer

could have begun responding to a call before either of these times. Consequently, negative values for this interval indicated the officer responded to the incident before being officially dispatched.

6. From the time an officer began responding until arrival at the dispatched location. This component was considered over when an officer exited from the car at the dispatched location. If the officer remained in the car, the component was considered over when the officer had contact with a citizen with some knowledge of the crime or when the officer was at the actual scene of the crime.
7. From the time when the officer arrived at the dispatched location, until the investigation of the incident was initiated. The investigation was considered initiated if the officer contacted any citizen directly involved with the incident, or when the officer arrived at the incident scene, whichever came first. This component could also result in negative values if another officer arrived at the scene and began an investigation before the observed officer. This situation is known in Kansas City, Missouri, Police Department vernacular as a "busted call."

Response Time Intervals

Once the seven components of response time had been identified, they were conceptually combined into three intervals which were used as factors in analyzing the relationship of response time to outcomes. Those three intervals were labeled reporting, dispatch, and travel (Figure 2-1).

Reporting Time. Reporting time was made up of the first two time components

and began when a citizen was free from involvement in a crime or had discovered a crime and ended when a dispatcher had been contacted and knew the nature of the crime and the location to which the officer was dispatched.

Dispatch Time. This interval began when the dispatcher knew the nature of the crime and dispatched location and ended when the dispatch to the observed field officer terminated or when the officer began responding to the call, whichever came first. Since an officer could respond before a car was officially dispatched, this interval may have included only part of the component which began with the initial transmission and may not have included any part of the component which began when a car was officially assigned.

Travel Time. This interval began when the dispatch ended or the officer began responding to the call, whichever came first, and ended when the officer began his on-scene investigation. Again, depending on when the officer began to respond, this interval may have included only part of the component which began with initial transmission and may not have included any of the component which began when a car was officially assigned. This interval always included the three components which began with the officer's response and ended with initial investigation.

Response Time Data

The occurrence time, as well as the times for the seven response time components for all Part I crimes, involvement crimes, and discovery crimes, are given in Table 2-2. Several statistics are provided for each time division: median (Md) time, mean ($\bar{X}$) time, and standard deviation (SD), as well as the minimum (Min) and maximum (Max) time values for each of the components listed.

Because of the skewness of the time distributions, the median time is probably the most representative single measure of the time taken in each step

Table 2 - 2. -- Time statistics for each response time component for the categories of all Part I crimes, involvement crimes, and discovery crimes.

Crime Category		Occurrence: Crime Begins to Detainment Ends	Discovery or End of Involvement to Initial Connection	Initial Connection to Information Available	Information Available to Dispatcher Calls Car	Dispatcher Calls Car to Disp. ch Terminates	Dispatch Terminates to Officer Responds	Officer Responds to Arrival	Arrival to Investigation Initiated	**Total Response Time
All Part I Crimes	Md	1:58	5:28	0:14	2:30	0:19	0:03	4:21	0:23	18:50
	$\bar{X}$	17:17	3:44:27	0:23	4:39	0:22	0:35	5:01	0:30	3:57:50
	SD	2:49:09	37:54:56	0:35	6:22	0:11	1:53	3:09	1:34	38:15:41
	Min.	1:00	1:00	0:03	0:12	0:06	-5:23	0:00	-10:51	2:24
	Max.	41:45:00	*999:00:00	10:59	53:29	1:41	29:07	25:55	26:27	999:10:58
	N	220	935	929	889	897	936	946	948	918
	%	—	46.1	2.1	19.2	2.4	2.1	27.1	1.0	100.0
Involvement Crimes	Md	1:58	4:37	0:14	2:00	0:20	0:01	3:31	0:18	12:53
	$\bar{X}$	17:17	40:58	0:22	3:19	0:24	0:19	4:15	0:14	50:04
	SD	2:49:09	4:04:48	0:28	4:22	0:14	1:26	2:42	2:07	4:07:12
	Min.	1:00	1:00	0:03	0:12	0:06	-5:23	0:00	-10:51	2:24
	Max.	41:45:00	48:00:00	5:06	34:27	1:41	11:45	17:45	26:27	48:05:13
	N	220	346	343	324	328	348	351	352	339
	%	—	41.7	2.8	20.2	3.6	0.7	32.7	-1.8	99.9
Discovery Crimes	Md	—	9:44	0:14	2:53	0:18	0:05	4:48	0:27	22:41
	$\bar{X}$	—	5:32:15	0:23	5:25	0:20	0:45	5:28	0:40	5:47:47
	SD	—	47:35:32	0:39	7:09	0:09	2:05	3:18	1:06	47:59:41
	Min.	—	1:00	0:04	0:14	0:07	-0:54	0:00	-4:37	3:52
	Max.	—	999:00:00	10:59	53:29	1:24	29:07	25:55	10:53	999:10:58
	N	—	589	586	565	569	588	595	596	579
	%	—	48.6	1.6	18.6	1.7	2.8	23.9	2.6	99.8

* Actual reporting delay exceeded 999 hours in one incident of discovery larceny. 999 was used for computational purposes.

**Occurrence time estimates were not included in total response times.

of the response process. This skewness probably resulted from several extreme but valid values in the distribution, especially in the occurrence times and the component from discovery or end of involvement until initial connection. Also contributing to the skewness was the use of the fastest times mentioned by citizens for their reporting interval, and a floor effect (component times could not be negative, except in two cases).

Due to equipment malfunctions, inability to locate victims or witnesses, and other problems in data collection documented in this study, component times were occasionally unavailable. Consequently, the exact sample size (N) on which each of the statistics was based, is provided. Finally, the proportion each component is of the total time (percent) is listed. For each incident, the individual times were divided by the time for the total response continuum. The means of these scores are the statistics reported.* Response time data for each type of crime is found in Appendix A, Tables A-1 through A-6.

Based upon proportions found in Table 2-2, 92.4 percent of the total response time continuum for Part I crimes was made up of only three of the seven time components. The component from discovery or end of involvement in a crime until initial connection comprised nearly half (46.1 percent) of the continuum. The median reporting time for this component was almost five-and-one-half minutes with a minimum of 1 minute and a maximum of over a month (999 hours)** to report an incident. The time component from the time the nature and location of the call was understood by the dispatcher until the dispatcher first called for the observed patrol car, made up 19.2 percent of the continuum with a median of 2 minutes, 30

*Due to rounding errors and unequal sample sizes, these percentages do not always sum to 100 percent.

**Because such lengthy delays were unforeseen, the maximum value which could be coded was 999 hours. Values greater than 999 hours were treated as 999 hours.

seconds. The component from the time the officer began his response until arrival at the dispatched location made up 27.1 percent of the continuum and had a median of 4 minutes, 21 seconds. Each of these three components corresponded with one of the three conceptualized time intervals, the reporting, dispatch, and travel intervals.

Statistics for the reporting, dispatch, and travel intervals for all Part I crimes, involvement crimes, and discovery crimes are illustrated in Table 2-3. Reporting, again, comprised nearly half of the total continuum (48.1 percent) with a median time of 6 minutes, 17 seconds. Dispatch represented 21.0 percent of the continuum with a 2 minute, 50 second median time, and travel represented 30.9 percent of the continuum with a 5 minute, 34 second median time. Response time statistics by type of crime may be found for these three intervals in Appendix A, Tables A-7 through A-12.

Comparisons of the total response time continuum by type of crime are shown in Figure 2-4. These proportional bar graphs are based upon the median time of the total interval. As a group, discovery crimes resulted in longer response times, with discovery auto thefts showing the longest median time. Involvement incidents, conversely, were consistently related to shorter response time.

When compared as a group, violent involvement crimes had shorter response times than nonviolent crimes. This comparison was not consistent, however, when these crimes were compared individually. Involvement burglaries, a nonviolent crime, had a shorter total response continuum than either assault or rape, two of the three violent crimes represented in the study. Robberies, a violent crime, had the proportionally shortest response continuum, less than half that of discovery auto theft, which had the longest continuum.

The proportion that each of the three response intervals make up of the total continuum is illustrated for each crime category in Figure 2-5. The bar graphs

Table 2 - 3.-- Time statistics for response time intervals for the categories of all Part I crimes, involvement crimes, and discovery crimes.

Crime Category		Reporting	Dispatch	Travel	Total
All Part I Crimes	Md	6:17	2:50	5:34	18:50
	$\bar{X}$	3:46:42	4:56	6:11	3:57:50
	SD	38:15:28	6:23	3:53	2:24
	Min.	1:04	0:16	0:06	2:24
	Max.	*999:00:10	53:48	30:13	999:10:58
	N	918	931	948	918
	%	48.1	21.0	30.9	100.0
Involvement Crimes	Md	5:09	2:16	4:00	12:53
	$\bar{X}$	41:38	3:38	4:56	50:04
	SD	4:07:28	4:49	3:26	4:07:12
	Min.	1:04	0:16	0:06	2:24
	Max.	48:00:53	43:31	30:13	48:05:13
	N	338	344	352	339
	%	44.5	22.3	33.2	100.0
Discovery Crimes	Md	10:11	3:19	6:14	22:41
	$\bar{X}$	5:34:33	5:42	6:56	5:47:47
	SD	47:57:07	7:03	3:57	47:59:41
	Min.	1:05	0:32	0:26	3:52
	Max.	999:00:10	53:48	30:07	999:10:58
	N	580	587	586	579
	%	50.2	20.2	29.6	100.0

*Actual reporting delay exceeded 999 hours in one incident of discovery larceny. 999 was used for computational purposes.

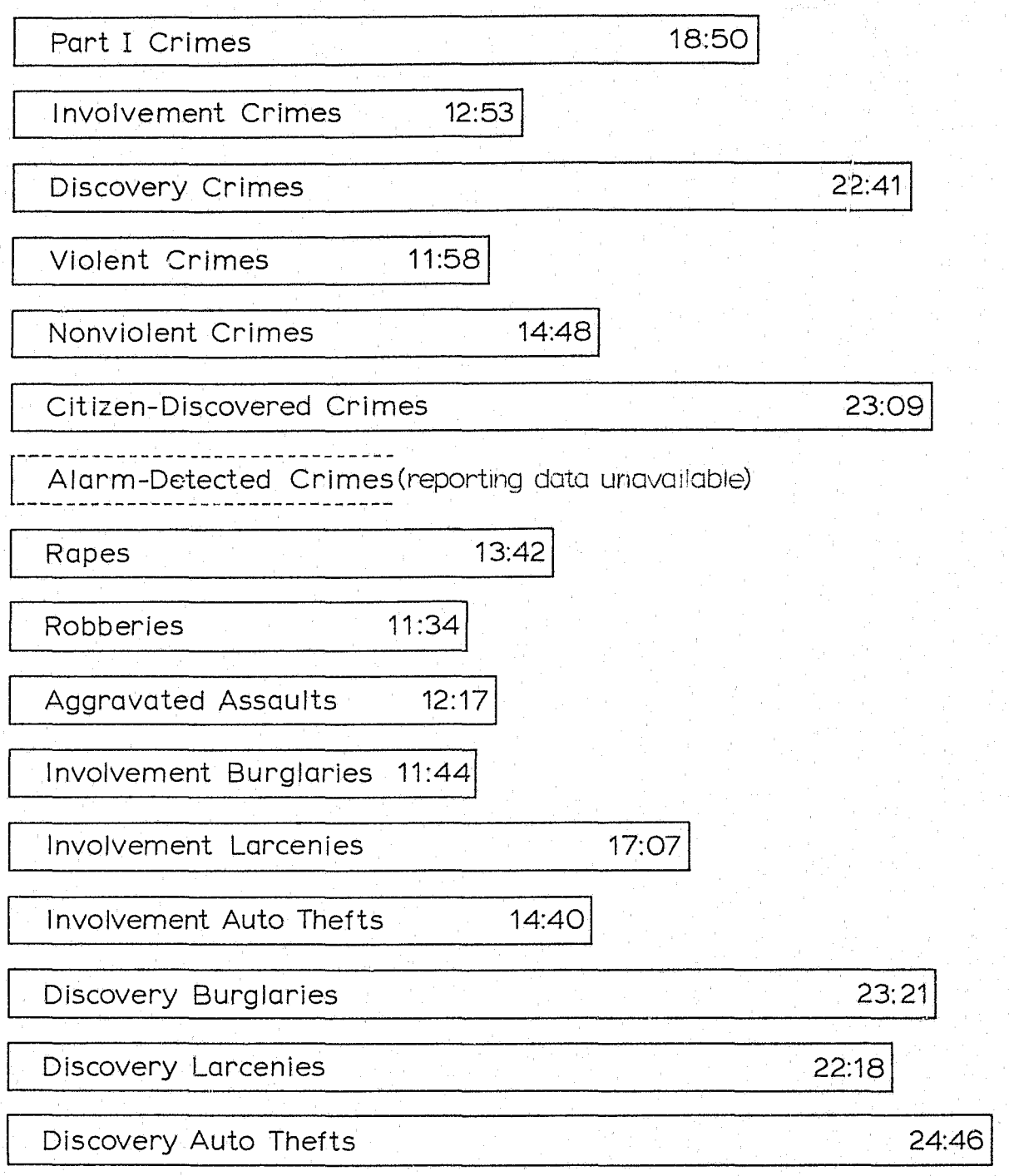
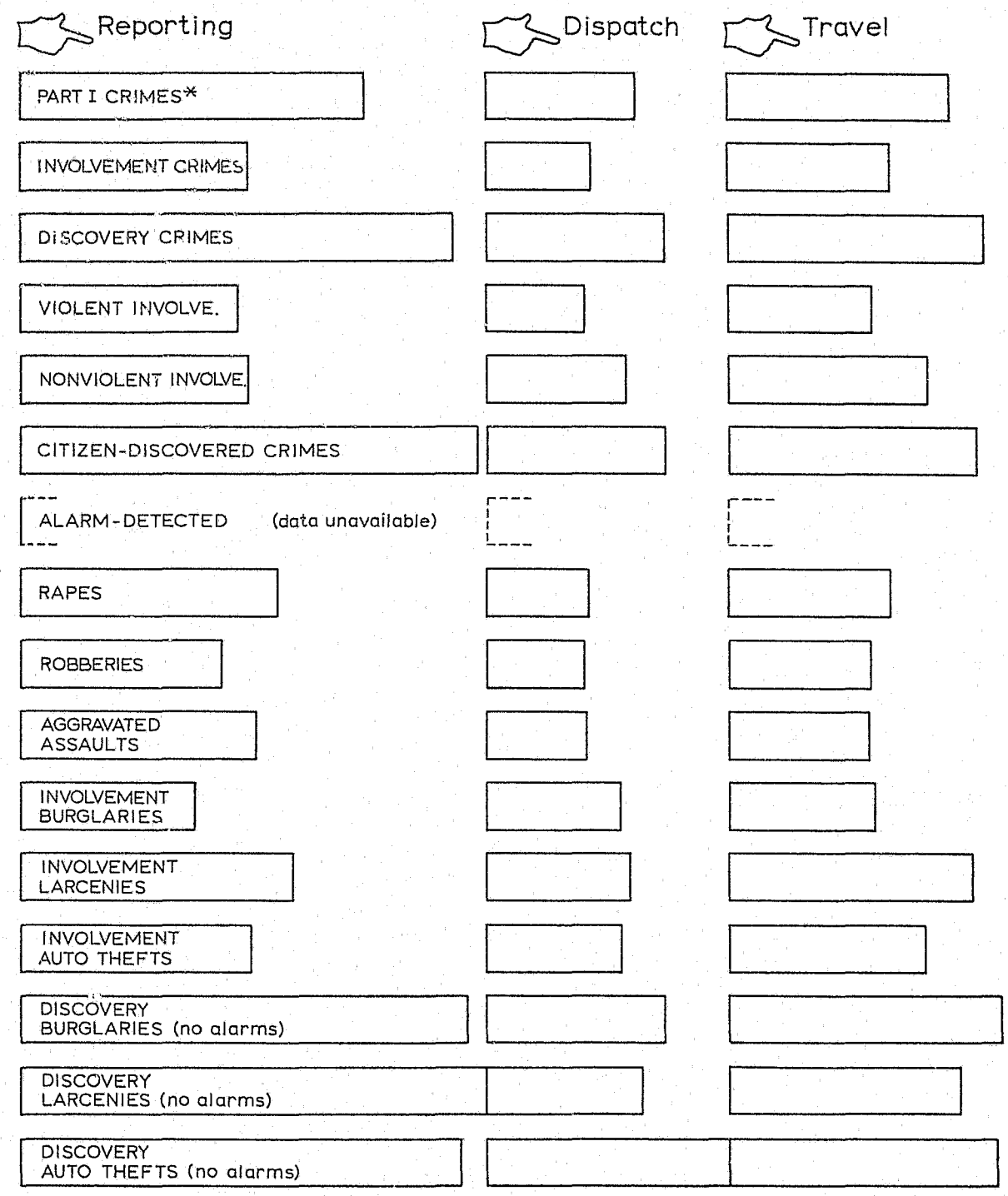


Figure 2-4.-- Proportional comparison of total response time continua for each crime category based upon median times.



*Proportions for an interval were computed by dividing the time for the interval by the total response time. The bargraph is based on the mean of these proportions.

Figure 2-5.-- Proportional comparison of response time intervals for each crime category.

given are proportional both within and between types of crime, permitting comparisons of any interval for the same crime or any of the other crimes. Of particular interest is a comparison of a time interval among the categories of crime. Proportionally, reporting time was at a minimum for involvement burglary and at a maximum for discovery larceny. Dispatching was at a minimum for robbery and at a maximum for discovery auto theft, and travel was at a minimum for assault and at a maximum for discovery burglary.

To test the significance of the difference depicted by the proportional bar graphs, type of crime dummy variables were entered into multiple regression, an analysis of variance technique. Variables for rape, aggravated assault, involvement burglary, involvement larceny, involvement auto theft, discovery burglary, discovery larceny, and discovery auto theft were employed as predictors of reporting time, while the same variables plus one representing alarm-detected incidents were used in the regressions involving dispatch and travel time. Robbery cases were the reference group in each of the analyses. In an effort to normalize the distributions of the time data, logarithmic transformations of the three response time intervals were used in addition to the linear forms. The results from the logarithmic forms are reported and summarized in Appendix A, Tables A-13, A-14, and A-15.

This analysis indicated that the type of crime was a significant predictor of the time taken to report ($F = 9.71$, $df = 8/894$, $p < .001$), to dispatch ($F = 7.57$, $df = 9/920$, $p < .001$), and to travel to an incident ($F = 19.62$, $df = 9/920$, $p < .001$). To test the interrelationships among the types of crime, t-tests of the mean differences among times were computed. The assumption of equal group variances was assessed by an F-test, and where the variances were found to differ significantly, a separate-variance estimate was employed rather than the pooled variance normally used. The results of these comparisons are summarized in Appendix A,

Tables A-14, A-15, and A-16 for reporting, dispatch, and travel intervals, respectively.

The results for reporting time generally suggested that involvement crimes, specifically robbery, aggravated assault, involvement burglary, and involvement larceny, were reported more rapidly than the discovery crimes, discovery burglary, discovery larceny and, in two categories, discovery auto theft. The only differences among involvement cases were due to more expeditious reporting in involvement burglaries than in either assault or involvement larceny incidents, while no significant differences were found among types of discovery crimes.

Significant mean differences in dispatch time occurred among the involvement crimes of robbery, aggravated assault, and burglary and the discovery crimes of burglary, larceny, and auto theft, with the exception of the nonsignificant difference between involvement burglary and discovery larceny. Involvement larcenies showed a significant difference from discovery auto theft cases only. These differences were all due to more rapid dispatching for involvement incidents compared to discovery incidents. Among involvement crimes, only robberies differed from involvement larcenies with robbery receiving more rapid dispatching. Among discovery crimes, discovery larcenies showed faster dispatch time than discovery auto thefts. Crimes detected by an alarm were dispatched more quickly than involvement larcenies or any of the groups of discovery crimes.

Finally, robbery, assault, and involvement burglary cases showed shorter mean travel intervals than involvement larceny, involvement auto theft, and discovery burglaries, larcenies, and auto thefts. The single exception to this generalization was the lack of difference between assault and involvement auto theft incidents.

In very general terms, the findings suggest that involvement crimes were reported more rapidly, received more prompt dispatching, and resulted in faster

travel than incidents that were discovered. Only rape and involvement auto theft cases consistently deviated from this pattern, although the differences between involvement larceny and the discovery incidents were not always found to be significant. For rape and involvement auto theft, however, the nonsignificance of the differences may be due in part to the limited sample size of each, rather than any real lack of effect. Finally, alarm-detected incidents, although technically considered discovery cases since they lacked direct citizen involvement, more closely resembled involvement incidents with respect to dispatch time and showed significantly shorter mean times than the involvement larcenies and each of the discovery groups.

CHAPTER THREE

ARREST

One of the fundamental but basically untested assumptions of policing is that rapid response can and does increase the probability of criminal apprehensions. Attention has usually been directed at how decreases in police communication and travel time affects arrest with virtually no indication of how citizen reporting time relates to response and arrests. This section will focus on the relationships citizen reporting time and police communication and travel times have to arrests.

The Arrest Sample

For the purpose of this study, arrest was defined as the transporting of a suspect to any specific location for the purpose of booking, questioning, or identification. The definition excluded referrals to other agencies such as alcohol detoxification or mental health centers. This volume is limited to on-scene arrests, defined as arrests made before the initial investigation by a field officer was concluded. Apprehensions of suspects in flight from or adjacent to the incident scene are considered on-scene arrests only if they were made before the conclusion of the initial investigation. Also, on-scene arrests were included in the sample only if the arrests were directly related to the Part I crimes for which the officer wrote the offense report. An arrest made for a parole violation or on a previous warrant was not included in the sample, even if the arrest was made on scene, since it did not relate directly to the Part I crime for which the offense report was taken by the officer.

The remaining arrests, made after conclusion of the initial investigation, were considered subsequent arrests and were not included in the sample for anal-

ysis. Out of the total 949 Part I crime calls analyzed, 113 calls, or 11.9 percent, resulted in the arrest of 173 suspects on scene.

After an examination of the arrest sample made it apparent many of the arrests resulted from factors other than rapid response and would probably have been made regardless of rapid response, a subsample of response-related arrests was created. This had two potential benefits. First, it more clearly defined the impact of response time by specifying the proportion of on-scene arrests which could be attributed to rapid actions. Secondly, it more clearly revealed the relationship of response time to arrest by excluding arrests resulting from other explicit sources.

Four exclusionary factors were established to segregate response-related arrests from arrests resulting from other factors. Any arrest resulting from any one of the four factors was excluded from the response-related arrest subsample.* Arrests were excluded from the response-related subsample if:

1. The suspects were apprehended by private citizens prior to police involvement; 60 arrests in 45 calls were excluded for this reason.
2. The suspect's name or address was provided by the victim or a witness; 55 arrests in 38 calls were excluded for this reason.
3. The suspect was rendered totally immobile by injuries received during the commission of the crime; one arrest in one call was excluded for this reason.
4. The suspect turned himself over to the police; three arrests in three calls were excluded for this reason.

*These four factors were not mutually exclusive so some of the arrests were disallowed for more than one reason. Figures which indicate the number of arrests disallowed for a particular reason may include arrests already excluded for one of the other three reasons. A net total of 119 arrests from 87 incidents were segregated from the response-related subsample.

Of the 113 calls resulting in 173 arrests, 35 incidents (31.0 percent) resulted in 58 arrests which could be related to response. In the remaining 69 percent of the calls in which arrests were made, the arrests could not be directly related to response time.

It was understood that the response time of the officer may have had a limited effect upon some of the arrests which were excluded from the subsample. For example, victims might be more prone to press charges against a known suspect, e.g., husband, wife, neighbor, if contacted by the police soon after the incident; a suspect might be more likely to turn himself over to the police if they arrived quickly; a suspect apprehended by a private citizen might have escaped if police had not arrived rapidly to secure him. However, it was also understood that in these cases, the effect of rapid response was secondary to another factor which led to the arrest of a suspect. To allow for comparisons between those arrests made because an officer responded rapidly and those arrests in which response had a secondary effect, if any effect at all, arrest results are reported for both the total arrest sample and the response-related arrest subsample.

Table 3-1 illustrates the distribution of incidents with arrests by type of crime. For analysis, the term arrest refers to an incident or case with one or more arrests. While discovery crimes comprised a large proportion of the total Part I crime sample, on-scene arrests in discovery cases were rare. Arrests were made in 2.2 percent of the discovery cases. The discovery crimes were divided into two subgroups, those discovered by individuals and those discovered by alarms. Alarm cases which were considered to be discovered in progress instead of after the crime occurrence like crimes discovered by individuals, produced very different statistical results than those discovered by individuals.

Table 3-1.-- Part I crime data base with number of incidents, incidents with arrests, incidents with response-related arrests, and percentages of each by type of crime.

Type of Crime	Data Base		Incidents with Arrests		Incidents with Response-related Arrests	
	N	Percent	N	Rate*	N	Rate*
Involvement Crimes	352	37.0	100	28.4	27	7.7
Violent Involvement	221	23.3	45	20.4	12	5.4
Rapes	10	1.1	3	30.0	1	10.0
Robberies	127	13.4	10	7.9	6	4.7
Aggravated Assaults	84	8.9	32	38.1	5	6.0
Nonviolent Involvement	131	13.8	55	42.0	15	11.5
Burglaries	35	3.7	16	45.7	12	34.3
Larcenies	91	9.6	38	41.8	2	2.2
Auto Thefts	5	0.5	1	20.0	1	20.0
Discovery Crimes	597	62.9	13	2.2	8	1.3
Citizen Discovered	582	61.3	6	1.0	1	0.2
Burglaries	302	31.8	5	1.7	1	0.3
Larcenies	206	21.7	1	0.5	0	0.0
Auto Thefts	74	7.8	0	0.0	0	0.0
Alarm Detected	15	1.6	7	46.7	7	46.7
Burglaries	15	1.6	7	46.7	7	46.7
All Part I Crimes	949	-	113	11.9	35	3.7

*Percent of all cases by crime type.

Of the incidents discovered by alarms, 46.7 percent resulted in response-related arrests. While this is a high percentage of arrests, it should be remembered the Part I crime sample included only calls in which an offense report was written and so does not reflect the large number of alarm instigated calls in which no apparent crime was committed.

Because of the possible conceptual and statistical bias which the alarm calls might have injected into the results for discovery cases, they were excluded from further analysis of the response time arrest relationship. The only conclusion in regard to alarm-detected incidents is that in the small proportion of alarm cases in which there is evidence of a crime, alarm detection provides a potentially powerful tool for criminal apprehension.

Alarm calls in involvement cases did not appear to present the same difficulties for analysis as alarm calls in discovery cases. Eight involvement crimes were reported to the police by an alarm company after a customer alarm was activated. Seven of the eight were commercial robberies while in the eighth case the holdup alarm was used to report a shoplifting incident. In those cases, tripping the alarm could be taken as analogous to calling the police since the victim had the option of calling. An alarm has the obvious advantage of being a less conspicuous method of contacting the police and might be used when phoning would be impossible. However, in all eight cases, the reporting citizen noted he did not push the alarm until after the suspect had left, and in one case, the victim indicated that because she had been locked up in a back room, the suspect had been gone from the scene 5 minutes before she was able to activate the alarm. For those cases which are reported after the crime occurrence, as all in the sample were, telephoning would have the advantage of making pertinent suspect information available to the police that the alarm company could not possibly know.

In a ninth involvement case, a commercial burglary, the suspect was seen by the victim and two witnesses but police were alerted by an alarm tripped by the burglar during the commission of the crime.

Of the discovery crimes which remained after the alarm cases were excluded, only 1 percent resulted in arrest and only 0.2 percent resulted in arrests related to rapid response. The nonviolent crimes of burglary, larceny, and auto theft were included in both the discovery and the involvement categories since they were sometimes discovered and sometimes witnessed. These crimes had a 42.0 percent arrest rate when witnessed compared to 1 percent when discovered. This 42.0 percent arrest rate for nonviolent involvement crimes dropped to 11.5 percent for response-related arrests. Involvement cases as a whole, those cases with a victim or witness, had an arrest rate of 28.4 percent and a response-related arrest rate of 7.7 percent. The violent involvement cases of rape, robbery, and aggravated assault had an arrest rate of 20.4 percent with a response-related arrest rate of 5.4 percent.

At first the differences between arrest rates and response-related arrest rates may seem surprisingly large. A closer examination of some of the individual categories can illustrate some of the factors which affect these differences. Within the nonviolent involvement crime sample, larceny had an arrest rate of 41.8 percent and a response-related arrest rate of 2.2 percent. Thirty of the 38 larceny arrests, however, occurred in shoplifting cases in which the suspect was apprehended prior to police involvement so the arrests could not be considered response related. Aggravated assault, a violent involvement crime, had an arrest rate of 38.1 percent and a response-related arrest rate of 6.0 percent. The difference in arrest rates for aggravated assaults was due to the large number of arrests in which the suspects were relatives or neighbors of the victim and were identified by name or address.

The single category which displayed the highest rate of response-related arrests was involvement burglaries with 12 arrests in 35 cases for a response-related arrest rate of 34.3 percent. The reader should remember, however, that for all crime categories the response-related arrest rate percentages are computed from a subsample of cases with arrests. When these arrest rates are computed for the entire sample of calls, then a different picture is reflected. The response-related arrest rate of 34.3 percent for involvement burglaries becomes only 3.7 percent when computed for the total sample.

To test the significance of the variation of arrest rates between the types of crime, dummy variables representing the 10 basic crime categories were entered into multiple regression. This analysis of variance technique involved the categories of rape, assault, involvement burglary, involvement larceny, involvement auto theft, discovery burglary, discovery larceny, discovery auto theft, and alarm-detected crimes with robbery cases as the reference group. Type of crime was found to explain a significant amount of the variation of both arrest rates ($F = 37.75$, $df = 9/920$, $p < .001$) and response-related arrest rates ($F = 26.87$, $df = 9/920$, $p < .001$). (Appendix B, Tables B-1 and B-2.)

T-tests of the difference in the proportion of arrest and response-related arrest cases within each category were performed. Again the assumption of equal group variances was assessed, and separate-variance estimates were employed when the assumption was not met. The results of these group comparisons are illustrated in Appendix B, Tables B-3 and B-4, for all arrests and response-related arrests, respectively. Alarm-detected incidents, as expected, showed a significantly greater proportion of cases with an arrest than most other groups, especially for the response-related subsample. Differences among the discovery crimes, other than alarm incidents, were not found, while differences between involvement types

of crime were rare. Most of the differences, however, appeared to stem from a general difference in rate between those crimes discovered by and those directly involving a citizen, with involvement crimes resulting in the highest rates.

As type of crime was found to be a significant predictor of both arrest and the time taken to report, dispatch, and travel to an incident, it was necessary to control for the effect of type of crime when assessing the impact of response time on arrest. The more general effect of the differences between crimes discovered and those involving a citizen, affecting both times and arrest, was assessed first. The presumably more limited impacts of the violent-nonviolent division and specific crime categories were subsequently analyzed.

The Arrest-Response Time Relationship

Reporting Time. The arrest-response time relationship was analyzed using an analysis of covariance technique in multiple regression. The three chief response time intervals, reporting, dispatch, and travel were treated as covariates with the type of crime entered as a factor. The factor-covariate interaction was assessed in all cases. Inspection of the data strongly indicated that linear regression might not produce the best fit with the observed data, and consequently three common types of data transformations were used in addition to the linear function; a logarithmic, a reciprocal, and a polynomial transformation. The logarithmic and reciprocal transformations consistently produced better fitting curves with the reciprocal of reporting and logarithm of dispatching and travel times providing the best results in nearly all cases.

The reporting interval, for all groups assessed, explained a greater proportion of the arrest sample variance than either the dispatch or the travel times. The variance explained by the dispatch interval did not reach significance for any group tested, and variance explained by travel time was significant in only

some of the categories assessed. Generally, the response time relationships were strengthened when only the response-related arrests were analyzed. Furthermore, if only those arrests which failed to meet the four selection criteria of a response-related arrest were utilized, no relationship between either reporting or dispatch and the nonresponse-related arrests was found. Regression with travel time indicated, on the other hand, that the proportion of cases involving nonresponse-related arrests increased as travel time increased, an effect opposite to that assumed for response. This finding substantiated both the need for and the adequacy of a response-related arrest subsample.

Entering the involvement-discovery variable into multiple regression analysis of all Part I crimes indicated it was a powerful predictor of both arrests ($F = 195.43$, Beta = 0.422) and response-related arrests ($F = 48.86$, Beta = 0.227) with a much greater proportion of both samples being found in involvement cases (Appendix B, Tables B-5 and B-6). This variable was then employed as a factor in analysis of covariance to indicate possible differences in the reporting-arrest relationship between involvement and discovery cases. The significant factor-covariate interaction effect ($F = 7.56$, Beta = 0.168) indicated the reciprocal transformation closely fit the data for involvement crimes but that no relationship existed between reporting and arrest for discovery incidents (Appendix B, Table B-7). For response-related arrests only, the factor-covariate interaction was even stronger ($F = 20.60$, Beta = 0.292), further strengthening the finding that rapid reporting predicts arrests in involvement incidents but that apprehensions in discovery crimes are both rare and random with respect to reporting time (Appendix B, Table B-8). Employing the b's from the analysis of covariance provided predictive equations for the relationship between reporting and involvement arrests of both samples. These equations are illustrated in Figure 3-2. As an estimate of arrest probabil-

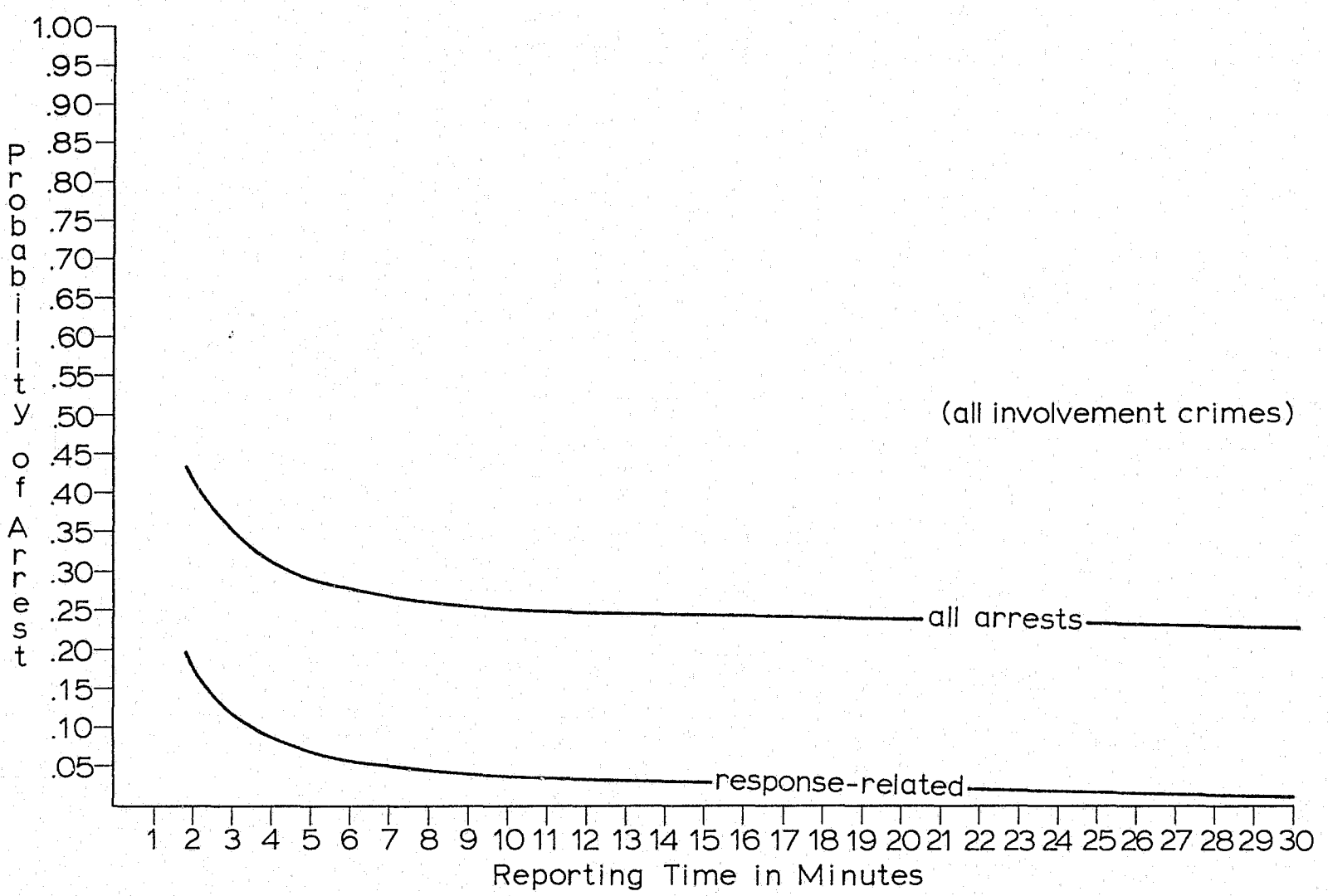


Figure 3 - 2.-- Probability of an arrest or a response-related arrest for Part I involvement crimes at reporting times of 0 to 30 minutes.

ity in involvement cases, the predicted proportion of cases with an arrest dropped rapidly then leveled off as reporting time increased.

Since only involvement incidents showed a relationship between the time taken to report and on-scene arrests, further analysis employed only those cases. A violent-nonviolent dummy variable proved to be a significant factor in predicting arrest ($F = 23.65$, Beta = -0.256) and response-related arrest ($F = 4.07$, Beta = -0.109) for involvement cases with the greater proportion of arrests being found for nonviolent calls (Appendix B, Tables B-9 and B-10). When entered into multiple regression, with reporting time as a covariate, both showed significant main effects (reporting: $F = 6.31$, Beta = 0.131; violent-nonviolent: $F = 23.95$, Beta = -0.256) and no significant interaction (Appendix B, Table B-11). Consequently, the curves were found to be the same in shape, differing only in position along the "Probability of Arrest" axis (Figure 3-3). The estimated probability of arrest was higher for nonviolent involvement calls at all lengths of reporting compared to that for violent-nonviolent incidents. The relationship with the response-related subsample varied somewhat from that found for all arrests. While the main effect of reporting was significant ($F = 18.76$, Beta = 0.375), the main effect of the violent involvement factor was not significant if the interaction, which was significant, was assessed ($F = 4.76$, Beta = -0.228) (Appendix B, Table B-12). Consequently, both the height on the probability axis and the shape of the predictive curve differed between groups. As depicted in Figure 3-4, the probability of a response-related arrest in a nonviolent involvement incident was higher, but dropped more rapidly as the time taken in reporting increased. The violent involvement cases produced a lower, flatter predictive curve.

The involvement cases were also divided into specific types of crime, robbery and assault from the violent crime category, and burglary and larceny from the non-

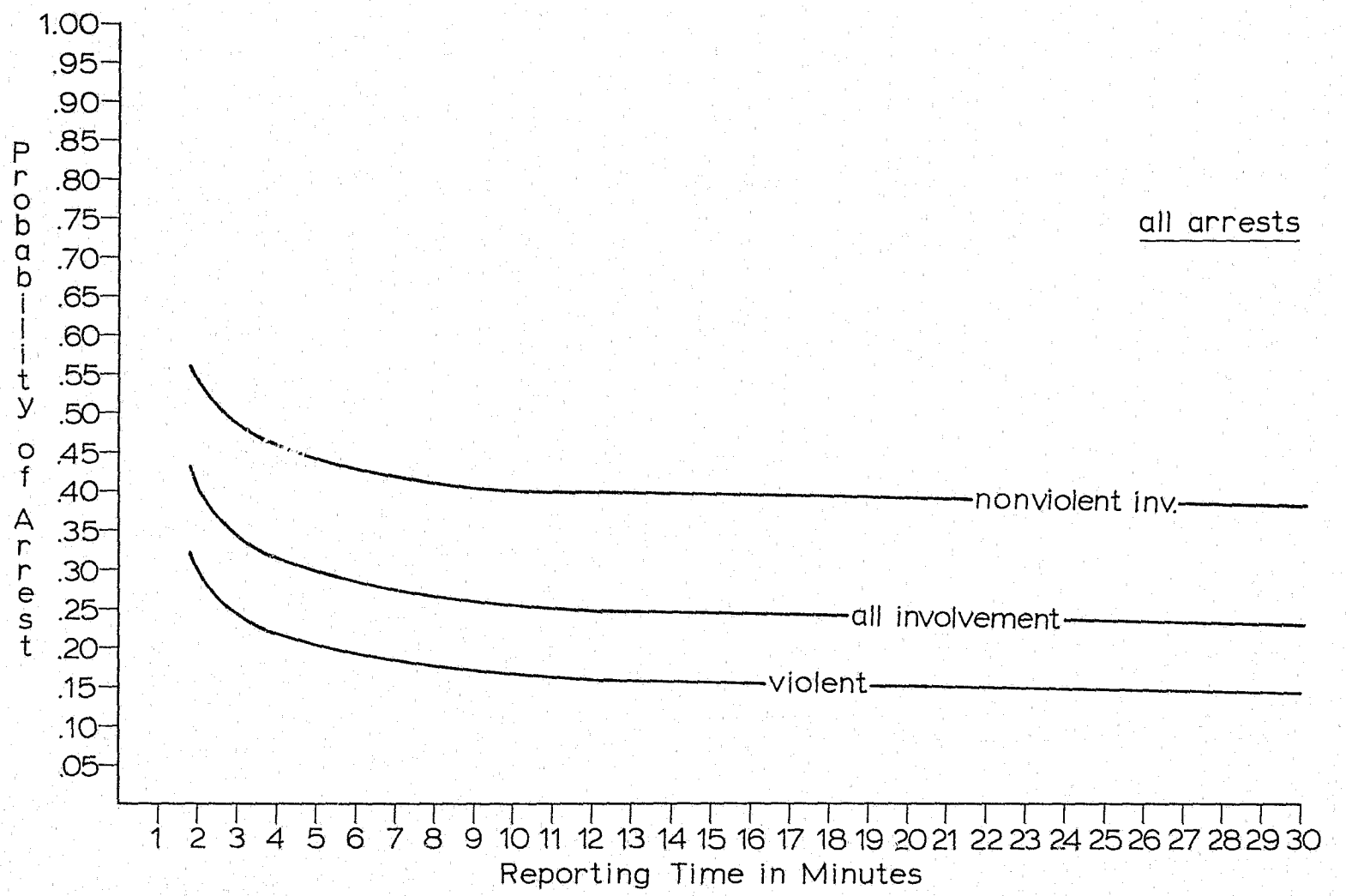


Figure 3-3.-- Probability of an arrest for Part I involvement crimes, violent crimes, and nonviolent involvement crimes at reporting times of 0 to 30 minutes.

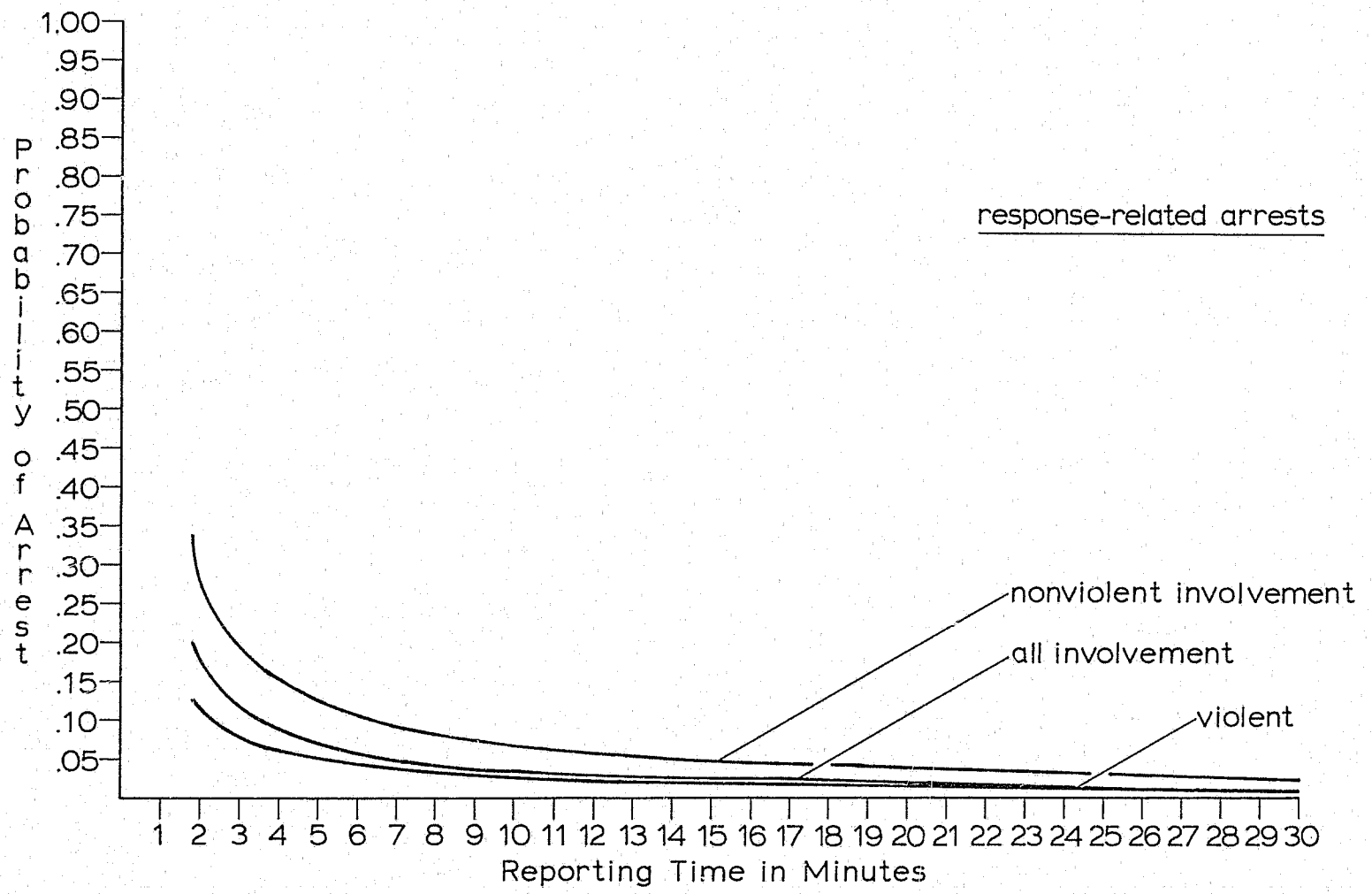


Figure 3-4.-- Probability of a response-related arrest for Part I involvement crimes, violent crimes, and nonviolent involvement crimes at reporting times of 0 to 30 minutes.

violent Part I crimes. Rape and auto theft cases were not included in the analysis because of insufficient sample size. Robbery cases were used as the reference group and assault, burglary, and larceny were entered into the regression analysis as dummy variables. As predictors of arrest, all three categories showed an effect which differed from robbery cases (assault: $F = 19.33$, Beta = 0.256; burglary: $F = 21.31$, Beta = 0.258; larceny: $F = 34.84$, Beta = 0.345) (Appendix B, Table B-13). For response-related arrests, only burglary differed significantly from the reference group ($F = 37.22$, Beta = 0.342) (Appendix B, Table B-14). All differences were due to the separate categories predicting a higher proportion of arrests than found for the reference robbery group. In multiple regression with the reporting interval, reporting time showed a significant main effect ($F = 6.48$, Beta = 0.133) as did each of the types of crime variables (assault: $F = 20.90$, Beta = 0.265; burglary: $F = 20.14$, Beta = 0.249; larceny: $F = 37.56$, Beta = 0.356) with no significant factor-covariate interactions (Appendix B, Table B-15). The robbery and assault curves are illustrated in Figure 3-5, along with the curve for all violent involvement crimes. Since no interaction was found, the curves run parallel with greater probability of arrest predicted for assault cases compared to robbery. The equations relating reporting time to on-scene arrests for burglary and larceny cases were essentially identical to that for all nonviolent involvement incidents, and a single curve representing all three is depicted in Figure 3-6.

For response-related arrests, reporting provided a main effect ($F = 7.21$, Beta = 0.208) over all crime categories (Appendix B, Table B-16). Assault, as a factor, showed neither a main effect nor an interaction with reporting when robbery was the reference group, and consequently, the predictive curves for these groups were identical. The curve is shown in Figure 3-7. Larceny, likewise, did not differ from the robbery reference group in main effect or in interaction with reporting,

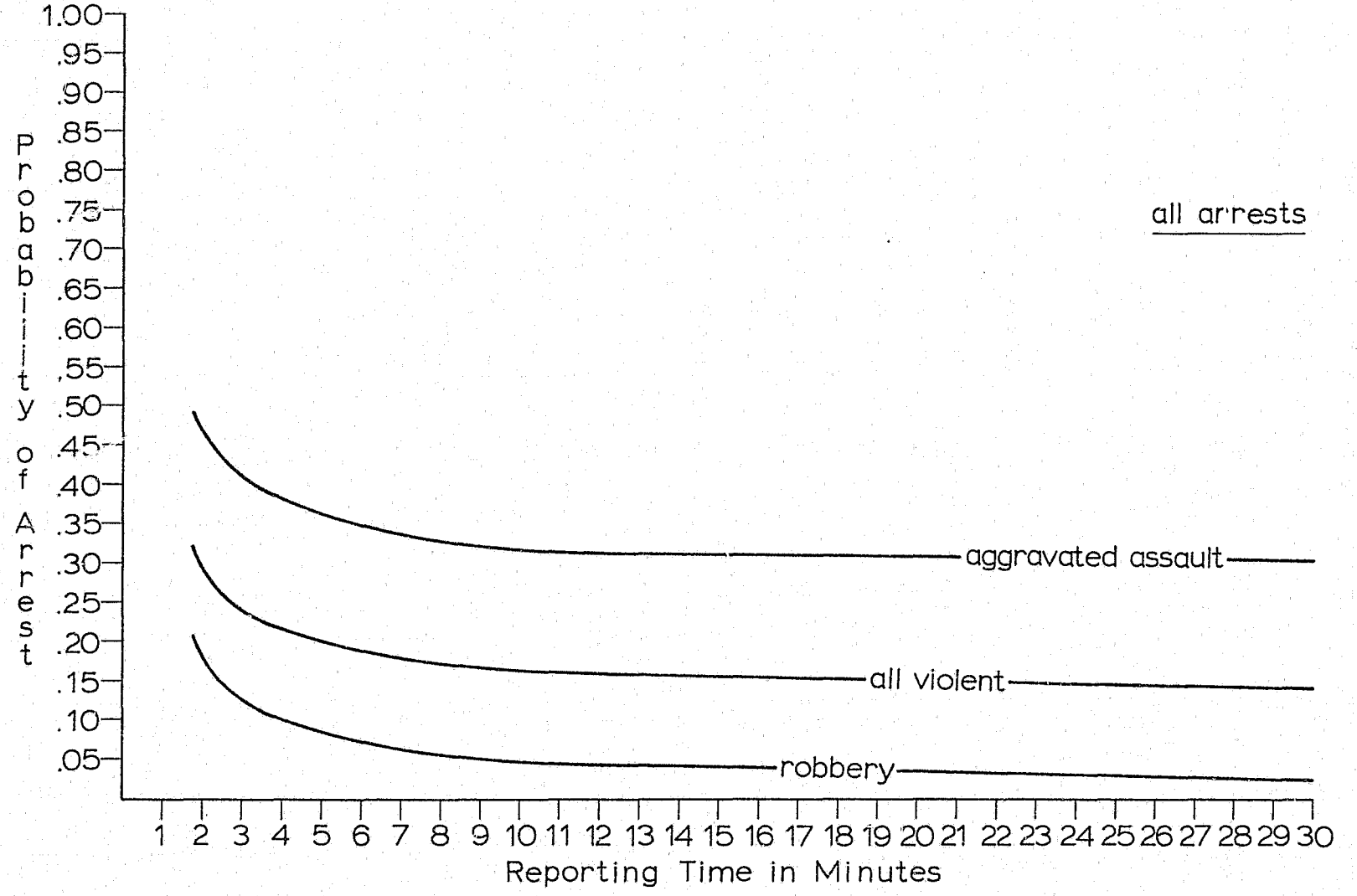


Figure 3-5.--Probability of an arrest for all violent crimes, robbery, and aggravated assault at reporting times of 0 to 30 minutes.

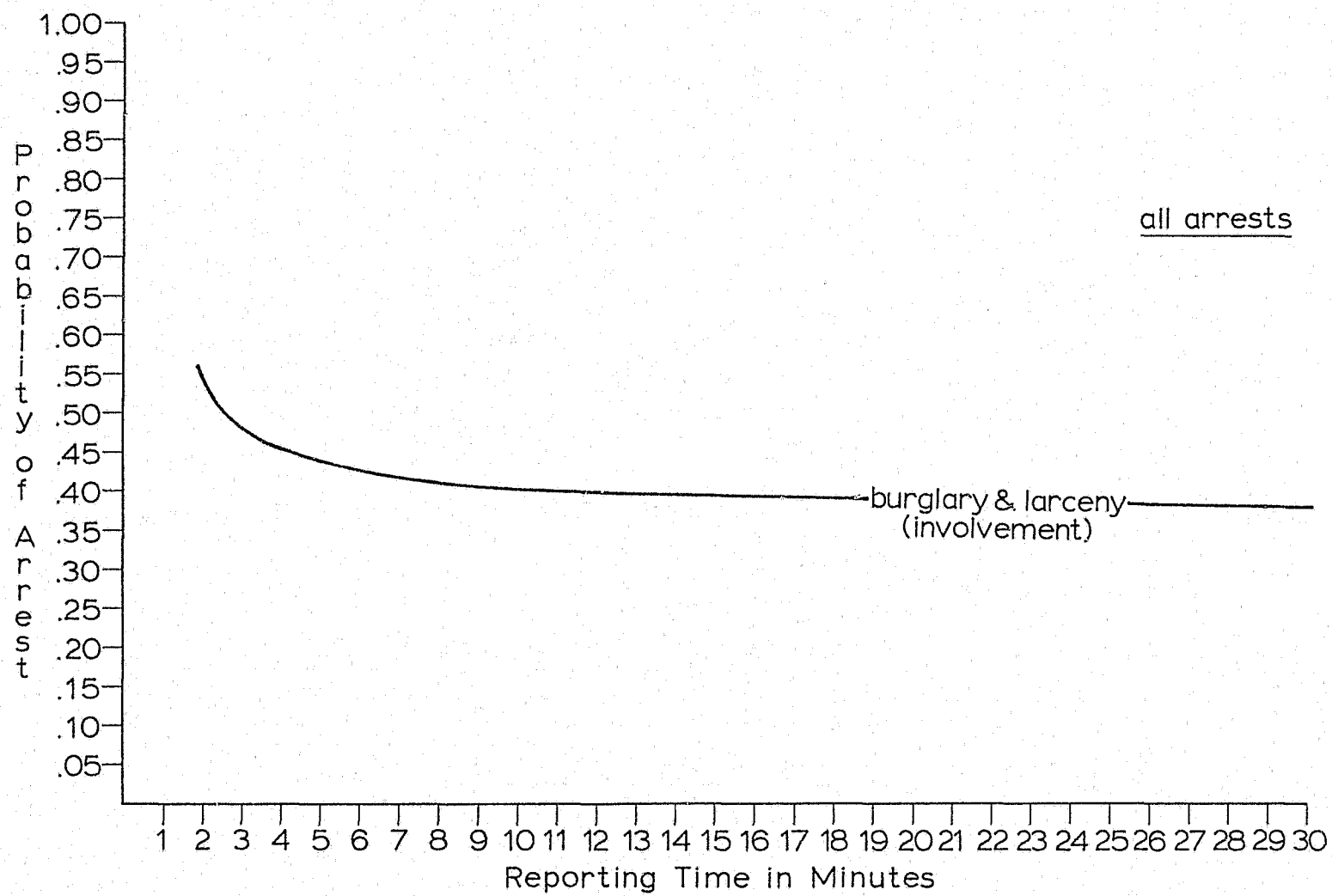


Figure 3-6.-- Probability of an arrest for involvement burglary and involvement larceny at reporting times of 0 to 30 minutes.

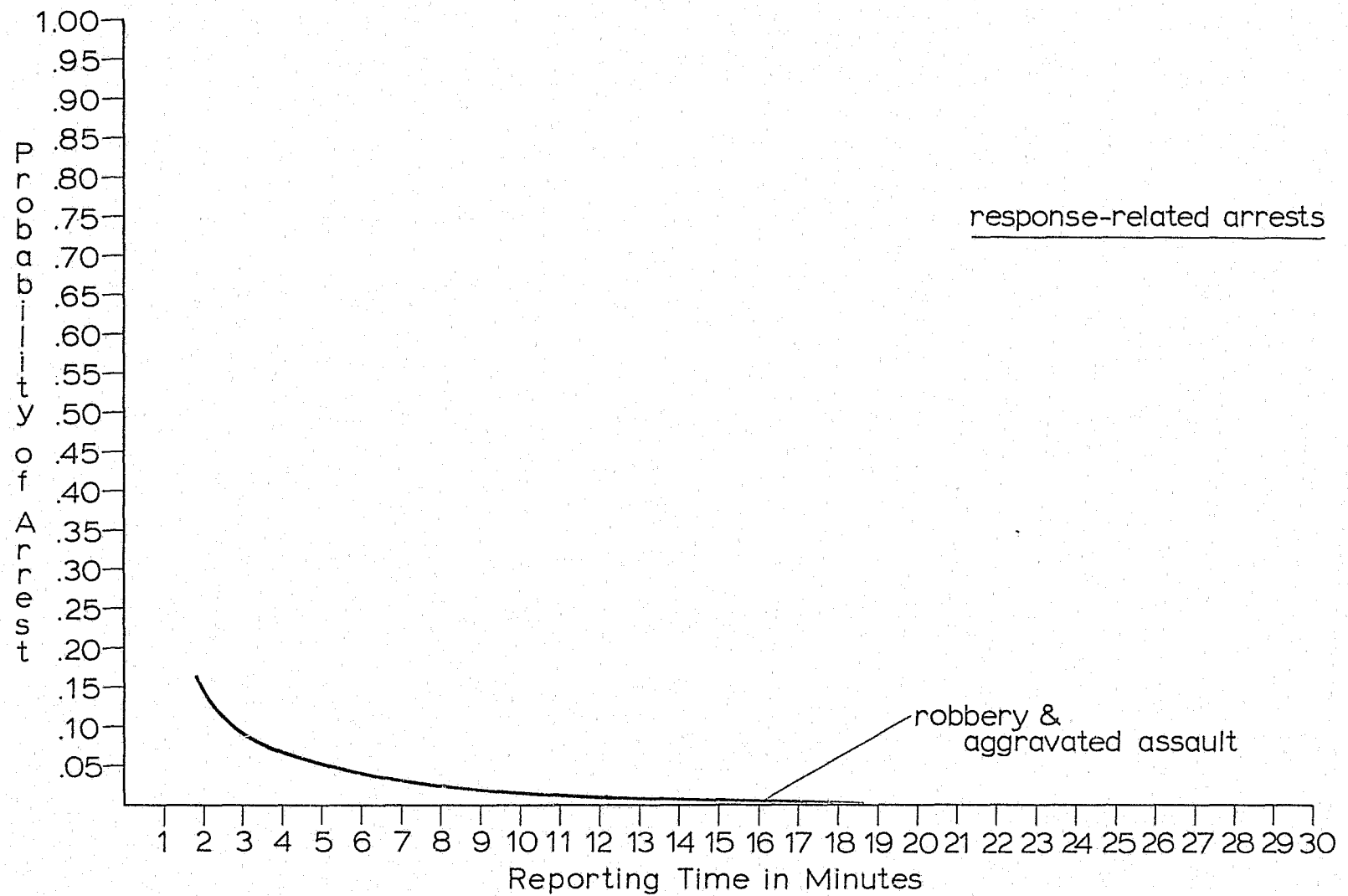


Figure 3-7.-- Probability of a response-related arrest for robbery and aggravated assault at reporting times of 0 to 30 minutes.

while burglary produced an interaction only (F = 9.20, Beta = 0.293). Illustrated in Figure 3-8 are the curves relating the probability of a response-related arrest to reporting for larceny and burglary involvement cases. The arrest probability for burglary cases is higher, but falls more rapidly with increasing reporting time, according to the regression on observed data.

Travel Time. Although dispatching time was never found to be significantly related to either the arrest sample or the response-related arrest subsample, travel was related in some cases, especially to the latter group. The involvement-discovery factor produced a significant interaction with travel (F = 19.15, Beta = -0.446), but only for response-related arrests (Appendix B, Table B-17). As was true with the reporting interval, travel predicted arrests for only involvement crimes. When the violent-nonviolent factor was introduced to the regression of the response-related involvement arrest sample, a factor main effect (F = 32.43, Beta = -0.893), a covariate main effect of travel (F = 44.66, Beta = -0.599) and a significant interaction of the two (F = 23.65, Beta = 0.752) was found (Appendix B, Table B-18). The predictive equation indicated that the interaction was due to differing influences of travel on on-scene arrest between the violent and the nonviolent involvement groups. Figure 3-9 illustrates the nearly flat regression curve for violent crime incidents and the strong, but rapidly declining impact of travel on nonviolent involvement cases. The curve for all involvement crimes is also included in Figure 3-9.

When the specific crime categories of robbery, assault, burglary, and larceny are considered, only for burglary cases did travel significantly relate to arrest, both for all arrests and response-related arrests. For both arrest groups, the burglary factor main effect was significant (all arrests: F = 21.30, Beta = 0.597; response-related arrests: F = 48.22, Beta = 0.873), as well as its interaction

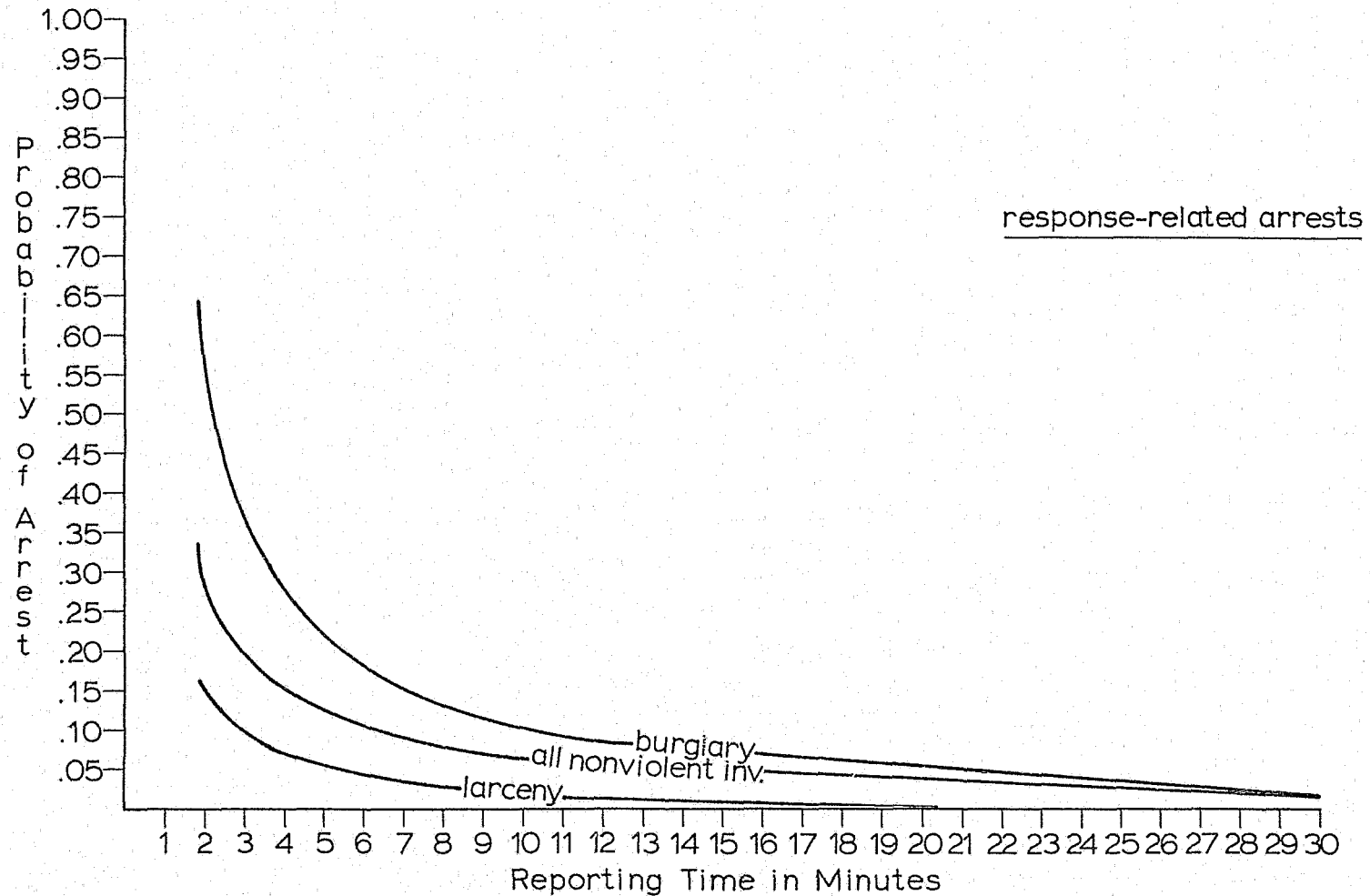


Figure 3-8.-- Probability of a response-related arrest for all Part I nonviolent involvement crimes, involvement burglary and involvement larceny at reporting times of 0 to 30 minutes.

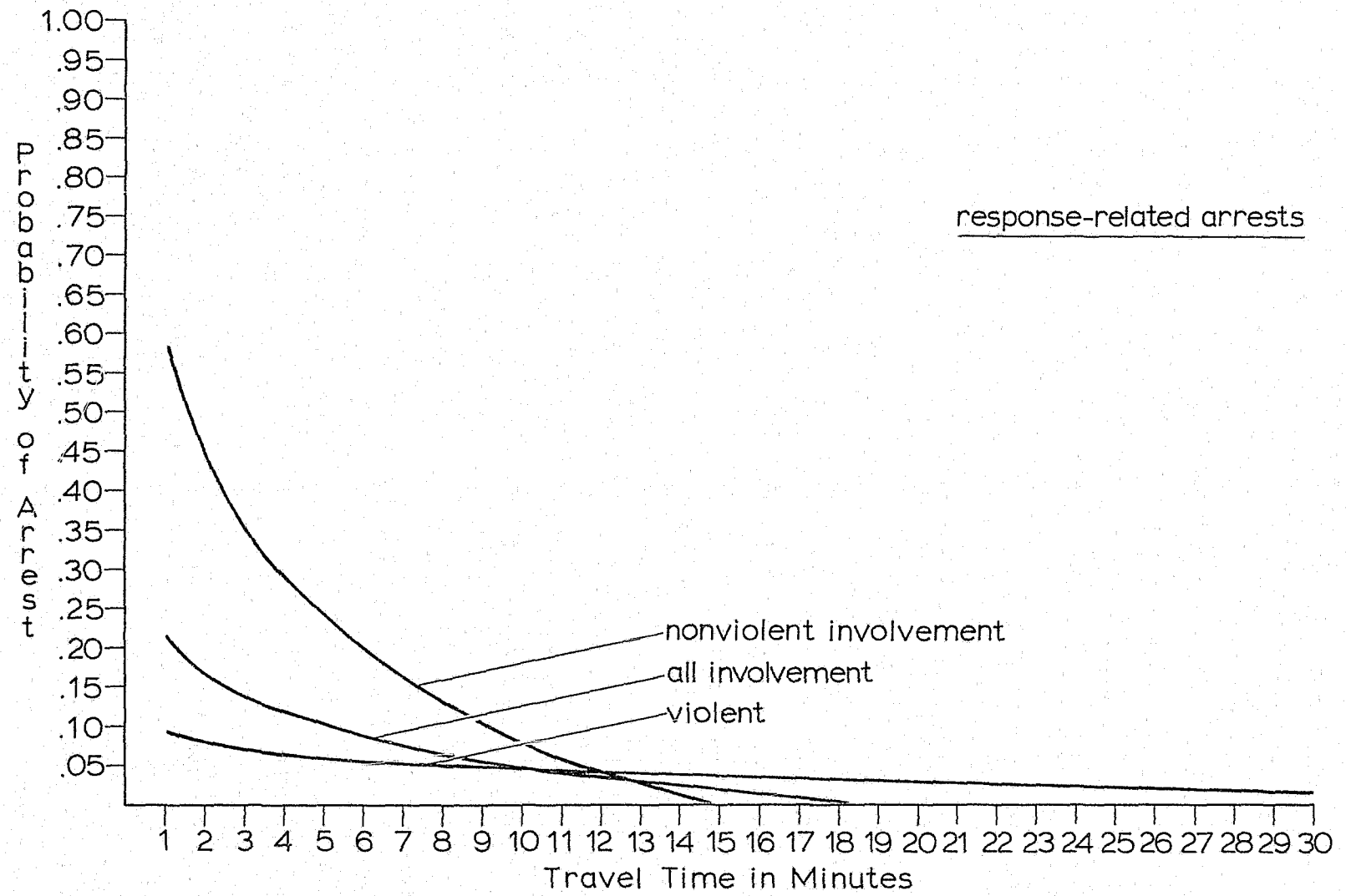


Figure 3-9.-- Probability of a response-related arrest for Part I involvement crimes, violent crimes, and nonviolent involvement crimes at travel times of 0 to 30 minutes.

with travel (all arrests: F = 8.49, Beta = -0.378; response-related arrests: F = 22.13, Beta = -0.595) (Appendix B, Tables B-19 and B-20). The curve for each arrest sample is illustrated in Figure 3-10. Travel was found to be a powerful predictor of arrests in involvement burglaries with an unusually high probability of arrest for short travel time. This finding is consistent with the high proportion of involvement burglary cases resulting in arrests, especially those in the response-related category. Over one-third (34.3 percent) of all response-related arrests were found in this group. Since no significant relationships between travel and on-scene arrests were found for robberies, aggravated assaults, and involvement larcenies for either sample, it is probable that the travel-arrest relationships found for all involvement and nonviolent involvement cases was primarily due to the strong association in involvement burglary incidents. The nearly flat predictive curve for all violent crimes further supports this assumption. It is not surprising that involvement burglaries resulted in such a high rate of response-related arrests because these offenses were witnessed during the commission of the crime and reported to the police soon after they began.

Response Time Interrelationships

As longer periods of reporting significantly limited the probability of an on-scene arrest, it was clear that delay in reporting could also severely limit the potential impact of travel on arrests. Thus, if reporting time was lengthy, the probability of making an arrest attributable to response should be so low as to preclude the possibility of arrest, regardless of travel time. Conversely, under ideal conditions of rapid citizen reporting, the full impact of travel time on arrest should be apparent. To investigate these propositions, involvement cases were divided into three groups of equal size according to the time taken

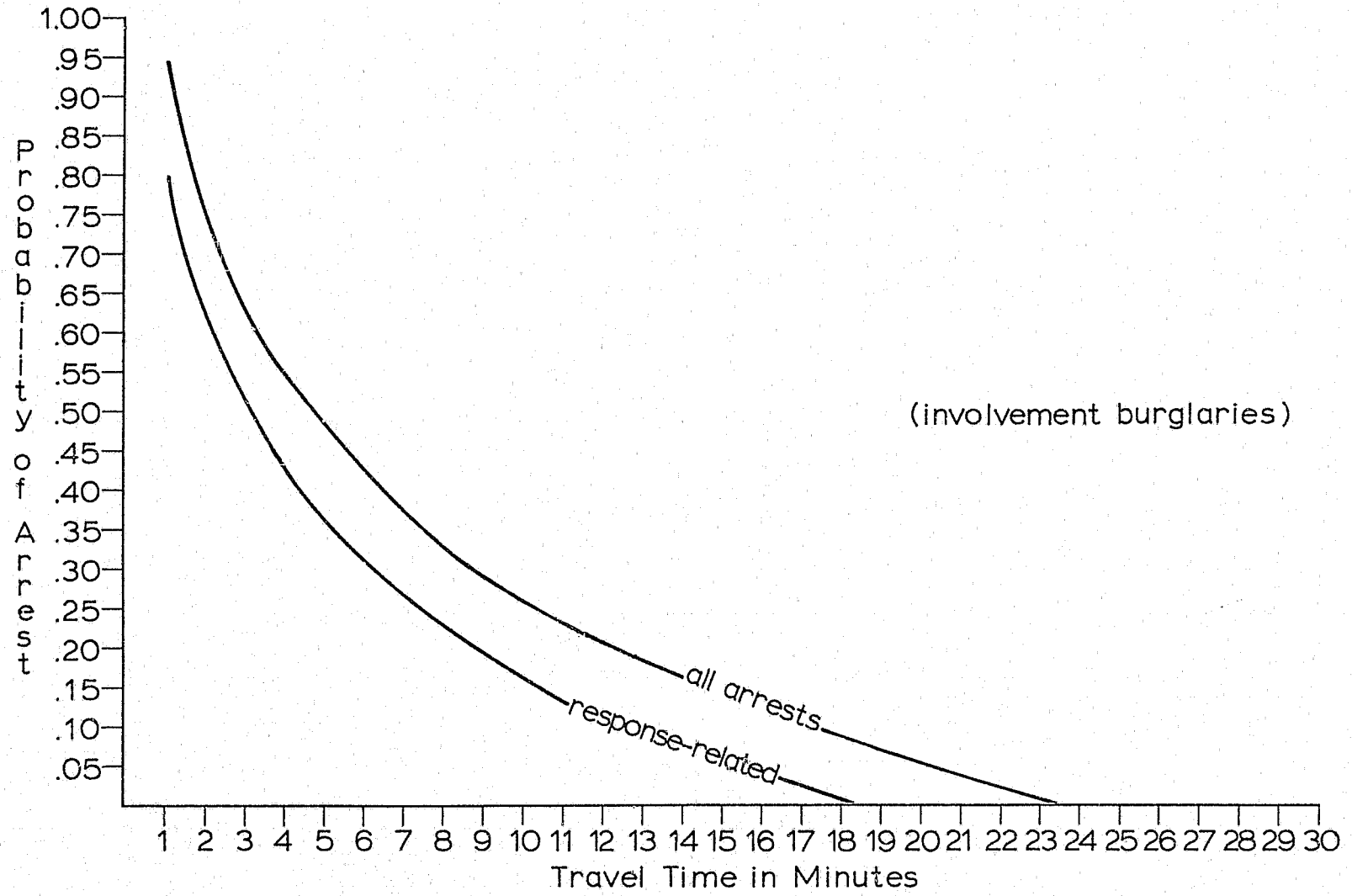


Figure 3-10.-- Probability of an arrest or a response-related arrest for involvement burglary at travel times of 0 to 30 minutes.

in reporting them. One-third included those incidents reported quickly (1 to 2 minutes, N = 114), one-third included cases reported less rapidly (3 to 9 minutes, N = 117), and one-third included cases with lengthy reporting delays (10 minutes or longer, N = 113). Reciprocal, logarithmic, and linear forms of dispatch and travel times were employed in multiple regression with arrests and response-related arrests while controlling for the length of reporting time.

Dispatch time was found to be unrelated to the probability of arrest or response-related arrest at any length of reporting. Travel, however, was found to be associated with response-related arrests, and the type of association varied somewhat with the time taken to report the crime. When reporting was rapid, a logarithmic transformation produced the best fitting curve (reporting of 2 minutes or less: $F = 4.51$, Beta = -0.197), while for the intermediate reporting times, the reciprocal of travel was significant (reporting of between 3 and 9 minutes: $F = 8.59$, Beta = 0.264) (Appendix B, Tables B-21 and B-22).

The predictive curves based on these findings are illustrated in Figures 3-11, along with the curve derived without controlling for reporting time. As illustrated, rapid citizen reporting enhanced the probability of arrest based on officer travel time for all lengths of the travel interval. When travel time was at its minimum, those cases reported promptly showed a probability of arrest 10 percent higher than that of the general curve. This difference, though decreasing, was maintained over the range of time. When an intermediate delay in reporting (3 to 9 minutes) was analyzed, travel time predicted response-related arrests in roughly the same proportion of cases as when both the reporting interval and the travel interval were short. However, the estimated probability of arrests dropped rapidly for this group so that it soon predicted fewer incidents with response-related arrests than either of the other curves. When the reporting interval exceeded 10 minutes, no relationship between travel and response-related arrest was found.

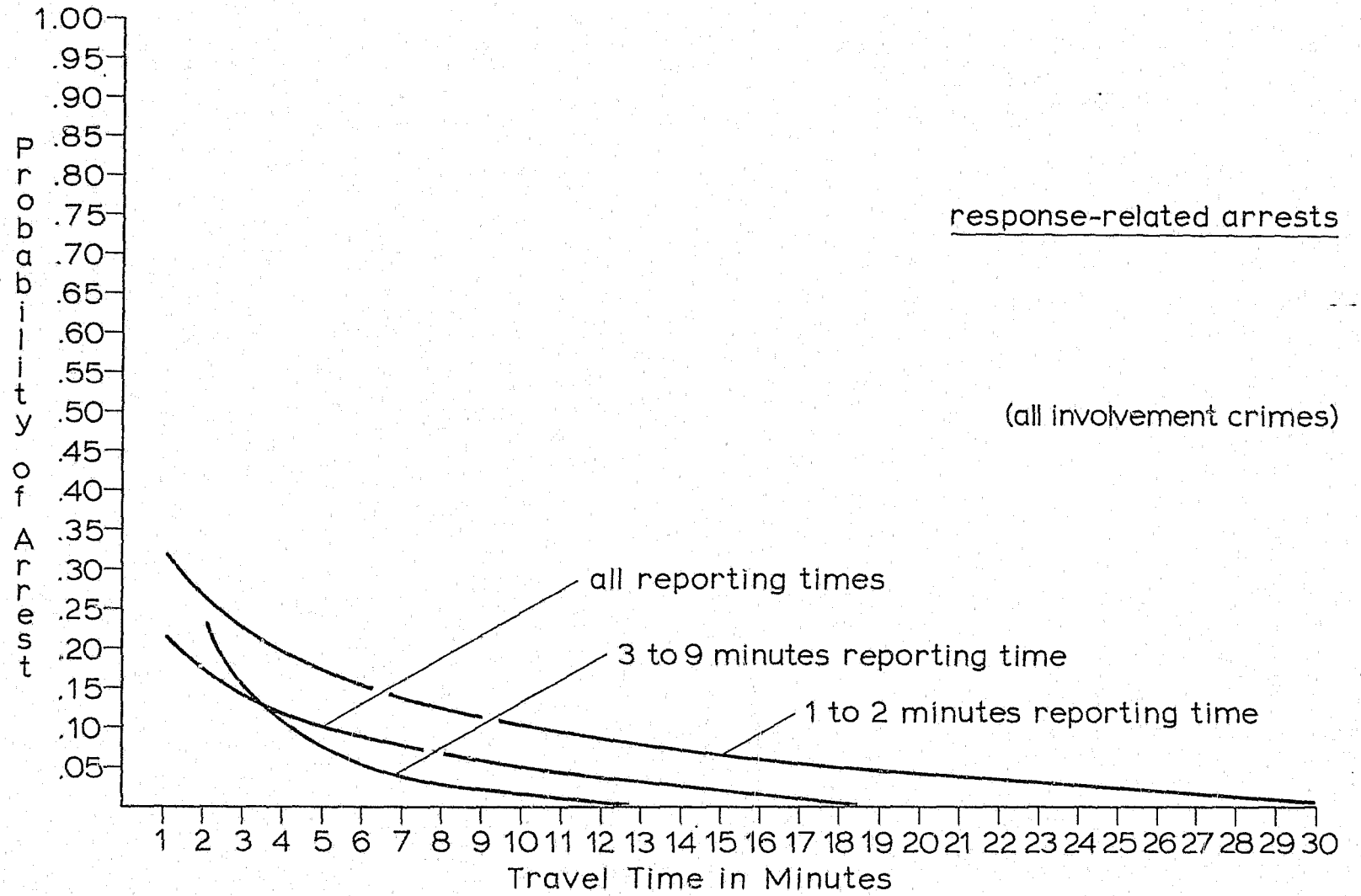


Figure 3 - 11.-- Probability of a response-related arrest for Part I involvement crimes, Part I involvement crimes reported in 1 to 2 minutes, and Part I involvement crimes reported in 3 to 9 minutes at travel times of 0 to 30 minutes.

It should be noted that the variance explained (R square) by the predictive equations found in this section was not great. However, this was largely due to the units of analysis chosen, the individual case. The small degree of variance explained indicated that on a case by case basis, response times were not strong predictors of arrest. For separate incidents, which either do or do not have an arrest, a predicted proportion of cases with arrests cannot be sensitive to the numerous factors unrelated to response time which may impinge on the outcome of the individual incident. If cases are grouped by minutes, for instance, a technique employed in earlier studies, much of this variation is removed and a dramatic increase in variance explained results. Such a technique does not, however, improve prediction in individual cases. Consequently, the curves presented might best be representative of the probable outcome of a large group of cases and not highly predictive of isolated incidents.

CHAPTER FOUR

THE EFFECTS OF PATROL PROCEDURES ON RESPONSE TIME AND CRIME OUTCOMES

A number of patrol procedures in the Kansas City, Missouri, Police Department are based on the assumption that rapid police response time is essential to produce a favorable outcome for a crime incident. Part of the rationale in beat design is to distribute officers throughout the population to minimize the distance an officer must travel to an incident. Dispatching procedures indicate that the officer nearest the scene be dispatched to minimize the distance traveled, and consequently, the travel time. Since most field officer cars have only one officer, two one-officer cars are generally dispatched to potentially dangerous situations; however, a two-officer car is dispatched, when available, to minimize the time delay waiting for a backup car. When two one-officer cars are dispatched, the officer arriving first may "bust the call," (e.g., respond to the incident scene before arrival of the backup officer) if the situation demands immediate action. Officers respond Code One, with lights and siren, to calls for which rapid response is deemed necessary by the dispatcher. The use of walkie-talkies provides officers the flexibility to leave their car without losing communication with the dispatcher. Each of these procedures has a potential impact on officer response to an incident, and consequently, to its eventual outcome.

To assess the effects of these procedures on response time, several variables were identified which could then be divided into two basic categories, factors which were expected to affect distance traveled to a call, and factors which were expected to affect the time taken to travel to the incident scene. The main variable expected to affect distance was the location of an officer relative to the location of a dispatched call at the time of dispatch. Additionally, the effect of type of crime on distance traveled was tested.

Since the distance traveled to a call was expected to affect travel time, all factors that were potentially related to distance might also have an impact on time. Additional factors which were expected to affect the time required to travel to the incident scene were as follows: a) whether a one or a two-officer car was dispatched to the incident; b) whether the call was busted; c) whether lights and sirens (Code One) were authorized in response to the call; d) whether the officer was in or out of the car at the time of dispatch; and e) if the officer was in the car, whether the car was stationary or mobile.

The effects of patrol procedures on crime outcomes, specifically the probability of arrest, were analyzed through a path-analysis of the causal model illustrated in Figure 4-1. Travel time, distance traveled, and the variables potentially affecting them were assessed as predictors of the probability of arrest. Whether the crime could be viewed on routine patrol and this variable's interaction with whether the call was busted were also examined. Busting a call was expected to result in more arrests when the need for this action was known (i.e., could be seen). Finally, as reporting time had previously been established as a significant predictor of arrest, its effect in addition to these other factors was assessed.

This model may be formally expressed as a system of recursive equations as follows:

$$D = a + b_1\ IOB + b_2\ TOC + e$$

$$TT = a + b_3\ IOB + b_4\ IOC + b_5\ CODE + b_6\ NMC + b_7\ BC + b_8\ TOC + b_9\ D + e$$

$$A = a + b_{10}\ R + b_{11}\ IOB + b_{12}\ IOC + b_{13}\ CODE + b_{14}\ NMC + b_{15}\ BC + b_{16}\ PV + b_{17}\ IBCPV + b_{18}\ TT + b_{19}\ D + b_{20}\ TOC + e$$

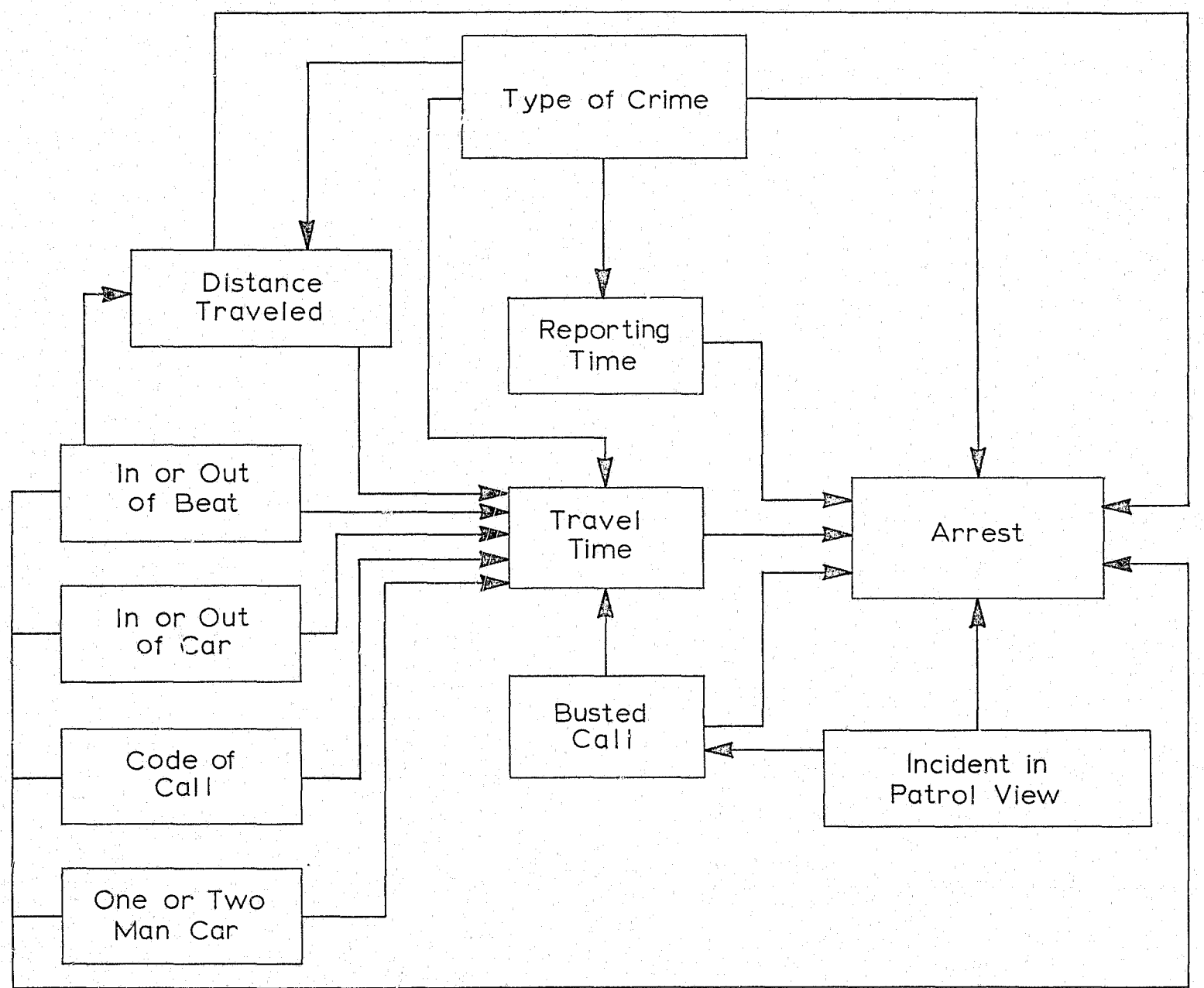


Figure 4 - 1.-- Analysis model of response time.

where: D = distance traveled*

IOB = in or out of beat

TOC = type of crime

TT = travel time

IOC = in or out of car

CODE = Code One or Code Three call

NMC = one or two-officer car

BC = busted call

A = arrest

R = reporting time

PV = call in patrol view or not

IBCPV = interaction of busted call with in or out of patrol view

The b's represent the path coefficients for the variables involved, the a's constants, and the e's the residual variation.

The officer's location relative to the incident at the time of dispatch, symbolized as "in or out of beat" (IOB) was found to have a number of dimensions. Six were identified from various data sources which were as follows:

1. Whether the officer was in or out of the assigned beat.
2. Whether the officer was dispatched in or out of the assigned beat.
3. Whether the officer was dispatched in or out of the beat in which the officer was located.
4. Whether the officer was dispatched to the correct beat in which the incident occurred.

*The data for distance traveled must be interpreted with some caution. The observers were unable to obtain this data from the officers' odometers; therefore, estimates of the distance traveled were obtained by tracing on a city map the most likely route to be taken between locations. The accuracy of the data assumes the coder was always aware of one-way streets and that the officer did not take unusual shortcuts through alleys or parking lots.

5. Whether the officer was in the actual beat of the incident at the time of dispatch.

6. Whether the incident was in the officer's assigned beat.

The correlations between the second and the last dimensions and between the third and the fifth dimensions exceeded .95. The differences between these measures was due to whether the officer was given the correct beat (variable 4), and, as incorrect information was provided in only 20 of the 949 Part I crime incidents (2.3 percent), the intercorrelations were quite high. As these factors were measuring essentially the same dimension and interchanging these variables did not alter the findings, only the results for the fifth and sixth variables are provided.

A logarithmic transformation for travel time and a reciprocal transformation of reporting time were used throughout the model since they were previously found to provide the best relationship to arrest. Alternative transformations were also examined but did not substantially change the findings. For the analysis of type of crime, dummy variables for rape, assault, involvement burglary, larceny, and auto theft, and discovery burglary, larceny, and auto theft were entered into multiple regression. Robbery incidents were the reference group. After the initial multiple regression indicated which variables were significant within an analysis, a second regression was run using only the significant variables. This allowed for the use of the same cases when determining the path coefficients for the arrest and response-related arrest models.

Distance Traveled

The four variables indicating the officer's location relative to the incident and the type of crime variables were considered possible predictors of the distance an officer would have to travel to a call (Appendix C, Table C-1). The only variable found significantly related, whether the officer was in the actual beat of the

incident at the time of dispatch, was entered into a final regression (F = 34.43, Beta = 0.212) (Appendix C, Table C-2). This result indicated that the distance traveled was significantly longer if the officer was dispatched to a beat other than the one in which he was located. The lack of difference in travel time and the probability of arrest that were previously noted were probably due more to field actions than the dispatcher's ability to assign cars closer to the incident for involvement than discovery incidents.

Travel Time

Of the factors entered into the initial analysis (Appendix C, Table C-3), several factors long held to affect travel time did show significant impacts and were entered in a final analysis (Appendix C, Table C-4). Those factors were distance (F = 23.49, Beta = 0.150); whether the officer was located in the beat of occurrence (F = 62.99, Beta = 0.247); and dispatching an officer to an incorrect beat (F = 4.82, Beta = 0.067).

Travel time tended to be shorter if the dispatched car was in motion at the time of dispatch than if it was stationary but occupied by an officer, and shorter if the car was stationary and occupied than if the officer was out of the car at the time of dispatch (F = 30.50, Beta = -0.168). Travel time was also shorter for calls in which officers responded using red lights and siren (Code One) than if no emergency equipment was employed (Code Three) (F = 9.34, Beta = 0.100).

When more than one car was dispatched to a call, travel time was shorter when the first officer to arrive responded to the crime scene without waiting for his backup car, busting the call (F = 55.16, Beta = -0.260). While two-officer cars eliminate the delay of waiting for a backup, they were not found to have significantly quicker response to the incident scene than two one-officer cars or a one-officer car busting the call. This may be due to officers in one-officer cars

CONTINUED

1 OF 4

busting calls in which the delay for the arrival of a backup car was expected to be long.

Finally, type of crime was found to be a significant predictor of travel time. As noted previously, in general, involvement incidents resulted in more rapid field response than discovery incidents. The single exception was involvement larcenies, which received significantly longer travel intervals than the reference group of robbery.

Arrest

Of the variables entered into the initial analysis of all arrests (Appendix C, Table C-5), four were found to be significant predictors of arrest. Type of crime and reporting time were both significant predictors of arrest and so entered into the final analysis (Appendix C, Table C-6). However, since they were dealt with in detail elsewhere in the report, they will not be reviewed here. Reporting time was controlled in this analysis (Appendix C, Table C-6).

The other two factors found to significantly affect arrest were whether a crime was committed in patrol view ($F = 7.80$, Beta = -0.299) and the interaction of this variable with whether the call was busted ($F = 5.58$, Beta = 0.368). The regression equation indicated that the proportion of cases with an arrest was greatest when the crime was in patrol view and the call was busted, and least when it was in view but not busted. This indicated officers were able to tell by viewing the situation whether busting a call would result in an on-scene arrest. Figure 4-2 illustrates the direct and indirect relationships to arrests.

For the subsample of response-related arrests, the initial regression (Appendix C, Table C-7) determined that type of crime, reporting time, and travel time showed significant effects on the probability of making a response-related arrest (Appendix C, Table C-8). The only other variable found significantly related to

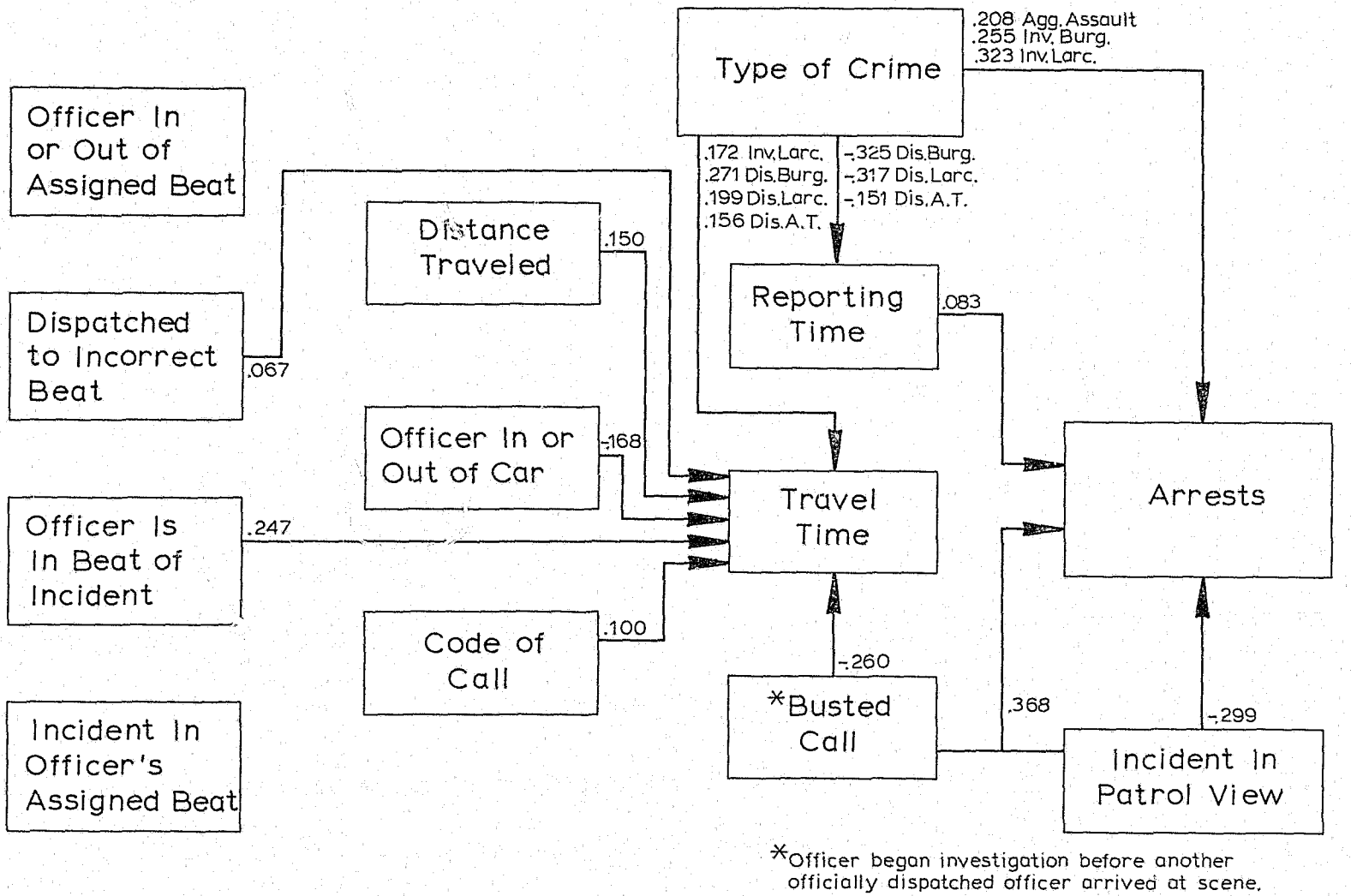


Figure 4-2.-- Response time policy model for arrests.

response-related arrests was whether emergency equipment was employed in response to the call (F = 5.63, Beta = -0.084). Responding to a call Code One, i.e., with red lights and sirens, resulted in more response-related arrests than responding Code Three, i.e., without red lights and sirens. Figure 4-3 summarizes all of the significant direct and indirect relationships between patrol strategies and response-related arrests. The effect coefficients used in the two models can be found in Table 4-4.

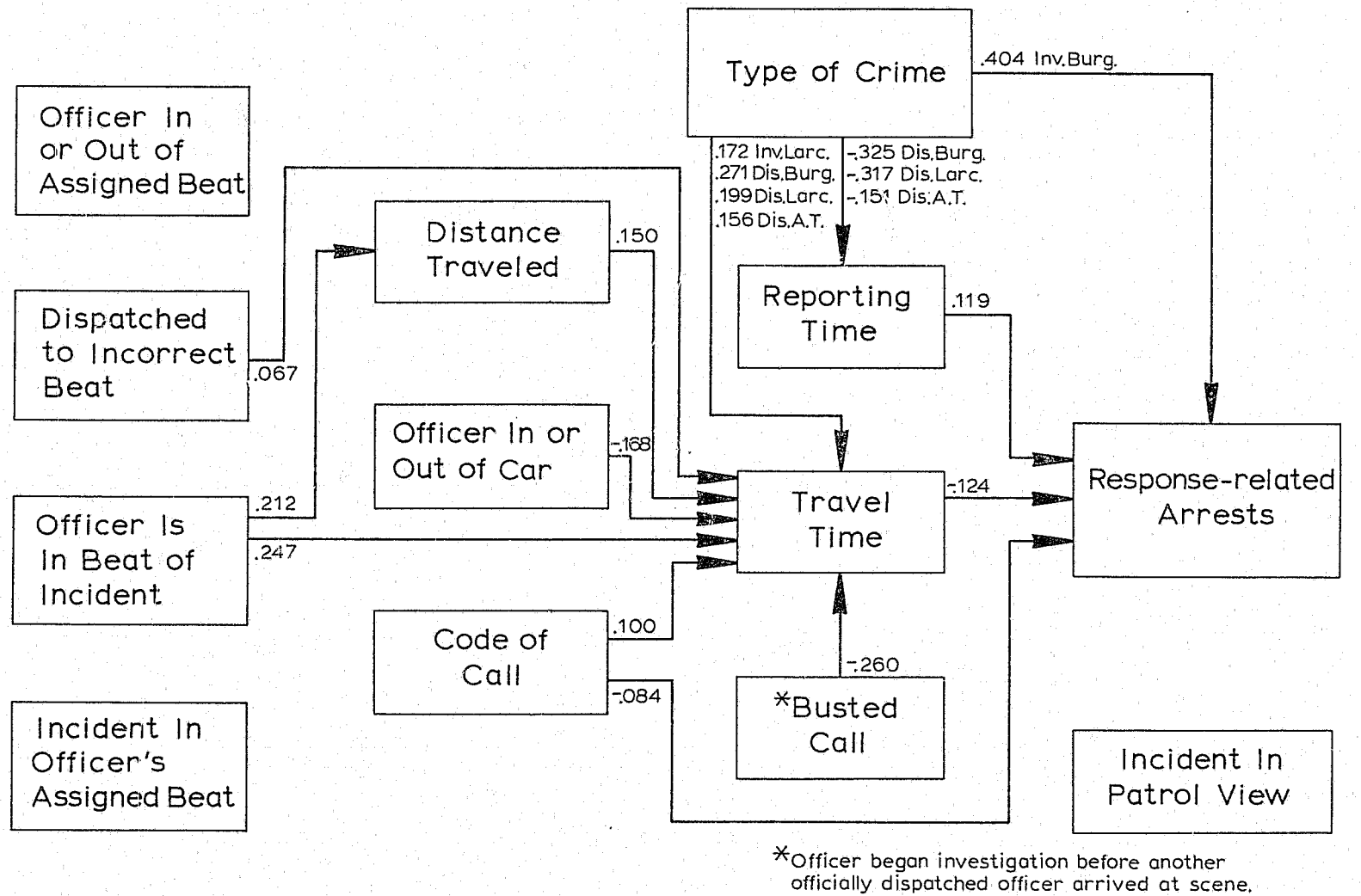


Figure 4 - 3. -- Response time policy model for response-related arrests.

TABLE 4-4
Table of Effect Coefficients of
Significant Variables on Arrests

	Independent Variable	Dependent Variable	Simple r	Causal*		
				Direct	Indirect	Total
1)	Rape	Reporting Time**	0.011	-0.031	None	-0.031
2)	Robbery	Reporting Time	Ref. Group	Reference Group		
3)	Assault	Reporting Time	0.094	-0.045	None	-0.045
4)	Involvement Burglary	Reporting Time	0.156	0.054	None	0.054
5)	Discovery Burglary	Reporting Time	-0.158	-0.325	None	-0.325
6)	Involvement Larceny	Reporting Time	0.092	-0.053	None	-0.053
7)	Discovery Larceny	Reporting Time	-0.160	-0.317	None	-0.317
8)	Involvement Auto Theft	Reporting Time	-0.027	-0.051	None	-0.051
9)	Discovery Auto Theft	Reporting Time	-0.024	-0.151	None	-0.151
10)	Officer's Location is in Beat of Incident	Distance Traveled	0.212	0.212	None	0.212
11)	Officer's Location is in Beat of Incident	Travel Time	0.256	0.247	0.032	0.279
12)	Distance Traveled	Travel Time***	0.208	0.150	None	0.150
13)	Dispatched to Incorrect Beat (Beat of Incident)	Travel Time	0.031	0.067	None	0.067
14)	In or Out of Car	Travel Time	-0.173	-0.168	None	-0.168
15)	Code of Call	Travel Time	0.234	0.100	None	0.100
16)	Busted Call	Travel Time	-0.394	-0.260	None	-0.260

	Independent Variable	Dependent Variable	Simple r	Causal		
				Direct	Indirect	Total
17)	Rape	Travel Time	-0.024	0.018	None	0.018
18)	Robbery	Travel Time	Ref. Group	Reference Group		
19)	Assault	Travel Time	-0.168	0.012	None	0.012
20)	Involvement Burglary	Travel Time	-0.169	-0.043	None	-0.043
21)	Discovery Burglary	Travel Time	0.198	0.271	None	0.271
22)	Involvement Larceny	Travel Time	0.091	0.172	None	0.172
23)	Discovery Larceny	Travel Time	0.094	0.199	None	0.199
24)	Involvement Auto Theft	Travel Time	0.013	0.027	None	0.027
25)	Discovery Auto Theft	Travel Time	0.048	0.156	None	0.156
26)	Officer's Location is in Beat of Incident	Response-Related Arrest	-0.049	-0.026	-0.035	-0.061
27)	Distance Traveled	Response-Related Arrest	-0.038	0.005	-0.019	-0.014
28)	Dispatched to Incorrect Beat (Beat of Incident)	Response-Related Arrest	0.028	0.037	-0.008	0.029
29)	In or Out of Car	Response-Related Arrest	-0.007	-0.061	0.021	-0.040
30)	Code of Call	Response-Related Arrest	-0.118	-0.084	-0.012	-0.096
31)	Busted Call	Response-Related Arrest	0.200	0.051	0.032	0.083
32)	Reporting Time	Response-Related Arrest	0.223	0.119	None	0.119

	Independent Variable	Dependent Variable	Simple r	Causal		
				Direct	Indirect	Total
33)	Travel Time	Response-Related Arrest	-0.247	-0.124	None	-0.124
34)	Rape	Response-Related Arrest	-0.016	-0.010	-0.006	-0.016
35)	Robbery	Response-Related Arrest	Ref. Group	Reference Group		
36)	Assault	Response-Related Arrest	0.035	-0.015	-0.007	0.022
37)	Involvement Burglary	Response-Related Arrest	0.444	0.404	0.012	0.416
38)	Discovery Burglary	Response-Related Arrest	-0.121	-0.001	-0.072	-0.073
39)	Involvement Larceny	Response-Related Arrest	-0.027	0.003	-0.023	-0.020
40)	Discovery Larceny	Response-Related Arrest	-0.090	-0.006	-0.062	-0.068
41)	Involvement Auto Theft	Response-Related Arrest	-0.009	0.005	-0.009	-0.004
42)	Discovery Auto Theft	Response-Related Arrest	-0.052	-0.014	0.037	0.023
43)	Officer's Location is in Beat of Incident	Arrest	-0.009	-0.007	None	-0.007
44)	Distance Traveled	Arrest	-0.030	-0.020	None	-0.020
45)	Dispatched to Incorrect Beat (Beat of Incident)	Arrest	0.041	0.029	None	0.029
46)	In or Out of Car	Arrest	-0.021	-0.023	None	-0.023
47)	Code of Call	Arrest	-0.137	-0.057	None	-0.057

	Independent Variable	Dependent Variable	Simple r	Causal		
				Direct	Indirect	Total
48)	Busted Call	Arrest	0.200	-0.161	None	-0.161
49)	Incident in Patrol View	Arrest	-0.080	-0.299	None	-0.299
50)	Interaction of Variables 48 and 49	Arrest	0.110	0.368	None	0.368
51)	Travel Time	Arrest	-0.151	-0.025	None	-0.025
52)	Reporting Time	Arrest	0.207	0.083	None	0.083
53)	Rape	Arrest	0.021	0.036	-0.003	-0.033
54)	Robbery	Arrest	Ref. Group.	Reference Group		
55)	Assault	Arrest	0.212	0.208	-0.004	0.204
56)	Involvement Burglary	Arrest	0.246	0.255	0.004	0.259
57)	Discovery Burglary	Arrest	-0.202	-0.007	-0.027	-0.034
58)	Involvement Larceny	Arrest	0.289	0.323	-0.004	0.319
59)	Discovery Larceny	Arrest	-0.161	-0.000	-0.026	-0.026
60)	Involvement Auto Theft	Arrest	-0.017	0.005	-0.004	0.001
61)	Discovery Auto Theft	Arrest	-0.099	-0.007	-0.013	0.020

* Total causal effect is computed from the partial betas

** Reporting Time is a reciprocal transformation

*** Travel Time is a logarithmic transformation

CHAPTER FIVE

WITNESS AVAILABILITY

Analysis of the relationship between response time and the availability of witnesses determined if shortening response time increased the probability of a witness being contacted at the scene. The importance of this analysis depends upon the assumption that if witnesses leave the scene before the police arrive there is less chance they will be subsequently found and pertinent information will be lost.

This study defined witness availability as contact between the field officer and at least one witness to the crime, other than the victim, before the conclusion of the initial investigation. Information on whether a witness had been contacted was drawn from two sources: the offense report completed by the field officer and the instrument used by the observer. A variable was created which identified whether contact with a witness had been noted on either source. Since observers had been instructed not to ask citizens any questions pertaining to their name or relationship to the crime, but only to record information given to the field officer, the number of cases with witnesses available from each source was correlated rather strongly (.712). Much of the discrepancy may have been due to the officers' recording the names of witnesses not actually contacted during the initial investigation. Of the 197 Part I crimes for which contact with a witness was known, 171 were listed on an offense report and 168 were noted by the observer.

In 130 of the 197 cases (66 percent) with witnesses available at the scene, there was only one witness contacted. Involvement cases were much more likely to have a witness and to have more witnesses per crime incident (Table 5-1). Of the 352 involvement cases in the data base, 171 (48.6 percent) had at least one witness available at the scene. This compared to 26 of the 597 (4.4 percent) dis-

Table 5-1.-- Part I crime data base with number of incidents, incidents with witnesses, and percentage by type of crime.

Type of Crime	Data Base	Incidents with Witnesses	
	N	N	Percent
Involvement Crimes	352	171	48.6
Violent Involvement	221	110	49.8
Rapes	10	3	30.0
Robberies	127	61	48.0
Aggravated Assaults	84	46	54.8
Nonviolent Involvement	131	61	46.6
Burglaries	35	22	62.9
Larcenies	91	36	39.6
Auto Thefts	5	3	60.0
Discovery Crimes	597	26	4.4
Burglaries	317	14	4.4
Larcenies	206	11	5.3
Auto Thefts	74	1	1.4
All Part I Crimes	949	197	20.8

covered Part I crimes in the data base. The 171 witnessed involvement cases were made up of 110 of the 211 (52.1 percent) violent cases and 61 of the 131 (46.6 percent) nonviolent crimes. The 26 discovered crimes with witnesses were made up of 14 burglaries, 11 larcenies, and 1 auto theft. In those instances, the witness returned to the scene after seeing police arrive and provided information about the crime.

The three principal response intervals, reporting, dispatch, and travel, were entered in an analysis of covariance technique in multiple regression to examine the relationship between response time intervals and witness availability. Since the initial inspection of the data suggested that linear regression might not produce the best fit with the observed data, two types of data transformations of the response time intervals were made, a logarithmic and a reciprocal transformation. The two transformations and the linear term were then entered into the regression equation as covariates. The type of crime and dichotomy of violent and nonviolent crimes were treated as factors, and the effects of the several factor-covariate interaction terms were measured. Witness availability was not related to any of the response time intervals in discovery cases, so further analysis of the witness-response time relationship was limited to involvement cases. Summary statistics showing the relationships of witness availability to the reporting and travel intervals are given in Appendix D.

Witness Availability and the Reporting Interval

The relationship between reporting time and witness availability was stronger than for any other interval. The logarithmic transformation of the reporting interval explained the greatest proportion of the variance ($F = 21.92$, Beta = -0.247) (Appendix D, Table D-1). The curve illustrating the relationship between reporting time and witness availability for all involvement cases is shown in Figure 5-2. As

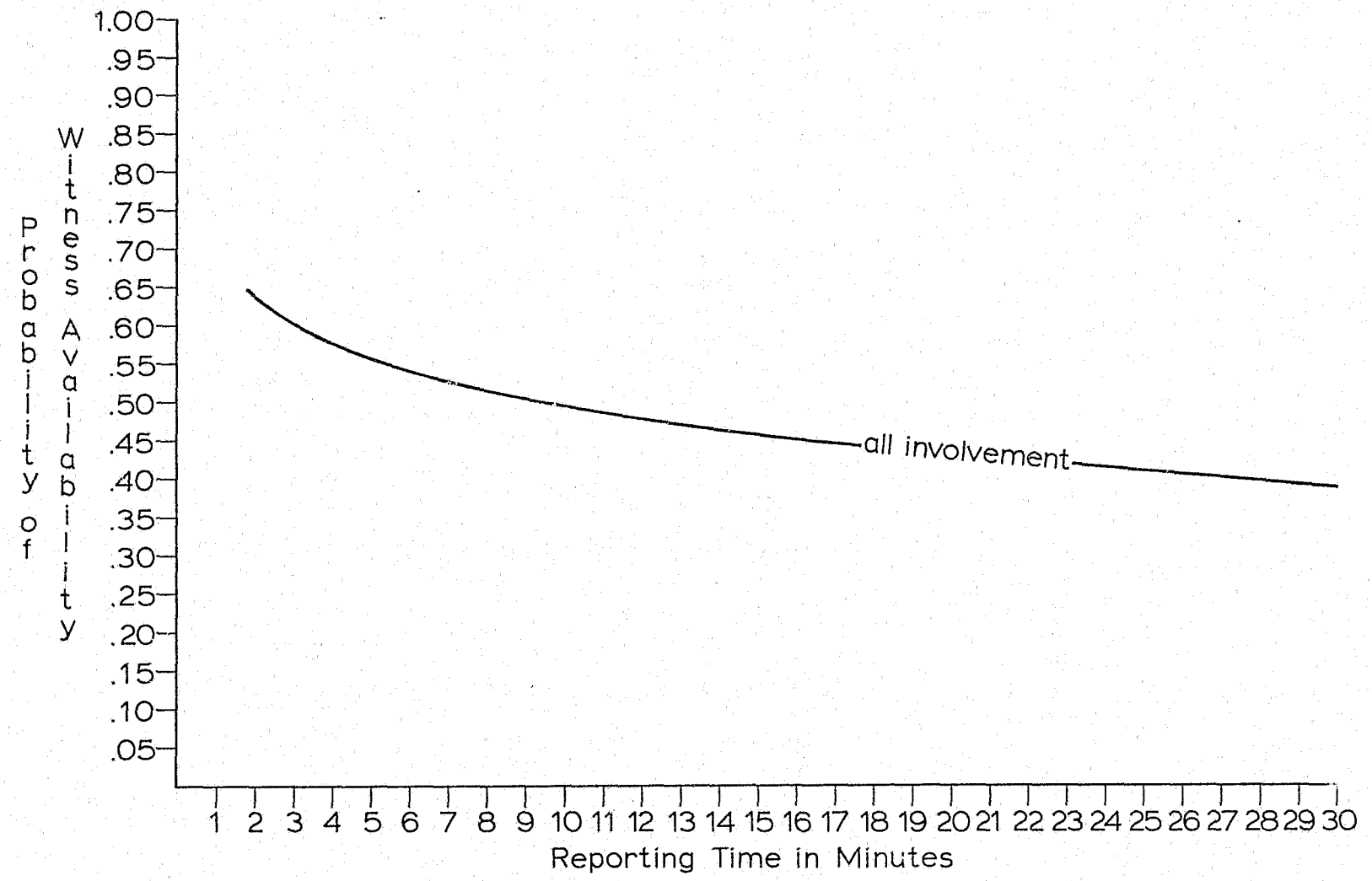


Figure 5 - 2.-- Probability of witness availability for Part I involvement crimes at reporting times of 0 to 30 minutes.

reporting time increased, the probability of a witness being contacted decreased from a high of 64.7 percent for the shortest reporting time in the sample, 1 minute, 4 seconds, to a low of 34.8 percent for a reporting time of 30 minutes.

A dummy variable differentiating violent and nonviolent crimes was entered into multiple regression analysis for involvement cases but did not effect the relationship between the reporting interval and witness availability. Prediction of witness availability from reporting time was not improved by entering the violent-nonviolent variables, indicating no significant difference between the two subsamples. The possible variation in the relationship between the reporting interval and witness availability was created for the types of crime and entered into multiple regression analysis with the logarithmic transformation of reporting, using robbery cases as a reference group. None of the variables produced a significant main effect, indicating that witness availability does not vary significantly by type of crime. The interaction effects between the reporting interval and the several dummy variables also failed to reach a level of significance. The relationship between the reporting interval and witness availability did not appear to differ by type of crime for involvement crimes.

Witness Availability and the Dispatch Interval

The linear terms and logarithmic and reciprocal transformations for the dispatch interval were entered into multiple regression to test the strength and statistical significance of the relationship between this interval and the frequency with which a witness was contacted by the officer dispatched to a Part I involvement crime. The dispatch interval failed to explain a significant amount of variance at the .05 confidence level. Introduction of the variable differentiating violent-nonviolent crimes, or of the dummy variables for the different types of crime failed to produce a significant relationship between the dispatch interval and witness availability.

Since the impact of the dispatch interval might be significant only for fast reporting times, an assessment was made of the strength and significance of the relationship between the dispatch interval and witness availability for various lengths of reporting time. The total number of involvement cases was divided both into thirds and halves, according to the length of reporting time. Dummy variables, corresponding to the groups of thirds and halves, were entered into regression analysis with the linear term and the two transformations of the dispatch interval, and the various interaction effects were assessed. None of the interaction effects between dispatch and the dummy variables for lengths of reporting time reached a level of significance. Each third and each half of the involvement cases was then analyzed separately to determine if a significant relationship existed between dispatch and witness availability in the various groups. No main effects were significant. The dispatch interval still failed to be a significant predictor of witness availability.

Witness Availability and the Travel Interval

The strength of the relationship between travel time and witness availability for all involvement cases was nearly identical when either the linear term or the logarithmic transformation of travel time was used. Since the linear term is a more direct function, it was selected for further analysis of covariance ($F = 4.42$, Beta = -0.114) (Appendix D, Table D-2).

When the violent-nonviolent variable was entered into multiple regression analysis for involvement cases, the relationship between witness availability and travel time changed. The violent-nonviolent variable failed to provide a significant main effect, indicating no significant difference between the two subsamples in the average probability of a witness being available. Measurement of travel time did not improve prediction of witness availability for nonviolent involvement incidents, but for violent incidents alone, the relationship was significant

(F = 7.85, Beta = -0.186) (Appendix D, Table D-3). This indicated the relationship between travel time and the probability of locating a witness for all involvement crimes was due to the relationship between time and witness availability for violent incidents. The analysis for all involvement and for violent involvement cases determined that the probability of a witness being contacted decreased as travel time increased. Analysis of covariance provided predictive equations for the relationship between travel and witness availability for both groups in the sample. The two equations are illustrated in Figure 5-3.

In comparing the two lines, the probability of a witness being contacted for violent involvement cases with short travel times was greater than for all involvement cases, but dropped rapidly as travel time increased. When travel time was less than 3 minutes, 26 seconds (38.9 percent of the involvement cases), the equation for all involvement cases predicted a lower probability of contacting a witness than the equation for violent cases. For longer travel times, the probability of a witness being contacted in relation to a violent crime was less than the probability for all involvement cases. For the two longest travel times measured, the equation for violent cases predicted a probability of 0 percent, indicating that witness availability was due to factors other than travel, while the slope of the predictive line for all involvement cases was more gradual with the probability never dropping below 8 percent.

The possible variation by type of crime between the travel interval and witness availability was also analyzed. Dummy variables were created for the types of crime and entered into multiple regression analysis with the linear term for travel time, using robbery cases as a reference group. Interaction effects between the travel interval and the several dummy variables failed to reach a level of significance. The relationship between the travel interval and witness availability did not appear to differ by type of crime for involvement cases.

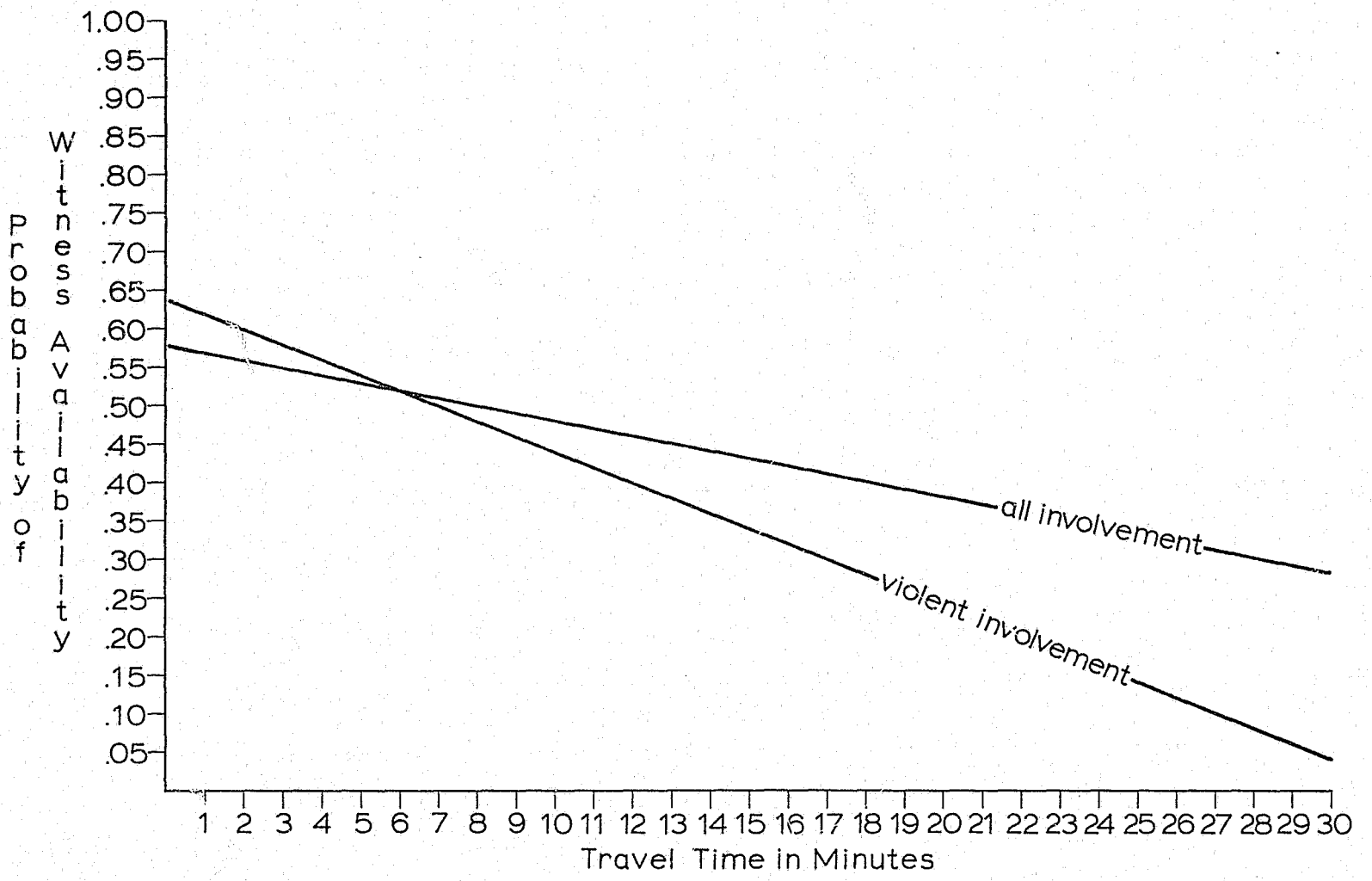


Figure 5 - 3.-- Probability of witness availability for Part I involvement crimes and violent crimes at travel times of 0 to 30 minutes.

Since the impact of the travel interval could also potentially decrease with an increase in reporting time, an assessment was made of the strength of the relationship between travel time and witness availability for various intervals of reporting time. Dummy variables, corresponding to the groups of thirds and halves, according to the length of reporting time, were again entered into regression analysis with the linear term and the two transformations of travel time, and the various interaction effects were assessed. None of the interaction effects between travel and the dummy variables for lengths of reporting time reached a level of significance.

Each third and each half of the involvement cases were then analyzed separately to determine if a significant relationship existed between travel and witness availability in the various groups. No main effects were significant. The travel variable no longer reached a level of significance for any of the groups. This loss of significance can be explained by the fact it is more difficult to establish significance with the reduced number of cases, or by the fact the relationship between travel time and witness availability was not strong for all involvement cases, and the significant relationship may have depended upon a few cases with long travel times.

Conclusions drawn from this analysis of the relationship between response time intervals and witness availability should be tempered by one consideration. The extent of the officers' efforts to search for witnesses may affect the witness-response time relationship. A departmental policy which stressed the location of witnesses might increase the impact of rapid response.

CHAPTER SIX

CITIZEN INJURY

Rapid police response has been cited as a means of reducing both the frequency and severity of citizen injury. For example, it has been assumed that officers who arrive quickly may intercept a violent crime in progress or settle a dispute before it escalates into an injury-producing confrontation. For those cases in which injuries are sustained before the police are called, rapid response is also presumed to limit the potential impairments of the injury by expediting the handling and transporting of the injured person. While no data were collected on the number of injuries avoided through rapid police intervention, this section will present an exploratory effort to test the impact of reporting, dispatch, and travel times on injuries sustained in Part I crimes.

The Injury Sample

Injuries were sustained in 105 of the 949 Part I crime incidents (11.1 percent) with a total of 114 citizens being injured. No injuries to field officers were reported in the Part I crime sample. All injuries were found in violent crime incidents and were distributed as follows: 7 of 10 rape cases, 29 of 127 robbery cases, and 69 of 84 aggravated assault cases included at least one injury to a citizen. Overwhelmingly, injuries occurred in situations involving a weapon; in 95 of the injury cases or 90.5 percent, at least one individual sustained an injury inflicted by a weapon. Sixty-four of the total 105 injury cases (61.0 percent) required the hospitalization of one or more injured parties.

In 13 of the 64 incidents which required the hospitalization of an injured citizen, the citizen was taken to the hospital prior to the time the police were called. Thus, in 92 of the 105 injury cases prompt, adequate treatment could be dependent upon rapid citizen reporting and police action, and consequently, only

these cases were included in the analysis of response time to injury relationship.

Data concerning the type and length of hospital treatment were obtained for 45 of the 51 field injury cases resulting in hospitalization. In a majority (25) of the cases, only emergency room treatment was required, while for those admitted to the hospital, length of stay ranged from overnight (4 cases) to over a week (6 cases). One individual died from injuries received in a Part I crime incident after being hospitalized.

Seriousness of the 92 field injury cases was assessed by two separate variables. First, the degree of injury was noted by the field observers based upon the citizen's reported and apparent impairment. Second, the observers also recorded the type of field treatment administered by the officer from no treatment to emergency first aid and transportation to a hospital. The correlation between these two variables was + .563.

A seriousness of field injury index was developed by summing the scores of these two variables. As each variable's score could range from 1 to 4 with 4 indicating the most serious injuries, the combined index could vary from 2 to 8. No case had a seriousness rating of 8 which would have indicated injuries that resulted in death prior to hospitalization. A minor injury for which no treatment was given (a score of 2) occurred in 31 cases or about 33.7 percent of the total number of field cases. The average seriousness rating for the 92 field injury cases was 3.99.

Nineteen of the field injury cases, or about 20.7 percent of the incidents, were dispatched as Code One calls; that is; lights and sirens were authorized in response to these incidents. The correlation between the code of the call and the seriousness index was + .462, indicating that Code One calls were rated as more serious than non-Code One calls. Both the seriousness index and the code

of the call correlated with the type of hospital treatment, + .514 and + .370, respectively, indicating longer hospital stays with increasing seriousness scores for Code One incidents.

Response Time and Injury

One significant assumption underlying the presumed importance of response in injury cases has been that citizen reporting and police dispatch and travel are sensitive to the demands of the situation. Thus, incidents involving serious injuries require expedient reporting and rapid police response if these actions are to affect injury outcomes. To test this assumption, the seriousness index was employed as a predictor of the reporting, dispatch, and travel intervals in regression analysis. To allow for the possible effects of skewness in the distributions, logarithmic transformations of the time were also used. The results presented are based on the logarithmic forms.

The seriousness of injury in an incident was not found to be a significant predictor of the time taken to report the incident ($F = 0.04$, Beta = 0.022) (Appendix E, Table E-1). The dispatch and travel intervals, on the other hand, were significantly associated with seriousness (Dispatch: $F = 5.42$, Beta = -0.245; Travel: $F = 11.77$, Beta = -0.343), such that increasing ratings of injury seriousness predicted increasingly shorter dispatch and travel times (Appendix E, Tables E-2 and E-3). It was considered probable that the code assigned to the call produced the differences noted in travel times. The assigned code was found to be significantly related to travel time ($F = 13.03$, Beta = -0.359) but not to reporting time (Appendix E, Table E-4). When both the code and the seriousness index were entered concurrently in multiple regression, both main effects were found to be significant with travel (Code: $F = 5.35$, Beta = -0.255; Travel: $F = 4.20$, Beta = -0.226), but no interaction was found (Appendix E, Table E-5).

Thus, travel was affected by both the code and by the other dispatched cues to the seriousness of the incident.

An assumed effect of response has been that if two injuries are equal in seriousness, the incident receiving more prompt emergency field treatment may result in more rapid recovery, fewer chronic impairments, less specialized medical treatment, etc. Operationally, this was tested by analyzing the effect of response time on the type of hospital treatment required while controlling for seriousness. To allow for possible deviations from linearity, logarithmic and reciprocal forms of the reporting, dispatch, and travel times were also entered into multiple regression as predictors of the type and length of hospital treatment, after the variation due to the seriousness of the injury was assessed. Possible seriousness by response time interactions were assessed. The assigned code and its interaction with the times were also evaluated as predictors of hospital stay to indicate possible differences between Code One and non-Code One calls. Only code ($F = 5.11$, Beta = 0.340) and seriousness ($F = 10.07$, Beta = 0.453) proved to be significant predictors of hospital stay, with Code One calls and more serious injuries requiring longer hospitalization (Appendix E, Tables E-6 and E-7). Reporting, dispatch, and travel times were not significantly related to hospital treatment either as main effects or in interaction with any other predictor for the linear or any of the transformed times.

The analysis of the response time to injury relationship was hampered by several limitations of the data. First, only a small number of cases (51) involved the hospitalization of a citizen who was not hospitalized prior to police contact. The majority of cases for which the type of hospital treatment was known (25 of 44) received emergency room treatment only, resulting in limited variation in the dependent variable. The necessity of controlling for the seriousness of the injury, which was a significant predictor of length of hos-

pital stay, undoubtedly further restricted the variability of the dependent variable. The small applicable sample combined with the limited variation in the type of hospital treatment greatly reduced the chance of detecting possible response-related effects on injury outcome.

Subsequent analysis of the noncrime medical emergency data collected for the study, e.g., vehicular and other casualty calls, might make the effect of response time on injuries more clear. These findings will be reported in future volumes.

CHAPTER SEVEN

PROBLEMS AND PATTERNS IN REPORTING

One of the major limitations of much of the previous research and thinking on the topic of response time has been the assumption that crimes are reported without significant delay, often while they are occurring. Data from the present study suggest that such an assumption is untenable. The time taken to report an incident comprised nearly one-half of the total time from when a citizen's involvement in a crime had ended or the crime was discovered until on-scene investigation had begun. Over one-half of all Part I crimes were reported more than 6 minutes after the end of involvement or discovery, while less than 7 percent of the incidents (60) could possibly have been reported in progress.

As a result of this delay, the time taken to report a Part I Crime incident appeared to be the mediating time factor in the probability of an on-scene arrest and the availability of witnesses. The reporting interval consistently explained more variance in the outcome measures than did either dispatch or travel time. Also, the length of reporting time was found to affect the relationship between travel and arrest in that progressively longer periods required to report an incident negated the effect of even rapid police responses.

The centrality of the reporting issue emphasized the need to describe both the patterns used and the problems encountered before and during the process of contacting the police. Generally, problems were conceived to be uncontrollable hindrances encountered, while patterns were defined as voluntary actions taken prior to or in the process of reporting and the attitudes which affected them. Information pertinent to the problems and patterns in reporting was largely obtained from interviews with the citizens who called the police. Occasionally, other involved citizens provided additional data on the actions of the reporting

party. The offense report and the Tape Content Analysis Instrument were also potential sources of information on problems and patterns.

The Problem and Pattern Sample

Eight pattern and five problem variables were identified. Six of the patterns describe actions which were taken prior to contacting the police while the two remaining patterns represent frequently given explanations for hesitation in reporting. The five problems indicate hindrances encountered prior to or in the process of telephoning the police. Since these eight patterns and five problems were recorded only if they were related to a postponement in contacting the police, they were expected to relate to the reporting interval.

Patterns in Reporting

The eight patterns that were identified are as follows:

1. Delay due to talking to another person. This pattern was the most frequent, occurring in 448 cases or nearly one-half (47.2 percent) of all Part I crime incidents. The most common reason for this delay, given in 274 cases, was to obtain advice, assistance, or additional information. A second prevalent response (133 cases) indicated that a second party was contacted to obtain permission to use a telephone to call the police.
2. Delay due to investigating the incident scene. Generally, this pattern occurred when citizens tried to enumerate missing articles, search for missing property, assess property damage, etc., prior to contacting the police. It occurred in 170 cases (17.9 percent), making it the second most prevalent pattern.
3. Delay due to telephoning another person or receiving a call. This pattern occurred in 98 cases or approximately 10.3 percent of the

Part I crime sample. The most common response related to this pattern indicated that citizens telephoned others to get advice, assistance, or additional information concerning the incident prior to reporting it to the police. This response was found in 50 other cases. An interesting, although infrequent response (6 cases), was that a second party was called to get him to telephone the police.

4. Delay due to waiting or observing the situation. Often, the response of waiting or observing the situation appeared to be related to a search for additional information about the seriousness of the incident and the need for police assistance. This response also occasionally indicated periods of indecision and inactivity relative to reporting. This pattern was found in 81 incidents or in about 8.5 percent of the cases.

5. Delay due to being unsure about police assistance. This pattern was given as an explanation for delay in 70 cases or about 7.4 percent of all Part I crimes analyzed. The most frequent response, found in 27 cases, indicated that the citizen was unsure that the police could help because there was no proof or because nothing could be done to rectify the situation. A second frequent response (24 cases) was that the police might think the incident was unimportant or would not want to help.

6. Delay due to chasing the suspect. This action was taken in 65 cases or about 6.8 percent of the sample. Of possible interest is the fact that the suspect was caught by the citizen in 26 of the 65 incidents.

7. Delay due to apathy. Typical responses comprising this particular

pattern variable included statements indicating that the citizen did not think that the incident was personally important (32 cases), that he did not want to get involved (5 cases), that he did not want to take the responsibility of calling the police (11 cases), etc. This variable was identified in 62 cases (6.5 percent).

8. Delay due to contacting security. With only 48 cases (5.1 percent of the total sample) reporting this pattern, this was the least frequent of the eight pattern variables. In over half of these cases (25), the citizen indicated it was company policy to contact a superior or security guard prior to reporting to the police. In seven cases, the security guard completed his report before placing the call to the police department.

Problems in Reporting

The five problem variables, all of which were related to delays in reporting from general unavoidable hindrances, were as follows:

1. Delay due to public communication problems. This problem occurred in 211 cases (22.2 percent) and so was the most frequently identified reporting hindrance. Overwhelmingly, this variable was based upon a single difficulty; no telephone was immediately available to report the incident, and so the reporting party had to seek a phone. This problem was found in 179 cases. A number of other public communication problems were cited, none of which occurred in more than five cases each, including inoperative telephones, busy lines (citizen's end), no or incorrect change for a pay phone, trouble dialing the telephone, trouble finding the correct number, calling the wrong police department, uncooperative operators, etc.

2. Delay due to not being informed or being misinformed about the incident. This second most frequent problem was noted in 106 cases (11.2 percent). In 102 of those cases, the citizen indicated that the delay was due to the fact that they were not immediately informed of the crime, the crime being discovered by or involving another citizen who subsequently informed them. In the remaining four cases, the citizen mistakenly believed the police had already been contacted, and the delay resulted from this erroneous assumption.

3. Delay due to fear or emotional shock. Fear of reprisal by the suspect and emotional stress were cited as reasons for not reporting immediately in 100 cases (10.5 percent). Emotional upset was given as the cause of delay in over four times as many cases as fear of reprisal from suspects.

4. Delay due to police communications problems. Sixty cases or about 6.3 percent of all Part I crimes involved some type of police department communication problem. A variety of difficulties were reported; however, no one issue was prevalent. Difficulties cited included uncooperative dispatchers (9 cases), no answer at the department (4 cases), line busy (department's number, 3 cases), phone not answered promptly (9 cases), police did not respond to the first call (4 cases), trouble communicating with the dispatcher (15 cases), etc.

5. Delay due to injury. This problem was recorded when physical injuries or the necessity of either giving first aid of transporting an injured party to the hospital precluded immediate reporting. This was the least frequently identified problem variable and was

found in 57 cases or about 6.0 percent.*

The frequency of occurrence of the various problems and patterns probably understates their actual presence in Part I crime incidents, depending upon the subjectivity of the variable. For example, delay due to injury is a relatively objective problem variable and was noted regularly in several potential sources of information including the offense report, the field observer's instrument, and the citizen interview. Variables such as apathy, however, are much more subjective and depended entirely upon the citizen's proclivity to report such an attitude.

Type of Crime and Problems and Patterns

Since the type of crime has been found to exert a significant influence on reporting times, its effects on the frequency of problems and patterns was assessed. To assess the possible influences of the type of crime on the type and frequency of problems encountered and patterns used, dummy variables representing eight of the basic crime categories were entered into multiple regression. The categories employed in this analysis of variance were as follows: rape, aggravated assault, involvement burglary, involvement larceny, involvement auto theft, discovery burglary, discovery larceny, and discovery auto theft. Robbery cases became the reference group, and alarm-detected incidents were excluded from the analysis as reporting times in these cases were unknown and information on problems and patterns was unavailable.

The variance explained in five of the eight delay-related patterns was significant. They were delay due to chasing the suspect ($F = 41.05$, $df = 8/925$, $p < .001$),

*The sum of all the cases with responses indicative of all problems or patterns does not necessarily equal the total number of cases with a specific problem or pattern. For example, two public communication difficulties could have occurred in a case, adding one to the frequency of each of the individual difficulties; however, this case would only be counted once toward the total number of cases with a public communication problem.

delay due to investigating the incident scene ($F = 8.44$, $df = 8/925$, $p < .001$), delay due to waiting or observing the situation ($F = 6.35$, $df = 8/925$, $p < .001$), delay due to contacting security ($F = 3.28$, $df = 8/925$, $p < .010$), and delay due to apathy ($F = 4.70$, $df = 8/925$, $p < .010$) (Appendix F, Tables F-1 through F-5). Four of the five problem variables were also significantly influenced by the type of crime. They were delay due to injury ($F = 58.65$, $df = 8/925$, $p < .001$), delay due to fear or emotional stress ($F = 8.08$, $df = 8/925$, $p < .001$), delay due to public communication problems ($F = 6.76$, $df = 8/925$, $p < .001$), and delay due to not being informed or misinformed about the incident ($F = 2.72$, $df = 8/925$, $p < .001$) (Appendix F, Tables F-6 through F-9).

For those problems and patterns showing significant type of crime effects, t-tests of the proportional differences between crime categories were made. As before, separate-variance estimates were used when group variances were found to differ significantly. These results are given in Appendix F, Tables F-10 through F-18. An effect that recurs throughout much of this analysis was a difference between involvement and discovery incidents, while differences between two types of involvement or two types of discovery crimes were more rare.

Delays due to chasing a suspect occurred with greater frequency in the involvement crimes. Such a difference is not surprising since suspects were rarely seen in discovery cases. Within the involvement category alone, the pattern was particularly prevalent in involvement larcenies which showed a significantly higher frequency than rape, robbery, assault, and involvement burglary. Additionally, a significantly greater proportion of robbery cases included this pattern than assault cases (Appendix F, Table F-10).

The proportion of cases with a delay resulting from investigating the incident scene was greater for the discovery cases than for robbery, assault, or involvement larceny, as illustrated in Appendix F, Table F-11. The only other sig-

nificant difference occurred between discovery burglary, which showed the higher proportion, and discovery larcenies. Investigating the incident scene appeared to be a pattern limited largely to discovery cases, especially discovery burglaries.

Waiting or observing the situation was a pattern that also appeared to be strongly connected with involvement larceny incidents (Appendix F, Table F-12). A greater proportion of these cases showed this pattern than the robbery, assault, and discovery burglary, larceny, and auto theft categories. Also, significantly more discovery burglaries involved waiting or observing the situation than did discovery auto thefts.

The differences with regard to delay due to contacting security were quite simple (Appendix F, Table F-13). This delaying pattern occurred more frequently in discovery larceny cases than in robbery, assault, or discovery burglary incidents.

The final pattern variable affected by the type of crime was delay due to apathy. Apathy was more frequently given as an explanation for reporting delay in discovery larceny cases than in robbery, assault, discovery burglary, or discovery auto theft incidents and more in involvement burglary and involvement auto theft (Appendix F, Table F-14).

As a group, violent involvement crimes showed a greater proportion of cases with delays due to injuries than either the discovery or the nonviolent crime categories (Appendix F, Table F-15). Rape, robbery, and assault showed significantly higher frequencies of this problem than involvement larceny, and rape and assault showed higher frequencies than involvement burglary. The only significant difference within the violent crime category occurred between assault and robbery with assault showing a higher frequency of the injury problem.

Delay due to fear of reprisal or emotional shock appeared to be related to

two types of crime, rape and robbery (Appendix F, Table F-16). Rape cases showed a proportionally greater frequency of this problem than robbery, assault, involvement larceny, discovery larceny and auto theft. The robbery proportion significantly exceeded that of involvement larceny and discovery burglary, larceny, and auto theft.

Public communication problems that were cited as resulting in reporting delay occurred in the greatest proportions in robbery cases. The robbery category was found to differ significantly from the assault, the involvement burglary, and the discovery groups. Other differences in the frequency of this problem occurred between involvement larceny and discovery burglary, and between discovery larceny and discovery burglary with the larceny categories showing the greater relative frequency of occurrence (Appendix F, Table F-17).

Delay due to not being informed or being misinformed about the incident was found to be more prevalent in discovery burglary and larceny cases than in robbery and involvement burglary calls (Appendix F, Table F-18).

The Effect of Social Characteristics on Problems and Patterns

In addition to problems and patterns, the social characteristics of the involved citizen or the citizen discovering the crime might influence the reporting delay. This effect could either be direct or indirect, affecting reporting time by influencing the problems encountered and patterns used. Finally, if citizens with certain social characteristics tend to become involved in particular types of crime, social characteristics could covary with type of crime as a predictor of reporting delay. To test these possible relationships, specific analyses were made. First, the possible connection between type of crime and social characteristics was assessed. Secondly, the relationship between social characteristics and problems and patterns was investigated. Finally, the impact of these predic-

tors, i.e., type of crime, social characteristics, problems and patterns, on the reporting interval was assessed.

Social Characteristics and Type of Crime

Analysis of variance with type of crime dummy variables entered into multiple regression was again used to predict the social characteristics of the citizens who became involved in Part I crimes. Robbery cases were the reference group with the other eight basic crime categories, excluding alarm-detected incidents, represented in the regression equation. Type of crime was found to covary with the type of citizen; specifically, type of crime predicted whether the respondent owned, rented, or boarded ($F = 3.39$, $df = 8/831$, $p < .010$), marital status ($F = 2.69$, $df = 8/831$, $p < .010$), whether or not the respondent was the head of the household ($F = 3.01$, $df = 8/831$, $p < .010$), income ($F = 2.07$, $df = 8/831$, $p < .010$), race ($F = 6.50$, $df = 8/831$, $p < .001$), and sex ($F = 2.70$, $df = 8/831$, $p < .010$) (Appendix F, Tables F-19 through F-24). Although statistically significant, the relationships found were not strong, as the variance explained was rather low.

T-tests were used to assess the differences between crime categories for those social characteristics related to type of crime. Separate-variance estimates were used when warranted by the F-test of the group variances, rather than using the pooled-variance estimates.

Generally, citizens involved in robbery and assault incidents were more likely to board than to rent, and more likely to rent than to own than citizens involved in larceny and auto theft cases or discovery burglary and larceny incidents (Appendix F, Table F-25).

A similar pattern of differences was found for marital status (Appendix F, Table F-26). In general, a disproportionate number of unmarried persons were persons involved in robbery and assault calls compared to those involved in burglary and larceny or who discovered a larceny.

Discovery burglaries more frequently involved heads of households than robberies, assaults, involvement burglaries, or discovery larcenies. The only other significant difference was found between involvement larceny and involvement burglary, with involvement larcenies showing the higher proportion of heads of households (Appendix F, Table F-27).

Only a single comparison between crime categories yielded a significant difference in income (Appendix F, Table F-28). The income of individuals discovering a larceny was higher than those involved in assault incidents.

Differences in the race of the involved citizen are illustrated in Appendix F, Table F-29. White persons were found to be more frequently present in discovery larceny cases than in robbery, assault, involvement auto theft, discovery burglary, or discovery auto theft cases. A greater proportion of white individuals were also involved in larcenies than in assaults.

Finally, a disproportionately larger number of males were involved in larcenies relative to the number in involvement auto theft and discovery burglary, while a greater proportion of females was found in involvement auto theft, compared to discovery larceny and discovery auto theft cases (Appendix F, Table F-30).

Social Characteristics and Problems and Patterns

Twelve social characteristics were assessed as potential predictors of each of the 13 problem and pattern variables through regression analysis. In addition to these main effects, all two-way interactions were tested. Nonlinear relationships were considered possible; for example, public communication problems might be more prevalent for the very young and the very old, and virtually absent for the ages in-between. To allow for this possible effect, polynomial forms of length of residence in Kansas City, Mo., length of residence at the present address, population of the city where the respondent lived most of his life, the Duncan socioeconomic rating of the type of work, age, education, and income were

also entered into multiple regression. Those separate variables, interactions, or polynomials which were found to be significantly related to a problem and pattern variable were concurrently assessed in a final multiple regression on that variable.

Multiple regressions involving such a potentially large number of intercorrelated variables typical of social characteristics, are vulnerable to the problems of high multicollinearity. To assess possible difficulties, a correlation matrix of the social characteristics variables was computed. Only the correlations between length of residence in Kansas City, Mo., and length of residence at the present address ($r = .568$), length of residence in Kansas City, Mo., and age ($r = .625$), and length of residence at the present address and age ($r = .534$) exceeded the .5 level. However, two or more of these variables were not found to be related to any single problem or pattern variable, and were not entered concurrently into multiple regression.

Six of the eight pattern variables and two of the five problem variables were found to be related to the social characteristics of the involved citizen. Although the relationships were statistically significant, again, the amount of variance explained by social characteristics was not great in any case.

Delay due to talking to another person was affected by two social characteristic factors, length of residence at the present address ($F = 5.21$, Beta = -0.109), and whether the involved individual was the head of the household ($F = 5.19$, Beta = -0.087) (Appendix F, Table F-31). This pattern occurred less frequently when the head of the household was involved and with increasing length of residency at the same address.

Whether the respondent owned, rented, or boarded ($F = 4.85$, Beta = -0.190), race ($F = 4.96$, Beta = -0.234) and sex ($F = 6.17$, Beta = -0.313) affected the frequency of delay due to chasing the suspect. Also, significantly related to

this pattern were the polynomial form of the Duncan socioeconomic index ranking squared (F = 4.26, Beta = -0.273) and the interactions of whether the respondent owned, rented, or boarded with the Duncan ranking of the type of work (F = 5.23, Beta = 0.322), whether the respondent owned, rented, or boarded with sex (F = 5.00, Beta = 0.281), age with income (F = 5.92, Beta = -0.403), and income with race (F = 6.30, Beta = 0.259) (Appendix F, Table F-32).

Because of the number and complexity of factors which affect the probability of delay due to chasing a suspect, the influence of an individual variable was obscured. However, in general, this pattern was more prevalent for males of both races who owned their residence than for those who rented, and more prevalent for those who rented than for those who boarded. Females showed virtually no difference along the own-rent-and-board dimension. The probability of this pattern occurring decreased with age and income for whites while the probability increased for blacks with increasing income. Finally, a nonlinear effect with the Duncan socioeconomic rating of the type of work was identified. The proportion of cases predicted to involve delay from chasing a suspect increased until a ranking of about 45 on the index was reached, then the predicted proportion declined.

Delay due to investigating the incident scene was predicted by the population of the city where respondents had lived most of their lives (F = 10.75, Beta = -0.948), this variable squared (F = 11.47, Beta = 0.982), length of residence at the present address (F = 8.15, Beta = -0.166), and this variable in interaction with the Duncan ranking of the type of work (F = 6.59, Beta = 0.165) (Appendix F, Table F-33). Delay due to investigation increased in frequency with increasing length of residency at the same address and a Duncan ranking above 40, while decreasing in frequency for increasing lengths of time at the same address for Duncan ratings of 40 or less. Also, a decrease in the occurrence of this pattern

corresponded with an increase in the population of the city where the respondents had lived most of their lives, although the size of the reduction became smaller with increasing population.

Population of the respondent's hometown (F = 6.78, Beta = -0.343), education (F = 8.85, Beta = -0.436), their interaction (F = 4.92, Beta = 0.420), and the interaction of the Duncan index rating of the type of work with sex (F = 5.59, Beta = -0.190) proved to be significant predictors of the delay due to waiting or observing the situation (Appendix F, Table F-34). Increasing hometown population and education separately predicted decreasing probabilities of this pattern. The interaction of these two variables was related in the opposite direction but the interaction was not strong enough to reverse the decreasing probability of this pattern over the range of values coded. For females, a higher rating of the respondent's work on the Duncan socioeconomic index also related to reduced probability.

Apathy was also found to have social characteristic predictors. The Duncan ranking of type of work (F = 16.48, Beta = 0.354), whether the respondent was the head of the household (F = 4.29, Beta = 0.104), their two-way interaction (F = 12.14, Beta = -0.319), whether the respondent owned, rented, or boarded (F = 4.73, Beta = 0.196), education (F = 7.00, Beta = 0.268), and their two-way interaction (F = 8.45, Beta = -0.355) were significant predictors (Appendix F, Table F-35). Heads of households were less likely to show apathy and less affected by the Duncan ranking of their work than nonheads of households, who showed increasing frequencies of delay due to apathy with higher job rankings. Further, owners of their residences showed a lower predicted probability of this pattern than renters or boarders. Increasing levels of education, however, resulted in fewer occurrences of apathy for renters and boarders, but a higher frequency for owners.

The first of two problem variables affected by social characteristics was delay due to fear or emotional upset. The significant predictors were length of residence in Kansas City, Mo. ($F = 4.10$, Beta = 0.461), whether the respondent owned, rented, or boarded ($F = 4.12$, Beta = 0.111), whether the respondent was the head of the household ($F = 8.87$, Beta = -0.212), and the interaction of length of residence in Kansas City, Mo., and population of the city where the respondents had lived most of their lives ($F = 4.65$, Beta = -0.494) (Appendix F, Table F-36). The predicted frequency of this problem increased with length of time in Kansas City, Mo., but this increase was offset by the interaction of the length of time with hometown population, if population was 500,000 or more. The predicted occurrence also increased along the own-rent-board dimension from owners, who were least likely to encounter this problem, to boarders. The strongest predictor, whether the respondent was the head of the household, indicated that delays due to fear or emotional upset were more prevalent for nonheads of households.

Finally, delay due to police communication problems were more frequently reported by blacks than whites ($F = 4.33$, Beta = 0.074) (Appendix F, Table F-37). This was the only significant predictor of this problem.

While social characteristics were not found to be strongly related to either the type of crime or the problems and patterns identified for an incident, their relationships to reporting time were assessed both separately and in conjunction with these additional variables. The problems and patterns, on the other hand, were in some cases strongly associated with the type of crime, suggesting that concurrent assessment of these factors was more appropriate.

Predictors of Reporting Time

Social characteristics were assessed as predictors of reporting time by employing each of the social characteristic variables in a separate regression

analysis. All two-way interactions and the appropriate polynomials were also tested. Those showing significant relationships in these computations were then entered concurrently in multiple regression. Finally, the patterns followed, the problems encountered, and the type of crime were added to allow for their effects. As before, the results from the logarithmic transformation of the reporting interval are presented.

Considered the large number of potential social characteristics predictors, the contribution of these characteristics, in terms of the reporting variance explained, was quite small. Without controlling for the type of crime or the problems or patterns, one main effect, marital status ($F = 4.08$, Beta = 0.170), and the interaction of the own-rent-board dimension with education ($F = 4.48$, Beta = -0.344) were significant (Appendix F, Table F-38). The results indicated that the reporting interval decreased for boarders compared to renters, and renters relative to owners with increasing education; that is, increasing education had the greatest impact on boarders in reducing reporting time, less on renters, and the least on owners. Also significant was the difference in marital status, with married individuals reporting more rapidly than unmarried persons. When the type of crime and problem and pattern variables were entered into the multiple regression equation with the social characteristic variables, only marital status, of the social characteristic predictors, was significantly related to the time taken to report ($F = 11.14$, Beta = 0.192) (Appendix F, Table F-39).

The effect of encountering a problem or choosing a pattern of action or interaction in the process of reporting was also assessed by testing the strength of these variables as predictors of the reporting interval. In addition to the 13 problem and pattern variables that were separately entered into regression to examine possible main effects, all two-way interactions were assessed. Those main effects and interactions which singly proved to be significant predictors

of reporting time were then entered concurrently into multiple regression with the type of crime variables. Thus, the resulting effect of a variable or interaction accounted for the effect of the crime category, as well as that of all other significant problem and pattern predictors. Although the effect of the social characteristic variables was not expected to be great, these factors were also assessed.

The problem and pattern variables proved to be strong predictors of time. Eight main effects were found to be significant contributors to reporting delay involving six of eight pattern variables, and two of five problem variables. Only two interactions were found that predicted longer reporting time than the additive influence of each variable. Three other interactions were significant; however, the interactions predicted less delay than the sum of the effect of the separate variables. The significant variables and interactions that predicted reporting delay are listed in order of the variance explained. They were delays due to apathy ($F = 32.57$, Beta = 0.197); not being informed or being misinformed about the incident ($F = 23.69$, Beta = 0.243); telephoning another person or receiving a call ($F = 23.56$, Beta = 0.160); contacting security ($F = 12.01$, Beta = 0.114); being unsure of the police ($F = 10.52$, Beta = 0.102); interaction of waiting or observing the situation with being unsure of the police ($F = 7.76$, Beta = 0.103); investigating the incident scene ($F = 6.86$, Beta = 0.081); interaction of waiting or observing the situation with police communication problems ($F = 6.12$, Beta = 0.083); waiting or observing the situation ($F = 4.35$, Beta = 0.084); and injury ($F = 3.96$, Beta = 0.069) (Appendix F, Table F-40).

The three interactions which predicted faster reporting times than the combined influences of the separate interacting variables were interaction of telephoning another person or receiving a call with contacting security ($F = 14.22$, Beta = -0.125); interaction of apathy with police communication problems ($F =$

10.37, Beta = -0.106); and interaction of public communication problems with not being informed or being misinformed about the incident (F = 8.22, Beta = -0.096) (Appendix F, Table F-40).

With the social characteristic factors also entered into the equation, the relationships, as expected, were not greatly altered. Of the significant problem and pattern variables, only the main effect of delay due to injury, the weakest predictor, was found to be nonsignificant. The additional variance explained by adding the social characteristics was minimal (Appendix F, Table F-39).

CHAPTER EIGHT

PROCESS OF REPORTING

In addition to the patterns citizens followed and the problems they encountered before or during the process of reporting Part I crimes to the police, it was suspected the actual process citizens utilized to contact the police might have some effect upon the length of the reporting interval. Four elements of the reporting process were identified during the citizen interviews. They are as follows:

1. Who called the police.
2. Whose telephone was used.
3. What telephone number the caller used.
4. How the caller knew the number used.

Citizen-callers interviewed during the study were classified as either a victim-caller, a witness-caller, or a caller. For purposes of clarity, the term "citizen-caller" will be used for all citizens interviewed who called the police, whereas "caller" will apply only to citizens interviewed who called the police but were neither victims nor witnesses to a crime, according to the criteria set by the study.

The Process of Reporting Sample

The majority of citizen-callers were victims (70.3 percent); another 8.8 percent were witnesses and the remainder were callers only, 20.9 percent. For 225 of the Part I crimes in the sample, the citizen-caller was not interviewed (Table 8-1). Interview completion rates can be found in Appendix G, Table G-1.

The 724 citizen-callers interviewed were asked whose telephone they used to call the police. Of the 716 responses, all but eight fell into the four following categories (Table 8-2):

TABLE 8-1

Type of Citizen Caller	Absolute Frequency	Relative Frequency
1. Victim - caller	509	70.3 %
2. Caller	151	20.9 %
3. Witness - caller	64	8.8 %
No citizen caller interviewed	225	Missing
	949	100.0 %

TABLE 8-2

Telephone Used	Absolute Frequency	Relative Frequency
1. Citizen - caller's own telephone	349	48.7 %
2. Citizen - caller's business telephone	202	28.2 %
3. Someone else's telephone	105	14.7 %
4. Pay telephone	52	7.3 %
5. Other	8	1.1 %
6. Not specified	233	Missing
	949	100.0 %

TABLE 8-3

Telephone Number Used	Absolute Frequency	Relative Frequency
1. Crime Alert	236	38.7 %
2. Telephone System Operator	190	31.2 %
3. Police Switchboard Operator	174	28.6 %
4. Other	9	1.5 %
5. Not Specified	340	Missing
	949	100.0 %

TABLE 8-4

How Knew Telephone Number	Absolute Frequency	Relative Frequency
1. Memory	204	39.1 %
2. Telephone Directory	118	22.6 %
3. Number written down	115	22.0 %
4. Operator Assistance	80	15.3 %
5. Other	5	1.0 %
6. Not Specified	427	Missing
	949	100.0 %

1. The respondent's own home telephone, used in nearly half of the recorded responses, 48.7 percent.
2. A telephone at the citizen caller's place of business, 28.2 percent.
3. A telephone belonging to someone else, 14.7 percent.
4. A pay telephone, 7.3 percent.

The remaining 8 cases, 1.1 percent, involved various responses. In four cases, a witness-caller or caller used the victim's telephone and in the remaining four cases, the citizen-caller used various types of phones after first attempting unsuccessfully to use a pay telephone. Only the first four categories (98.9 percent of the sample) were included in the analysis.

Citizen-callers were also asked what telephone number they dialed, and 609 (84.1 percent) replied. Of those, 600 dialed one of three numbers; the Crime Alert number (38.7 percent), the police administrative number (28.6 percent), or the telephone company operator (31.2 percent) (Table 8-3). Of the remaining nine cases (1.5 percent), four citizens said they were connected by the telephone company's directory assistance operator, and three citizen-callers dialed a special unpublished number to reach the dispatcher.

Those citizen-callers who dialed the Crime Alert number or police administrative number were asked how they knew the telephone number. There were 530 citizens eligible for the question, including 115 who remembered using one of the two numbers but did not remember which of the two numbers they had used. Of the 522 citizens answering the question, 517 gave one of the following answers (Table 8-4):

1. The citizen-caller or someone with him knew the number from memory, 204 cases (39.1 percent).
2. The citizen-caller looked for the number in the telephone directory where it is listed on the inside cover and alphabetically

under Kansas City, Missouri, Police Department, 118 cases (22.6 percent).

3. The citizen-caller had the number written down near the telephone, had it written on a piece of paper carried by the citizen, or had a Crime Alert decal printed by the police department attached to the telephone, 115 cases (22.0 percent).
4. The citizen-caller obtained the police number from the telephone company operator, 80 cases (15.3 percent).

Social Characteristics and Process of Reporting

Each of the four elements within the reporting process were analyzed for proportional variation in social characteristics among categories. A series of t-tests was used to determine whether differences in social characteristics were significant at the 0.01 confidence level. As before, separate-variance estimates were used when group variances were found to differ significantly. Some significant variation in social characteristics was established among the various categories of telephones used to call the police, most frequently between those using a business telephone and those using either their own home phone or someone else's telephone (Appendix G, Tables G-2, G-3, and G-4). Those using a business telephone were more likely to be married, have a job with a higher Duncan socioeconomic index rating, and have more education. A greater proportion of those using a business phone were white than those using any other category of telephone. Those using a business phone had lived at their present address longer on the average than those calling on their home telephone. Citizen-callers using business phones had higher mean incomes than those calling on a pay phone or on someone else's phone and tended to be older than citizen-callers using pay phones. Persons using a business telephone were more likely to be males and to own their home than citizen-callers using someone else's phone. Citizens calling

on their own phone had lived at their present address proportionally longer and were more likely to own their home than those using another person's telephone.

No significant variation in social characteristics between those calling the police on the Crime Alert exchange and citizen-callers using the police administrative number were established through t-tests. Both of those categories of citizen-callers, however, differed significantly from persons who contacted the dispatcher through the telephone company operator (Appendix G, Tables G-5 and G-6). Citizen-callers using the Crime Alert or administrative numbers had lived at their present address longer on the average, had jobs with higher average socioeconomic status, had more education and higher mean incomes. Those who used the Crime Alert number had lived in Kansas City longer, were more likely to own their home and be the head of the household. Citizens calling on the Crime Alert exchange were also older and more likely to be white than persons calling the police through the telephone company operator.

Some significant variations between the number used and social characteristics were found (Appendix G, Tables G-7, G-8, and G-9). When asked how they knew the telephone number, those who said they referred to the telephone directory were more likely to come from smaller communities than those giving any other response. Citizen-callers who knew the number from memory and those with the number written down had lived in Kansas City, Mo., longer on the average than persons who used the telephone directory. When comparing citizen-callers who used the directory with those asking the operator for the correct number, those using the directory were more likely to own their home and were on the average more educated. They tended to have jobs rated high on the socioeconomic scale and to have higher incomes. Whites were more likely to use the telephone directory while blacks more often called the telephone company operator for the number.

When comparing social characteristics of persons calling the operator for the number with citizen-callers who had the number written down, the latter had lived in Kansas City, Mo., and at their present address longer, were older, were more likely to be married, and on the average had jobs rated higher on the socioeconomic scale. Whites were more likely to have the number written down than to call the operator. A greater proportion of those who knew the number from memory were males than those who had the number written down.

A few differences in social characteristics were established between types of citizen-callers. Victim-callers were more likely to be male and to be heads of their households than witness-callers (Appendix G, Table G-10). Callers were more likely to be heads of households than witness-callers and had higher mean incomes than victim-callers.

T-tests were also used to determine if significant proportional differences occurred in the four reporting process variables between involvement and discovery crimes and between violent and nonviolent incidents. The proportions for the categories did not vary significantly along either dichotomy.

Urgency of Call and Process of Reporting

When a telephone exchange is designated for police emergency calls, the assumption is made that citizens can distinguish between calls which warrant use of the emergency number. To test this assumption, Part I crime incidents were divided into four categories according to an urgency of call index based on the following criteria:

1. Calls made while the crime was still in progress and incidents in which a citizen was injured were considered the most urgent unless the citizen was transported to the hospital before the police service was requested. In-progress calls were defined as calls made for police service while the crime was occurring as listed on the

offense report by the officer. Sixty crimes were reported in progress, including 15 discovery alarm cases. The alarm cases were defined as discovery cases because a citizen was not involved in reporting the crime, however, they were considered in progress because the alarms were believed to have been activated during the commission of the crime. There were also 92 incidents involving injuries. Because some of the calls involving injuries were also reported in progress, a total of 140 cases were assigned to this category of urgency.

2. Violent crimes which were not reported in progress and which did not have an injured citizen at the scene were ranked second in urgency. This category included 122 violent crimes.
3. Nonviolent involvement crimes which were not reported in progress or which did not have an injured citizen at the scene were ranked third. There were 111 calls in this category.
4. Discovery Part I crimes, excluding crimes detected in progress by alarm, were considered least urgent. There were 576 calls in this category.

Variation in the telephone number used and how the citizen-caller knew the number was examined according to the urgency of a call. Analysis of variance was used to determine whether variation was significant at the .05 confidence level. No significant variation was established for the number used, indicating citizens did not differentiate between the telephone numbers available to call the police about a Part I crime based on the urgency of the incident.

To assess the differences between how the citizen knew the telephone number they used to contact the police, t-tests were run. Citizens reporting less urgent calls were more likely to find the telephone number in the directory rather than

have the number written down ($t = 3.76$, $p < .001$) or knew it from memory ($t = 5.12$, $p < .001$). Citizen-callers who knew the number from memory generally reported crimes requiring a more urgent response than persons who obtained the number from the telephone operator ($t = -2.59$, $p < .010$). One possible explanation is that citizens reporting more serious crimes may have been victimized in the past or may have worked in a place of business vulnerable to serious crime. They would then be more likely either to know the telephone number from memory or have it written down and available.

Type of Caller and Reporting Time

The role of the type of citizen-caller was estimated for its impact on reporting time. The logarithmic transformation of reporting time was tested for variation between incidents reported by the three kinds of citizen-callers. Analysis of variance determined that variation among categories was significant at the .014 confidence level. A series of t-tests reaffirmed that the logarithmic transformation of reporting time was significantly shorter for witness-callers than for either victim-callers ($t = -2.84$, $p < .005$) or callers ($t = -2.81$, $p < .005$). The mean values of reporting time for victim-callers and callers were comparable, and t-tests did not establish significant variation between the two types of callers.

Differences in reporting time associated with the type of citizen-caller could have resulted from differences in the problems and patterns in reporting or the type of crime being reported. In other words, it is conceivable that the shorter reporting time of witness-callers could be explained either by the kind and frequency of problems and patterns of reporting that they experienced or the type of crime they reported. To examine this possible explanation, the logarithmic transformation of reporting time was entered as the dependent variable in

multiple regression analysis. Independent variables included the five problems in reporting variables, the eight patterns in reporting variables, and dummy variables for the type of citizen-caller and for the type of crime. Witness-callers and robbery cases were used as reference groups for their respective dummy variables. Although the strength of the relationship was reduced, the type of citizen-caller continued to be a significant predictor of reporting time when controlling for the 13 problem and pattern variables and controlling for the type of crime being reported (victim-caller: $F = 10.25$, Beta = 0.183; caller: $F = 3.96$, Beta = 0.110).

Therefore, although it appeared that the problems and patterns of reporting differed for witness-callers when compared to victim-callers and callers and that the type of crime explained part of the variance in reporting time, other factors as yet unidentified contributed to differences in the length of the reporting interval. It is possible patterns or problems in reporting crime that were not identified during the citizen interviews operated to lengthen the reporting time of victim-callers and callers when compared to witness-callers. Since callers, who were not witnesses to the crime, were dependent upon victims for notification of and information about the crime, some additional factors may have delayed action by the victim.

The four variables presented are descriptive of the process used to report Part I crimes to the police. No clear-cut generalities can be drawn from the data. Differences in social characteristics between those using different telephone numbers or different kinds of telephones are either random or self-evident, e.g., those using a business telephone tend to have characteristics suggesting greater stability and higher status in the community than persons using other types of telephones. More significant is the preliminary findings that citizens fail to distinguish the urgency of a call when selecting a telephone number to

call the police. Further examination of the processes may have implications for implementation of 911 systems or other innovations aimed at reducing reporting delays.

Test Call Analysis

One of the variables assessed in the analysis of the process of reporting was the telephone number used to reach the dispatcher. The following analysis was aimed at determining the average length of time required to contact a police dispatcher by telephone when calling for police service. The average time was determined for each of the three numbers citizens most commonly used. Initially, the results of the test call experiment were to be used as an independent evaluation of responses from citizens who indicated they experienced long delays between the time they called for police service and the time the dispatcher answered and received their request for service. Since citizens indicated experiencing long delays in only a small number of cases, the test call data were never used for such an evaluation. The analysis of the data therefore sought only to determine if there were significant differences in the length of time required to contact a dispatcher using the three numbers.

Four independent variables were entered into analysis. They were as follows:

1. The telephone number used.
2. The message given to identify the type of service required.
3. The time of day the call was made, a.m. or p.m.
4. Whether the call was placed within 15 minutes before or 15 minutes after the Communications Unit shift change.

For some cases, the total elapsed time was subdivided into three consecutive intervals to measure the average time required to complete each step in the process of reaching a dispatcher. Statistics were generated for each interval within

the four categories. Analysis of variance was used to determine the statistical significance of variation between categories.

The three numbers tested:

1. The Crime Alert number, a direct line to the police dispatcher.
2. The police administrative number which connects the caller to a police switchboard operator who then routes the call to the dispatcher through one of several extensions.
3. The telephone company operator, who uses the Crime Alert number after hearing the request for service.

When calls were placed using either the police administrative number or the telephone company operator, then one of three messages were used to identify the type of incident which had hypothetically occurred. The messages, designed to convey differing levels of urgency, were as follows:

1. I want to report a robbery going on, (get me the police).
2. I want to report a burglary, (get me the police).
3. I want to report an illegally parked car, (get me the police).

Only when calling the telephone company operator did the caller say, "get me the police."

Since calls were placed nine times a day, between 7 a.m. and 1 a.m., the calls could be divided into a.m. and p.m. hours to determine if the time of day the call was placed had any effect upon how quickly the call was handled.

Because some interest centered on whether calls placed close to the hour of Communications Unit shift change would be answered more slowly, data collection was designed so that three times as many calls were placed in the hour immediately following the three shift changes than during the other 15 hours. In retrospect, this appeared to have created a potential bias in the sample. Also, through subjective observations, it appeared that dispatcher response time might be more

affected by activities occurring 15 minutes before until 15 minutes after shift change. Roll call, announcements, and dispatcher updating, which are held in the dispatching area 10 minutes before shift change, along with personal activities the new dispatchers follow in getting organized once at the console, seemed to have more effect upon dispatching response time than activities occurring during the hour following shift change.

To compensate for this bias, a sampling procedure was used to select one-third of the calls made during the 1-hour periods following the Communications Unit shift change to be used in analysis. A variable was also created to differentiate those calls placed within 15 minutes before until 15 minutes after shift change from all other calls.

Besides the calls eliminated as a result of the sampling of shift change calls, test calls were eliminated from the data base for two other reasons. Calls made during the instrument design phase of the study were excluded so the calls in the data base would more accurately reflect the time intervals of those calls made by citizens during data collection. A second group of calls was eliminated after one of the test caller's procedures came under question. The calls made by this person were submitted to a verification procedure and any calls which could not be verified were excluded from the data set.

A total of 657 of the original 1,751 test calls were excluded, 133 pretest calls, 183 unverified calls, and 341 sampled calls, leaving 1,094 calls in the test call sample.

Measurement of Intervals

The intervals measured differed according to the telephone number used to contact the dispatcher. A call placed on the Crime Alert number would yield only one interval. This interval, total time to reach the dispatcher, was measured for all

three numbers used. Because calls placed through the police administrative switchboard and the telephone company operator required intermediary communication before being connected with the dispatcher, three additional intervals were measured for those calls:

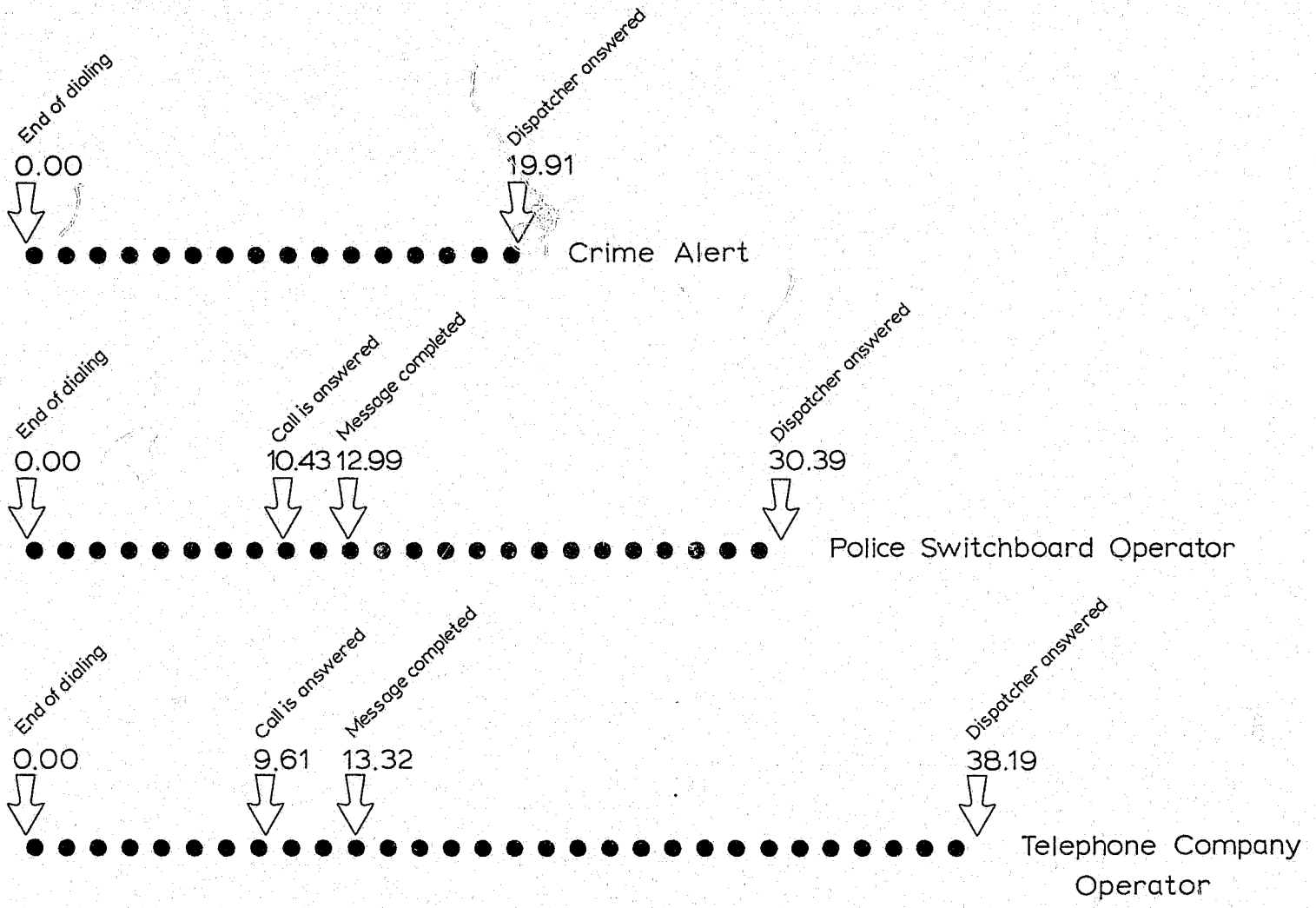
1. From the time the caller completed dialing until either the police switchboard or telephone company operator answered.
2. From the time the call was initially answered until the caller completed the message requesting police service.
3. From the time the message was completed until the dispatcher answered and was ready to receive information.

Figure 8-5 illustrates the points-in-time measured for each telephone number used and the mean of each point-in-time for the three types of test calls.

Whenever the police switchboard or telephone company operators asked the caller for additional information after the message was completed, the time taken to exchange this information was measured. Sixty-four (5.85 percent) of the 1,094 test calls analyzed had this additional message interval. The mean time for this interval was 15.71 seconds but the range from which the mean was computed varied from 1.30 seconds to 3 minutes, 37.09 seconds. It was appropriate, therefore, to evaluate the impact of this interval by its median, which was only 5.92 seconds. In 32 test calls, contact with the dispatcher was delayed more than 5.92 seconds due to the exchange of additional information between the caller and an operator.

Analysis

Each of the four test call intervals was entered as a dependent variable in analysis of variance with the four independent variables to determine the statistical significance of variation between categories. The main effects, two-way, three-way, and four-way interactions were assessed. The F statistic was used to



Note: All values are arithmetic mean ($\bar{x}$) times expressed in seconds; and reflect the time elapsed from the end of dialing to the end of the particular interval.

Figure 8-5.-- Results of test call experiment for "Crime Alert", police switchboard operator, and telephone company operator.

determine which effects were significant at a confidence level of .05 or better. Table 8-6 presents the main effects and interaction effects which explained significant variation.

Two variables, the telephone number used and the time of day the calls were placed, produced significant main effects and interaction effects. The telephone number used resulted in significant variation for all four intervals. The variation is evident in Table 8-7 which shows the intervals for the three telephone numbers used to reach the dispatcher. Although the police switchboard operator answered the call on the average slightly slower than the telephone company operator (Interval 1), the dispatcher answered calls placed from the administrative switchboard after the message was complete 7.5 seconds sooner than calls placed through the telephone company operator (Interval 3). Some of the extra time may have been due to the fact the telephone company operator had to dial a seven digit number, whereas the police administrative operator only had to plug the phone lines into a switchboard connection for the call to be directly relayed to the dispatcher. The ranges for Interval 3 varied considerably. The interval for calls placed through the police switchboard ranged from 1.28 seconds to 3 minutes, 42.97 seconds. Calls placed through the telephone company operator had a much shorter range, 2.41 seconds to 1 minute, 49.40 seconds.

The total time to reach the dispatcher was shortest for calls placed through the Crime Alert number ($\bar{X}$ = 19.91 seconds); it was more than 10 seconds shorter than calls placed through the administrative switchboard and more than 18 seconds shorter than calls placed through the telephone company operator. Calls placed through the police switchboard were nearly 8 seconds shorter than those placed through the telephone company operator.

The variable differentiating between a.m. and p.m. calls produced a signif-

Table 8-6.-- Analysis of variance of test call experiment data.

Main & Interaction Effects		Interval 1: End of Dialing to Call is Answered	Interval 2: Call is Answered to Message Completed	Interval 3: Message Completed to Dispatcher Answered	Total: Overall Time to Reach Dispatcher
Phone Number Used	F	5.31	94.54	29.46	28.73
	Df	1 / 682	1 / 682	1 / 682	1 / 687
	P	< .020	< .001	< .001	< .001
A. M. or P. M.	F			6.81	5.93
	Df	n. s.	n. s.	1 / 682	1 / 687
	P			< .009	< .014
Phone Number Used / A.M. or P.M.	F	5.42	6.95		6.00
	Df	1 / 682	1 / 682	n. s.	1 / 687
	P	< .019	< .008		< .014

F = F statistic from analysis of variance.
P = Probability that F score occurred by chance (P must be less than 05 to be significant).
n.s. = Not significant.

Table 8-7.-- Test call experiment interval times for "Crime Alert", police switchboard operator, and telephone company operator.

Telephone Number Used		Interval 1 : End of Dialing to Call is Answered	Interval 2 : Call is Answered to Message Completed	Interval 3 : Message Completed. to Dispatcher Answered	Total : Overall time to Reach Dispatcher
Crime Alert	$\bar{X}$ SD Rg N	Does not apply.	Does not apply.	Does not apply.	19.91 17.09 0:02.79 to 2:54.03 346
Police Switchboard Operator	$\bar{X}$ SD Rg N	10.43 5.38 0:02.01 to 0:51.56 351	2.56 1.03 0:00.34 to 0:08.17 351	17.51 20.19 0:01.28 to 3:42.97 351	30.39 21.21 0:05.08 to 4:02.03 354
Telephone Company Operator	$\bar{X}$ SD Rg N	9.61 3.74 0:01.50 to 0:32.06 334	3.73 1.97 0:00.82 to 0:17.40 334	25.01 16.32 0:02.41 to 1:49.40 334	38.19 17.24 0:07.84 to 2:03.42 336
All Test Calls	$\bar{X}$ SD Rg N	10.03 4.67 0:01.50 to 0:51.56 685	3.13 1.67 0:00.34 to 0:17.40 685	21.17 18.78 0:01.28 to 3:42.97 685	29.42 20.06 0:02.79 to 4:02.03 1036

icant variation at the 0.001 level for the interval from message completed to dispatcher ready for information (Interval 3), and for the total time to reach the dispatcher (Total Interval). The mean time for Interval 3 was 22.63 seconds for calls placed between noon and midnight and 19.09 seconds for calls placed from 7 a.m. to noon. The mean time for the Total Interval was 30.30 seconds for calls placed between noon and midnight and 28.20 seconds for calls placed from 7 a.m. to noon.

Significant interaction between the variable differentiating a.m. and p.m. calls and the variable defining the number used, occurred for three of the four intervals. The variation between morning and evening calls by the number used was a half-second or less for Interval 2 but had no substantive meaning since Interval 2 measured only the length of time taken by the caller to state the message. The interaction between the two variables for Interval 1 and for the Total Interval is evident in Table 8- 8. For both a.m. and p.m. calls, the police switchboard operator answered calls more slowly than did the telephone company operator (Interval 1), but the mean time for the telephone company operators to answer increased with p.m. calls, whereas the mean time for the police switchboard operator to answer decreased after noon. As a result, the difference between the mean time of Interval 1 for p.m. calls for the two numbers used was negligible, only 0.14 seconds. During morning hours, the police switchboard operator answered calls on the average 2 seconds slower than the telephone company operator.

The interaction between the two variables was more pronounced for the Total Interval. For both a.m. and p.m. calls, the caller reached the dispatcher most quickly when using the Crime Alert number, followed by the police switchboard operator. The mean time to reach the dispatcher was longest for calls placed

Table 8-8.-- Test call mean times by number used and time of day.

Overall time to reach dispatcher (Total)			
Telephone Number Used		A.M.	P.M.
Crime Alert	$\bar{X}$	20.43	19.62
Police Switchboard Operator	$\bar{X}$	30.57	30.30
Telephone Company Operator	$\bar{X}$	33.51	40.99

End of dialing - Call is answered (Interval 1)			
Telephone Number Used		A.M.	P.M.
Crime Alert	$\bar{X}$	n.a.	n.a.
Police Switchboard Operator	$\bar{X}$	11.12	10.07
Telephone Company Operator	$\bar{X}$	9.10	9.92

n.a. = Not applicable.

through the telephone company operator. The difference in mean times for the three numbers used was greater for p.m. calls than for calls placed in the morning. The dispatcher answered calls made through the Crime Alert number or through the police switchboard operator slightly more quickly between noon and midnight. However, the total time to reach a dispatcher through the telephone company operator increased by more than 20 percent during the same hours, from a mean time of 33.51 seconds for a.m. calls to a mean time of 40.99 seconds for p.m. calls.

The proximity of the call to shift change did not produce a significant main effect or interaction effect with any of the other three independent variables. The message given produced a significant variation in the length of time taken by the caller to state the message (Interval 2). This variation could be explained by the fact the message was lengthened by four words, "get me the police," when calling the telephone company operator and so the variation had no substantive meaning for the experiment.

CHAPTER NINE

CITIZEN SATISFACTION

The policing community has long considered it essential to respond as rapidly as possible to most Part I crime calls to maintain citizen satisfaction with police response. To test this assumption, the study analyzed not only the relationship of dispatch and travel time to citizen satisfaction but a number of other factors suspected of having some influence on citizen satisfaction. These other factors included the social characteristics of the involved citizens; their expectations of how long response time would be, along with their perceptions of how long it took; the type of crime involved; and citizens' perceptions of how important rapid response was for dealing with the particular crimes in which they were involved.

The Level of Satisfaction with Response

Data on citizen satisfaction were obtained from the citizen interviews. Citizens were asked, "How satisfied were you with the time it took the police officer to arrive after you called? Were you ... very satisfied, moderately satisfied, slightly satisfied, slightly dissatisfied, moderately dissatisfied, very dissatisfied?"

In general, most citizens in the Part I crime sample expressed some degree of satisfaction with police response, and a large proportion were "very satisfied." Approximately 86.8 percent of the respondents were satisfied, being composed of 70.2 percent who indicated they were very satisfied, 14.7 percent who were moderately satisfied, and 1.9 percent who were slightly satisfied. The remaining 13.3 percent who expressed dissatisfaction were distributed as follows: 5.2 percent slightly dissatisfied, 2.4 percent moderately dissatisfied, and 5.7 percent very dissatisfied.

The Causal Model

The factors thought to affect citizen satisfaction were organized into a causal model illustrated in Figure 9-1. The model can be formally stated as a series of recursive equations as follows:

1) $TT = a + b_1\ TOC + e$

2) $DT = a + b_2\ TOC + e$

3) $IRT = a + b_3\ SC + b_4\ TOC + b_5\ TT + b_6\ DT + e$

4) $(P\text{-}E)/E = a + b_7\ SC + b_8\ TOC + b_9\ TT + b_{10}\ DT + b_{11}\ IRT + e$

5) $CS = a + b_{12}\ SC + b_{13}\ TOC + b_{14}\ TT + b_{15}\ DT + b_{16}\ IRT + b_{17}\ (P\text{-}E)/E + e$

where:

SC	=	Social characteristics of the involved citizen
TOC	=	Type of crime
TT	=	Travel time
DT	=	Dispatch time
IRT	=	Importance of response time
(P-E)/E	=	Perceptions and expectations index
CS	=	Citizen satisfaction

The b's represent the path coefficients, the a's constants, and the e's residual variation.

This model was analyzed through successive multiple regression analysis of each equation listed above. By examining the path coefficients, it was possible to obtain the total effect that an independent variable had on citizen satisfaction by examining both its direct effects and its indirect effects through other variables. The results relative to each equation will be presented in the sections that follow.

Dispatch and Travel Time

As a preliminary analysis indicated that linear forms of both dispatch and travel time provided the best fit of the observed satisfaction data, these forms

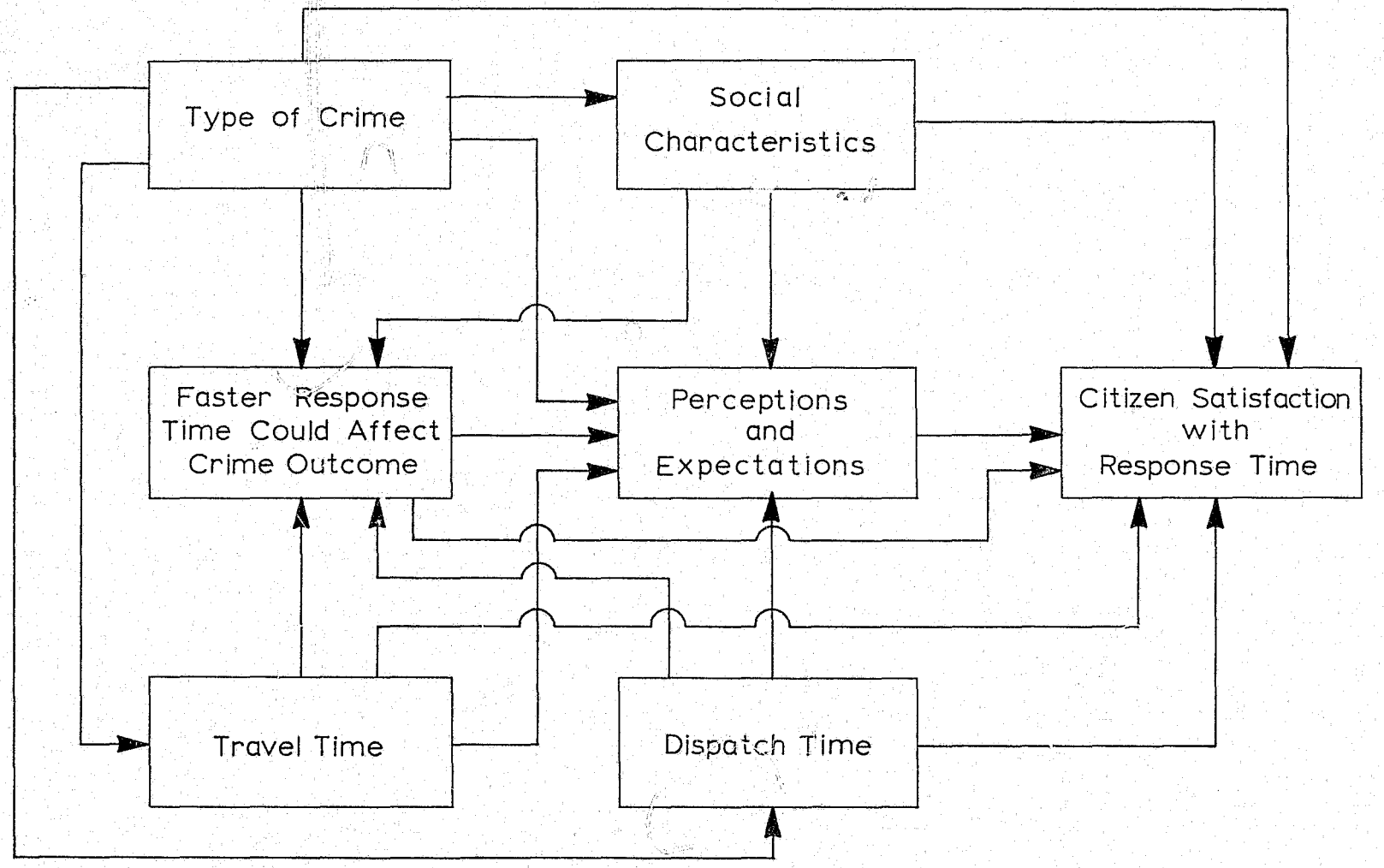


Figure 9 - 1. -- Analysis model of citizen satisfaction.

were used throughout the analysis of the model. Logarithmic and reciprocal transformations were considered before the linear variable was accepted.

Equations 1 and 2 indicate that type of crime was expected to affect both the dispatch and the travel interval, a relationship noted in other sections of this report. As before, dummy variables representing rape, assault, involvement burglary, larceny and auto theft, discovery burglary, larceny and auto theft incidents were entered into multiple regression analysis, while robbery cases were the reference group. The results of these analyses are given in Appendix H, Tables H-1 and H-2, for dispatch and travel time, respectively. In general, the findings substantiate the previously noted difference between involvement and discovery crimes, with involvement incidents receiving more rapid dispatching and faster travel times than discovery cases. Again, involvement larcenies were the exception to this generalization.

Importance of Response Time

The dependent variable in equation 3, the Importance of Response Time (IRT), was based upon the question, "If the police had arrived more quickly, do you think it would have made a difference in the outcome of the incident?" The citizen's perception of the importance of rapid response for the specific incident was considered to be a potentially important determinant of satisfaction. If a citizen thought a faster response could have improved the outcome of the incident, satisfaction might be less than if response time was considered irrelevant to the outcome or was considered fast enough.

Citizens indicated in 826 cases whether they thought faster response time would have made a difference in the outcome of the crime. In 707 of these cases (85.6 percent), respondents indicated that they felt a faster response would not have altered the result of the incident. The primary reasons given by citizens

who believed the situation did not warrant a faster response were as follows:

1. The crime had already been committed and the suspects were gone (64.7 percent).
2. The incident had gone undetected for a period of time (15.4 percent).
3. Response was already fast enough (7.5 percent).*

In the remaining 119 calls (14.4 percent), respondents thought that a faster response could have changed the outcome of the incident. The reasons given for holding this opinion were as follows:

1. A suspect might have been apprehended (74.8 percent).
2. The presence of the suspect warranted a faster response (5.0 percent).
3. The length of response gave the suspect time to flee (3.4 percent).*

The impact of social characteristics on a dependent variable in the model was assessed according to the following procedure: 1) The main effect of each of the 12 social characteristics was assessed in a separate regression equation. 2) All two-way interactions were tested in separate regression equations. 3) All appropriate polynomial forms of the social characteristics were assessed in separate regression equations. 4) All factors found to be significant in steps 1, 2, or 3 were then entered concurrently into a multiple regression equation which also included other potential predictors of the dependent variable. 5) The significant factors from Step 4 were assessed in a final multiple regression analysis. The results from Steps 4 and 5 will be presented for each of the dependent variables of the model.

The results of the initial analysis (Step 4) are presented in Appendix H,

*The reason for the opinion was unspecified, ambiguous, or contradictory in the remaining cases.

Table H-3. No social characteristic was significant when controlling for other social characteristic variables, type of crime, dispatch, and travel time. Also, neither of the response time intervals was significantly related to whether the citizen thought a faster response could have changed the outcome of the incident. This result is not surprising, as a citizen could think the incident did not warrant a faster response because response was irrelevant, whether response was fast or slow, or because it was already fast enough.

The only predictors of whether citizens thought a faster response would have made a difference were the type of crime dummy variables. Findings of the final regression equation (Step 5) are presented in Appendix H, Table H-4. The results indicate that citizens discovering a Part I crime believed that a faster response would not have changed the incident outcome. While only 7.6 percent of the citizens in discovery crimes thought a faster response would have improved the situation, 26.1 percent of the individuals in involvement crimes thought a faster response could have made a difference. These findings indicated most citizens could distinguish between a crime incident in which the length of response might effect the outcomes realized (involvement crimes) and incidents where few, if any, outcomes would be realized, regardless of the length of response time.

Perceptions and Expectations

The citizens' expectations of police response time were measured from the question, "About how long did you expect it to take the police to arrive after the call was made?" The average expectation of response time was 23 minutes with a standard deviation of 3 hours, 46 minutes. The variability of the data was due to a few extreme values, e.g., a victim of a larceny who waited a week to report the crime stated he expected the police to take about a week to respond to it. The median time of 10 minutes for police response time was probably more repre-

sentative of citizens' expectations in general.*

A citizen's perception of police response time was indicated by asking, "About how long did it take the police to arrive after the call was made?" Responses to this inquiry yielded a mean time of 14 minutes with a standard deviation of 45 minutes. The median time was 10 minutes, 16 seconds.

Perceptions of response time that were included in the analysis, as actual response time may be of less importance in determining satisfaction than perceptions; that is, how quickly the police actually arrive may not be as important as how quickly the citizen thought they got there. Additionally, the difference between perceptions and expectations may be a strong determinant of citizen satisfaction. If citizens perceived police response to be longer than they expected it to be, they might be less satisfied than if they perceived response to be shorter than expected. Finally, the magnitude of the citizen's expected time may mediate the effect of the difference. Citizens might be more dissatisfied if they expected police response to take 10 minutes and perceived that it took 15 minutes, than if they expected a response of 60 minutes and perceived that it took 65 minutes. In the latter case, the additional delay after the expected time of police arrival comprised a smaller proportion of the total expected response time than in the former.

To test these assumptions, a perception-expectation ratio was computed by dividing the difference between expectations and perceptions by expectations ((P-E)/E). The mean of this ratio was 0.399, indicating that perceived response time was 1.399 times longer than expected, on the average. However, the median of 0 for the ratio indicated that in half of the cases, perceived response

*Unfortunately, expectations were assessed after the incident had occurred, so that police response to the crime may have influenced this measure. However, assessing expectations free from the effects of response would require citizens to estimate their feelings in a hypothetical situation. Such responses would have their own limitations.

time was equal to or shorter than the time the citizen had expected.

Variables considered potential influences on a citizen's perceptions and expectations of police response time included the social characteristics of the citizen, type of crime, police travel and dispatch time, and whether the citizen thought a faster police response time could have made a difference in the crime outcome (Step 4). These factors were employed in the regression equations for expectations, perceptions, and the expectation-perception ratio.

A single social characteristic, the socioeconomic rating of the respondent's work on the Duncan index, was significantly related to the response the citizen expected (Appendix H, Table H-5). As both the first ($F = 5.86$, Beta = -0.482) and the second degree forms of the variable ($F = 11.53$, Beta = 0.623) were significant, the relationship was nonlinear. The expected time for police response decreased with increasing ratings of type of work up to a ranking of 54. Above 54, however, increases in the expected time were associated with increasingly higher placements on the scale. Thus, relatively longer police response times were expected by those ranked both low and high on the scale compared to those ranked between the extremes. Type of crime was also significantly related to expectations, with citizens discovering crimes generally expecting longer response times than respondents who were involved in a Part I crime.

Several factors were found to be associated with the citizen's perception of police response time (Appendix H, Table H-6). Not surprisingly, actual dispatch ($F = 77.39$, Beta = 0.403) and travel times ($F = 7.20$, Beta = 0.128) were related to time perception. Longer periods of time taken to dispatch and to travel to the incident were associated with longer perceived times. As the effect of actual variations in police response time are accounted for by these variables, other factors significantly related to time perception indicate sources of distortion between actual and perceived times.

Marital status proved to be a significant predictor of perceived police response time with unmarried persons exaggerating the time for response compared to married individuals (F = 4.32, Beta = 0.143). The belief that a faster response might have made a difference in the incident's outcome was related to longer perceived times (F = 15.92, Beta = 0.188). The citizen's belief in the urgency of the incident probably resulted in this overestimation of response time that could not be accounted for by actual time variations. Finally, respondents in discovery crimes and involvement larcenies showed a tendency to exaggerate police response time compared to the estimations made by citizens in the other types of crime.

The initial analysis (Step 4) of the potential predictors of the perception-expectation ratio were performed (Appendix H, Table H-7). Significant factors included the interaction of marital status and sex, dispatch and travel time, whether a faster response could have had an effect on the incident's outcome, and type of crime. These variables were entered into the final multiple regression analysis (Step 5) (Appendix H, Table H-8).

Longer actual response times, as indicated by the dispatch (F = 15.82, Beta = 0.158) and travel (F = 12.20, Beta = 0.141) intervals, were associated with an increase in perceived time relative to expected time. As actual response times were found to affect perceived, but not expected times, this result was consistent. Also, the belief that a faster response might have improved the final disposition of the incident was related to perceiving response to be longer than expected (F = 70.76, Beta = 0.354). This belief was also associated with the exaggeration of perceptions, but had no effect on expectations, resulting in the discrepancy between perceived and expected times. In this final analysis, no crime category was significantly different from the reference group, nor was the interaction of marital status and sex significant.

Citizen Satisfaction

All the variables discussed previously, including the citizens' social characteristics, their expectations and perceptions of response time (the ratio), whether they felt a faster response could have altered the incident's outcome, actual dispatch and travel times, and type of crime, were taken as potential predictors of citizen satisfaction, and the results of this initial analysis (Step 4) are presented in Appendix H, Table H-9. The significant factors, plus those factors found to be significant in previous analyses, were then employed in the final multiple regression equation, and the results are summarized in Appendix H, Table H-10.

Actual dispatch and travel times were related to satisfaction, with longer delays in police arrival producing greater dissatisfaction (Dispatch: $F = 23.95$, Beta = 0.150; Travel: $F = 3.95$, Beta = 0.062). The belief that a faster response could have improved the outcomes was also related to greater dissatisfaction ($F = 98.35$, Beta = 0.319). Again, the feeling of urgency, which apparently resulted in the overestimation of response time, produced greater dissatisfaction with response.

Citizens discovering a burglary were significantly more dissatisfied with police response than respondents in other crime categories ($F = 5.71$, Beta = 0.108). It may be that the trauma of discovering a residence burglary* resulted in a level of dissatisfaction that could not be accounted for by differences in actual response time, perceptions, or expectations. The strongest predictor of citizen satisfaction, however, was the relative discrepancy between perceived and expected response time ($F = 229.12$, Beta = 0.489). According to this analysis, if a citizen perceived the response took longer than expected, the citizen was dissatisfied. Additionally, if the difference between expectations and perceptions was large com-

*Of the 352 burglaries in the Part I crime sample, 276 (78.4 percent) were residence burglaries.

pared to the total expected time, the citizen was even more dissatisfied.

As the effect of a variable may be either direct or indirect, the impact of each of the predictors of citizen satisfaction is presented in the decomposition Table 9-2. The effect coefficients, which are presented in this table, indicate the amount of change in citizen satisfaction that is due to a change in a selected independent variable, either through a direct path to satisfaction, or by influencing intervening variables. These relationships are illustrated in Figure 9-3.

Again, the most important factor affecting citizen satisfaction was the discrepancy between a citizen's perceptions and expectations of police response. The factor had a strong direct effect on satisfaction and was, in turn, affected by each of the other factors in the model, except social characteristics.

The second most important determinant of satisfaction was whether the respondent thought a faster response could have altered the outcome of the incident. Citizens who thought the situation warranted faster response a) were less satisfied with response, and b) tended to overestimate response time, increasing the discrepancy between perceived and expected response, which resulted in more dissatisfaction.

Actual dispatch and travel showed somewhat weaker, but significant impacts on citizen satisfaction through much the same path; increasing actual response time increased dissatisfaction both directly and indirectly, by increasing the discrepancy between perceived and expected response. As a group, discovery burglaries had a higher level of dissatisfaction than other crime categories. However, a large proportion of the respondents in discovery burglaries indicated that a faster response could not have influenced the outcome, an effect that was related to increased satisfaction. The conflicting direction of effects tended to cancel, so that the total effect of discovery burglaries was only slightly positive (toward increasing dissatisfaction). Social characteristics were not found to have significant direct or indirect effects on citizen satisfaction with police response.

TABLE 9-2
Table of Effects
of Significant Variables on
Citizen Satisfaction

	Independent Variables	Simple r	Casual Direct	Casual Indirect	Total
1)	Rape	-0.025	0.012	-0.037	-0.025
2)	Robbery	*	*	*	*
3)	Assault	0.022	0.030	0.012	0.042
4)	Involvement Burglary	0.007	0.016	-0.002	0.014
5)	Discovery Burglary	0.087	0.108	-0.052	0.056
6)	Involvement Larceny	-0.022	-0.006	0.043	0.037
7)	Discovery Larceny	-0.032	0.063	-0.084	-0.021
8)	Involvement Auto Theft	-0.031	-0.013	-0.019	-0.032
9)	Discovery Auto Theft	-0.040	-0.019	-0.055	-0.036
10)	Travel Time	0.180	0.062	0.069	0.131
11)	Dispatch Time	0.263	0.150	0.077	0.277
12)	Faster Response Time Could Make a Difference	0.475	0.319	0.163	0.482
13)	Perceptions and Expectations	0.640	0.489	0	0.489

* Reference Group

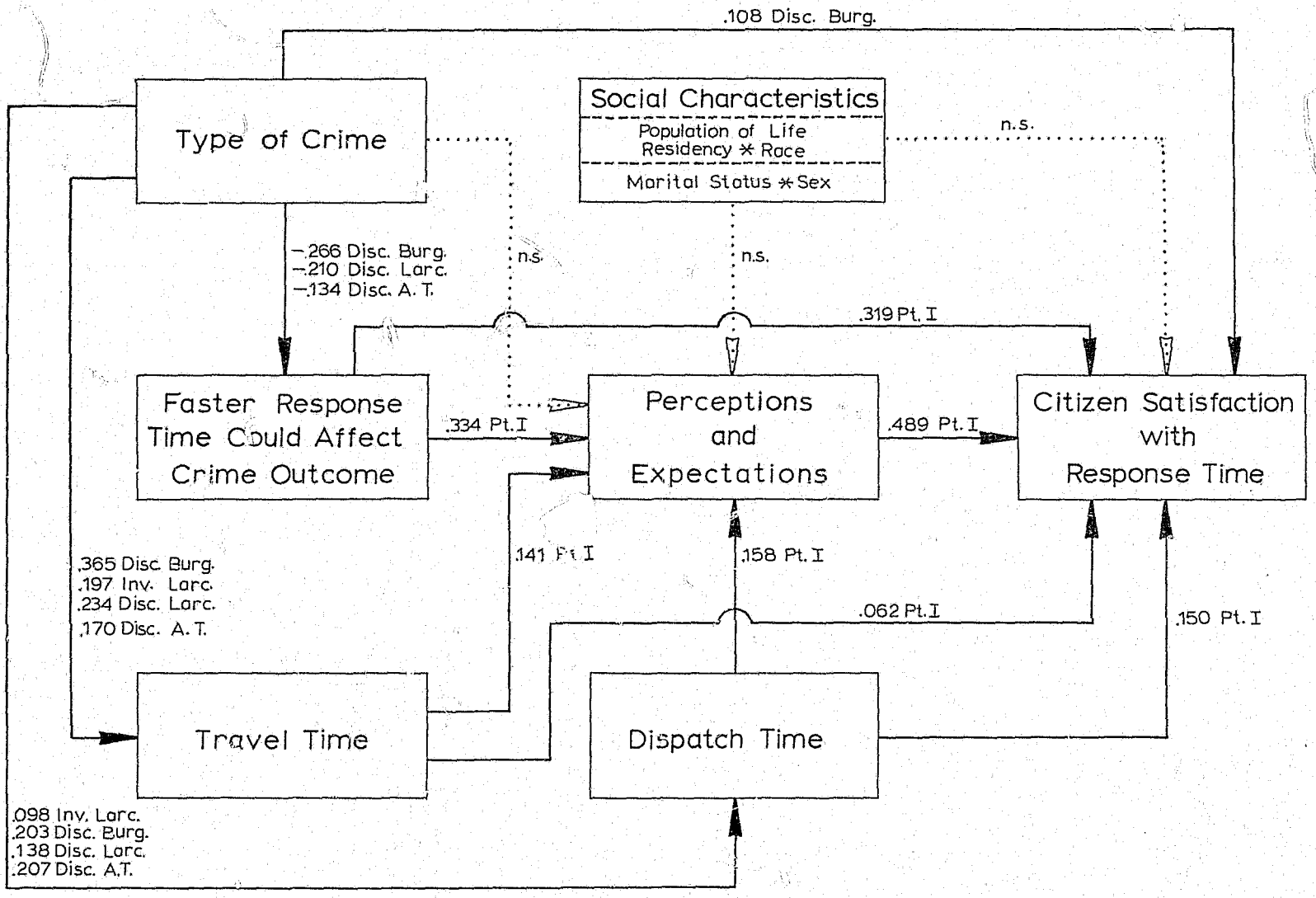


Figure 9 - 3.-- Summary model of factors affecting citizen satisfaction showing effect coefficients and nonsignificant tests.

Appendix A

Summary Statistics for Response Time

Table A-1.-- Time statistics for response time components.

Crime Category		Occurrence: Crime Begins to Detainment Ends	Discovery or End of Involvement to Initial Connection	Initial Connection to Information Available	Information Available to Dispatcher Calls Car	Dispatcher Calls Car to Dispatch Terminates	Dispatch Terminates to Officer Responds	Officer Responds to Arrival	Arrival to Investigation Initiated	**Total Response Time
All Part I Crimes	Md	1:58	5:28	0:14	2:30	0:19	0:03	4:21	0:23	18:50
	$\bar{X}$	17:17	3:44:27	0:23	4:39	0:22	0:35	5:01	0:30	3:57:50
	SD	2:49:09	37:54:56	0:35	6:22	0:11	1:53	3:09	1:34	38:15:41
	Min.	1:00	1:00	0:03	0:12	0:06	-5:23	0:00	-10:51	2:24
	Max.	41:45:00	*999:00:00	10:59	53:29	1:41	29:07	25:55	26:27	999:10:58
	N	220	935	929	889	897	936	946	948	918
	%	—	46.1	2.1	19.2	2.4	2.1	27.1	1.0	100.0
Involvement Crimes	Md	1:58	4:37	0:14	2:00	0:20	0:01	3:31	0:18	12:53
	$\bar{X}$	17:17	40:58	0:22	3:19	0:24	0:19	4:15	0:14	50:04
	SD	2:49:09	4:04:48	0:28	4:22	0:14	1:26	2:42	2:07	4:07:12
	Min.	1:00	1:00	0:03	0:12	0:06	-5:23	0:00	-10:51	2:24
	Max.	41:45:00	48:00:00	5:06	34:27	1:41	11:45	17:45	26:27	48:05:13
	N	220	346	343	324	328	348	351	352	339
	%	—	41.7	2.8	20.2	3.6	0.7	32.7	-1.8	99.9
Discovery Crimes	Md	—	9:44	0:14	2:53	0:18	0:05	4:48	0:27	22:41
	$\bar{X}$	—	5:32:15	0:23	5:25	0:20	0:45	5:28	0:40	5:47:47
	SD	—	47:35:32	0:39	7:09	0:09	2:05	3:18	1:06	47:59:41
	Min.	—	1:00	0:04	0:14	0:07	-0:54	0:00	-4:37	3:52
	Max.	—	999:00:00	10:59	53:29	1:24	29:07	25:55	10:53	999:10:58
	N	—	589	586	565	569	588	595	596	579
	%	—	48.6	1.6	18.6	1.7	2.8	23.9	2.6	99.8

* Actual reporting delay exceeded 999 hours in one incident of discovery larceny. 999 was used for computational purposes.

** Occurrence time estimates were not included in total response times.

CONTINUED

2 OF 4

Table A - 2.-- Time statistics for response time components.

Crime Category		Occurrence: Crime Begins to Detainment Ends	Discovery or End of Involvement to Initial Connection	Initial Connection to Involvement Available	Information Available to Dispatcher Calls Car	Dispatcher Calls Car to Dispatch Terminates	Dispatch Terminates to Officer Responds	Officer Responds to Arrival	Arrival to Investigation Initiated	Total Response Time
Crimes Discovered By Citizens	Md	—	9:51	0:15	2:55	0:18	0:05	4:51	0:28	23:09
	$\bar{X}$	—	5:40:54	0:23	5:30	0:20	0:46	5:28	0:41	5:56:48
	SD	—	48:12:09	0:39	7:13	0:09	2:06	3:19	1:00	48:37:15
	Min.	—	1:00	0:04	0:14	0:07	-0:54	0:00	-4:35	3:52
	Max.	—	*999.00:00	10:59	53:29	1:24	29:07	25:55	9:05	999:10:58
	N	—	574	571	551	555	573	580	581	564
	%	—	49.5	1.6	18.5	1.6	2.9	22.9	2.8	99.8
Crimes Detected By Alarms	Md	—	—	0:07	1:41	0:24	0:03	4:27	0:00	—
	$\bar{X}$	—	—	0:09	1:46	0:23	0:06	5:07	0:13	—
	SD	—	—	0:06	0:38	0:05	0:18	2:50	3:12	—
	Min.	—	—	0:05	0:35	0:12	-0:23	2:01	-4:37	—
	Max.	—	—	0:27	3:11	0:27	0:42	12:55	10:53	—
	N	—	—	15	14	14	15	15	15	—
	%	—	—	—	—	—	—	—	—	—

* Actual reporting delay exceeded 999 hours in one incident of discovery larceny. 999 was used for computational purposes.

Table A-3.-- Time statistics for response time components.

Crime Category		Occurrence: Crime Begins to Detainment Ends	Discovery or End of Involvement to Initial Connection	Initial Connection to Information Available	Information Available to Dispatcher Calls Car	Dispatcher Calls Car to Dispatch Terminates	Dispatch Terminates to Officer Responds	Officer Responds to Arrival	Arrival to Investigation Initiated	Total Response Time
Discovery Burglary (no alarms)	Md	—	9:47	0:13	2:53	0:18	0:04	4:59	0:34	23:21
	$\bar{X}$	—	4:04:34	0:17	5:37	0:19	0:42	5:40	0:49	4:19:31
	SD	—	22:25:10	0:14	7:39	0:08	2:11	3:33	1:02	22:34:16
	Min.	—	1:00	0:04	0:22	0:07	−0:53	0:00	−1:55	3:52
	Max.	—	248:23:00	1:46	53:29	1:07	29:07	25:55	9:05	248:38:58
	N	—	299	298	289	291	299	302	302	295
	%	—	48.8	1.2	18.3	1.6	2.8	23.7	3.5	99.9
Discovery Larceny (no alarms)	Md	—	9:58	0:17	2:46	0:17	0:07	4:47	0:18	22:18
	$\bar{X}$	—	9:41:55	0:28	4:59	0:19	0:47	5:23	0:33	9:59:26
	SD	—	75:54:05	0:55	6:30	0:09	1:39	3:06	0:58	76:38:40
	Min.	—	1:00	0:06	0:14	0:07	−0:54	0:00	−4:35	5:31
	Max.	—	*999:00:00	10:59	42:05	1:24	10:46	16:52	7:50	999:10:58
	N	—	205	202	196	197	203	206	206	201
	%	—	52.8	1.7	17.3	1.4	2.9	21.9	1.9	99.9
Discovery Auto Theft (no alarms)	Md	—	9:42	0:17	3:48	0:26	0:02	4:26	0:24	24:46
	$\bar{X}$	—	46:31	0:39	6:33	0:28	1:03	4:54	0:31	1:01:36
	SD	—	2:51:06	0:51	7:15	0:12	2:48	2:49	0:48	2:54:21
	Min.	—	1:00	0:06	0:48	0:08	−0:32	0:45	−1:16	7:42
	Max.	—	20:00:00	4:33	35:29	1:10	15:08	13:38	4:00	20:17:45
	N	—	70	71	66	67	71	72	73	68
	%	—	43.2	3.2	23.4	2.4	3.2	21.9	2.1	99.4

* Actual reporting delay exceeded 999 hours in one incident of discovery larceny. 999 was used for computational purposes.

Table A - 4.-- Time statistics for response time components.

Crime Category		Occurrence: Crime Begins to Detainment Ends	Discovery or End of Involvement to Initial Connection	Initial Connection to Information Available	Information Available to Dispatcher Calls Car	Dispatcher Calls Car to Dispatch Terminates	Dispatch Terminates to Officer Responds	Officer Responds to Arrival	Arrival to Investigation Initiated	* Total Response Time
Violent Involvement	Md	1:58	4:25	0:13	1:46	0:21	0:00	3:18	0:10	11:58
	$\bar{X}$	17:17	28:10	0:23	2:59	0:25	0:11	3:58	−0:08	35:44
	SD	2:49:09	1:55:18	0:33	4:19	0:15	1:06	2:43	1:49	1:56:59
	Min.	1:00	1:00	0:03	0:13	0:06	−5:23	0:20	−10:51	2:24
	Max.	41:45:00	15:56:00	5:06	34:27	1:41	6:48	17:45	5:32	16:07:18
	N	220	218	213	201	204	217	220	221	212
	%	—	44.3	3.0	19.4	4.1	0.0	34.8	-5.3	100.3
Nonviolent Involvement	Md	—	4:49	0:14	2:31	0:20	0:02	4:23	0:29	14:48
	$\bar{X}$	—	1:02:46	0:21	3:51	0:23	0:32	4:42	0:50	1:14:01
	SD	—	6:13:15	0:16	4:26	0:11	1:52	2:39	2:25	6:14:16
	Min.	—	1:00	0:05	0:12	0:08	−2:12	0:00	−2:25	4:06
	Max.	—	48:00:00	1:36	28:31	0:56	11:45	14:46	26:27	48:05:13
	N	—	128	130	123	124	131	131	131	127
	%	—	37.5	2.4	21.5	2.8	1.9	29.3	4.1	99.5

*Occurrence time estimates were not included in total response times.

Table A-5.-- Time statistics for response time components.

Crime Category		Occurrence: Crime Begins to Detainment Ends	Discovery or End of Involvement to Initial Connection	Initial Connection to Information Available	Information Available to Dispatcher Calls Car	Dispatcher Calls Car to Dispatch Terminates	Dispatch Terminates to Officer Responds	Officer Responds to Arrival	Arrival to Investigation Initiated	* Total Response Time
Rape	Md	15:00	5:45	0:15	3:42	0:23	−0:01	3:20	0:29	13:42
	$\bar{X}$	37:53	33:47	0:17	3:13	0:26	0:05	4:06	0:22	42:15
	SD	55:46	1:17:49	0:09	1:51	0:12	0:45	2:26	1:04	1:17:58
	Min.	1:00	1:00	0:06	0:44	0:14	−1:00	1:50	−2:17	6:29
	Max.	3:00:00	4:00:00	0:34	5:57	0:46	2:00	9:54	1:35	4:08:05
	N	9	9	10	9	9	10	10	10	9
	%	—	47.2	1.7	19.9	3.8	0.4	28.1	1.4	102.5
Robbery	Md	2:02	4:13	0:14	1:44	0:22	−0:01	3:19	0:07	11:34
	$\bar{X}$	4:57	18:47	0:27	2:54	0:25	0:10	4:07	−0:24	25:15
	SD	9:54	1:11:03	0:40	3:53	0:14	1:13	2:51	2:00	1:10:47
	Min.	1:00	1:00	0:03	0:13	0:06	−5:23	0:20	−10:51	2:24
	Max.	1:30:00	12:00:00	5:06	25:30	1:21	6:48	17:45	4:16	12:10:57
	N	127	127	122	116	118	124	126	127	123
	%	—	42.6	3.5	19.9	4.3	−0.2	39.5	−9.3	100.3
Aggravated Assault	Md	1:29	4:30	0:12	1:42	0:19	0:02	2:56	0:18	12:17
	$\bar{X}$	33:44	42:05	0:17	3:04	0:25	0:14	3:44	0:14	51:06
	SD	4:32:56	2:43:48	0:18	5:06	0:17	0:56	2:32	1:30	2:46:40
	Min.	1:00	1:00	0:05	0:22	0:07	−1:28	0:52	−8:05	3:25
	Max.	41:45:00	15:56:00	1:51	34:27	1:41	6:06	13:17	5:32	16:07:18
	N	84	82	81	76	77	83	84	84	80
	%	—	46.5	2.4	18.5	4.0	0.2	28.5	0.0	100.1

* Occurrence time estimates were not included in total response times.

Table A - 6.-- Time statistics for response time components.

Crime Category		Occurrence: Crime Begins to Detainment Ends	Discovery or End of Involvement to Initial Connection	Initial Connection to Information Available	Information Available to Dispatcher Calls Car	Dispatcher Calls Car to Dispatch Terminates	Dispatch Terminates to Officer Responds	Officer Responds to Arrival	Arrival to Investigation Initiated	Total Response Time
Involvement Burglary	Md	—	2:15	0:19	2:16	0:22	−0:05	2:42	0:18	11:44
	$\bar{X}$	—	4:22	0:23	2:52	0:22	−0:02	2:59	1:05	11:57
	SD	—	4:06	0:15	2:11	0:09	0:23	1:46	4:29	6:45
	Min.	—	1:00	0:08	0:12	0:08	−0:44	0:11	−2:19	4:06
	Max.	—	15:00	1:19	10:15	0:47	0:54	8:55	26:27	34:51
	N	—	35	35	32	32	35	35	35	35
	%	—	33.9	3.7	26.7	3.9	−0.9	27.2	4.8	99.5
Involvement Larceny	Md	—	5:06	0:12	2:26	0:18	0:05	4:54	0:35	17:07
	$\bar{X}$	—	1:14:20	0:20	4:10	0:22	0:46	5:19	0:45	1:27:06
	SD	—	7:07:58	0:17	5:02	0:12	2:11	2:42	0:55	7:09:20
	Min.	—	1:00	0:05	0:14	0:08	−2:12	0:00	−2:25	4:56
	Max.	—	48:00:00	1:36	28:31	0:56	11:45	14:46	4:24	48:05:13
	N	—	89	90	86	87	91	91	91	88
	%	—	38.9	1.8	19.5	2.3	3.0	30.0	3.9	99.4
Involvement Auto Theft	Md	—	3:00	0:23	3:30	0:40	0:10	5:47	0:15	14:40
	$\bar{X}$	—	5:16:45	0:23	4:37	0:33	0:09	5:39	0:24	5:29:15
	SD	—	10:28:50	0:10	3:37	0:12	0:19	1:13	0:27	10:32:56
	Min.	—	1:00	0:13	1:16	0:17	−0:16	4:07	0:04	9:01
	Max.	—	21:00:00	0:36	10:09	0:44	0:28	7:20	1:10	21:18:38
	N	—	4	5	5	5	5	5	5	4
	%	—	38.2	2.4	19.9	4.3	1.1	33.0	1.1	100.0

Table A-7.-- Time statistics for response time intervals.

Crime Category		Reporting	Dispatch	Travel	Total
All Part I Crimes	Md	6:17	2:50	5:34	18:50
	$\bar{X}$	3:46:42	4:56	6:11	3:57:50
	SD	38:15:28	6:23	3:53	38:15:41
	Min.	1:04	0:16	0:06	2:24
	Max.	*999:00:10	53:48	30:13	999:10:58
	N	918	931	948	918
	%	48.1	21.0	30.9	100.0
Involvement Crimes	Md	5:09	2:16	4:00	12:53
	$\bar{X}$	41:38	3:38	4:56	50:04
	SD	4:07:28	4:49	3:26	4:07:12
	Min.	1:04	0:16	0:06	2:24
	Max.	48:00:53	43:31	30:13	48:05:13
	N	338	344	352	339
	%	44.5	22.3	33.2	100.0
Discovery Crimes	Md	10:11	3:19	6:14	22:41
	$\bar{X}$	5:34:33	5:42	6:56	5:47:47
	SD	47:57:07	7:03	3:57	47:59:41
	Min.	1:05	0:32	0:26	3:52
	Max.	999:00:10	53:48	30:07	999:10:58
	N	580	587	596	579
	%	50.2	20.2	29.6	100.0

* Actual reporting delay exceeded 999 hours in one incident of discovery larceny. 999 was used for computational purposes.

Table A - 8.-- Time statistics for response time intervals.

Crime Category		Reporting	Dispatch	Travel	Total
Crimes Discovered By Citizens	Md	10:13	3:24	6:21	23:09
	$\bar{X}$	5:43:24	5:47	6:58	5:56:48
	SD	48:34:36	7:07	3:57	48:37:15
	Min.	1:05	0:32	0:26	3:52
	Max.	*999:00:10	53:48	30:07	999:10:58
	N	565	572	581	564
	%	51.2	20.0	28.8	100.0
Crimes Detected By Alarms	Md	—	1:57	4:42	—
	$\bar{X}$	—	2:03	5:29	—
	SD	—	0:39	3:49	—
	Min.	—	0:46	2:01	—
	Max.	—	3:24	14:37	—
	N	—	15	15	—
	%	—	—	—	—

* Actual reporting delay exceeded 999 hours in one incident of discovery larceny. 999 was used for computational purposes.

Table A-9.-- Time statistics for response time intervals.

Crime Category		Reporting	Dispatch	Travel	Total
Discovery Burglary (no alarms)	Md	10:11	3:14	6:37	23:21
	$\bar{X}$	4:06:19	5:55	7:13	4:19:31
	SD	22:34:00	7:33	4:08	22:34:16
	Min.	1:05	0:35	1:04	3:52
	Max.	248:23:13	53:48	30:07	248:38:58
	N	295	298	302	295
	%	50.0	19.7	30.3	100.0
Discovery Larceny (no alarms)	Md	10:18	3:03	6:12	22:18
	$\bar{X}$	9:47:24	5:13	6:45	9:59:26
	SD	76:38:34	6:27	3:37	76:38:40
	Min.	1:07	0:32	0:26	5:31
	Max.	*999:00:10	43:14	20:36	999:10:58
	N	201	203	206	201
	%	54.6	18.5	27.0	100.1
Discovery Auto Theft (no alarms)	Md	10:11	4:31	5:40	24:46
	$\bar{X}$	47:42	6:52	6:35	1:01:36
	SD	2:52:20	7:00	4:01	2:54:21
	Min.	1:09	1:06	0:45	7:42
	Max.	20:00:13	35:43	22:01	20:17:45
	N	69	71	73	68
	%	46.4	25.8	27.9	100.1

* Actual reporting delay exceeded 999 hours in one incident of discovery larceny. 999 was used for computational purposes.

Table A-10.-- Time statistics for response time intervals.

Crime Category		Reporting	Dispatch	Travel	Total
Violent Involvement	Md	5:06	2:00	3:31	11:58
	$\bar{X}$	28:25	3:12	4:11	35:44
	SD	1: 56:25	4:15	2:50	1: 56:59
	Min.	1:04	0:23	0:06	2:24
	Max.	15: 56: 10	34:42	18:20	16: 07:18
	N	211	214	221	212
	%	47.3	21.3	31.4	100.0
Nonviolent Involvement	Md	5:11	2:46	5:48	14:48
	$\bar{X}$	1: 03:34	4:22	6:10	1: 14:01
	SD	6: 14:44	5:33	3:57	6: 14:16
	Min.	1:06	0:16	0:11	4:06
	Max.	48: 00:53	43:31	30:13	48: 05:13
	N	127	130	131	127
	%	39.9	23.8	36.3	100.0

Table A-11.-- Time statistics for response time intervals.

Crime Category		Reporting	Dispatch	Travel	Total
Rape	Md	6:11	3:46	4:10	13:42
	$\bar{X}$	34:02	3:30	4:42	42:15
	SD	1:17:46	1:48	2:37	1:17:58
	Min.	1:08	1:01	1:51	6:29
	Max.	4:00:06	6:07	10:36	4:08:05
	N	9	10	10	9
	%	48.9	20.0	31.1	100.0
Robbery	Md	4:18	1:55	3:27	11:34
	$\bar{X}$	18:12	3:05	4:04	25:15
	SD	1:10:16	3:52	2:52	1:10:47
	Min.	1:04	0:23	0:06	2:24
	Max.	12:01:07	25:42	18:20	12:10:57
	N	122	122	127	123
	%	46.2	21.6	32.2	100.0
Aggravated Assault	Md	5:06	2:00	3:34	12:17
	$\bar{X}$	43:23	3:20	4:19	51:06
	SD	2:45:43	4:58	2:49	2:46:40
	Min.	1:05	0:38	1:03	3:25
	Max.	15:56:10	34:42	13:17	16:07:18
	N	80	82	84	80
	%	48.8	21.1	30.1	100.0

Table A-12.-- Time statistics for response time intervals.

Crime Category		Reporting	Dispatch	Travel	Time
Involvement Burglary	Md	2:29	2:35	2:49	11:44
	$\bar{X}$	4:45	3:02	4:11	11:57
	SD	4:09	2:07	4:57	6:45
	Min.	1:08	0:49	0:11	4:06
	Max.	15:09	10:40	30:13	34:51
	N	35	35	35	35
	%	37.7	29.3	33.0	100.0
Involvement Larceny	Md	5:14	2:50	6:31	17:07
	$\bar{X}$	1:15:26	4:50	6:56	1:27:06
	SD	7:10:24	6:27	3:20	7:09:20
	Min.	1:06	0:16	1:04	4:56
	Max.	48:00:53	43:31	20:09	48:05:13
	N	88	90	91	88
	%	40.8	21.7	37.6	100.1
Involvement Auto Theft	Md	1:48	3:54	6:02	14:40
	$\bar{X}$	5:17:07	5:06	6:16	5:29:15
	SD	10:28:51	3:38	1:25	10:32:56
	Min.	1:13	1:57	4:27	9:01
	Max.	21:00:23	10:34	7:41	21:18:38
	N	4	5	5	4
	%	40.7	23.7	35.7	100.1

TABLE A-13*

Dependent Variable: Reporting Time, Logarithm

Independent Variables	B	Beta	F	Simple r
Rape	0.20878	0.02817	0.725	-0.01080
Assault	0.09846	0.03801	0.930	-0.08027
Involvement Burglary	-0.18939	-0.04966	1.937	-0.13022
Discovery Burglary	0.41274	0.26296	29.195	0.11805
Involvement Larceny	0.10995	0.04430	1.227	-0.07947
Discovery Larceny	0.51888	0.29321	40.587	0.16783
Involvement Auto Theft	0.31500	0.02842	0.763	0.00245
Discovery Auto Theft	0.28887	0.10425	7.303	0.00035
Constant	0.93420			

Multiple R:	0.28275	Sample:	All Part I Crime
R Square:	0.07995	N:	903
F:	9.71072	Reference Group:	Robbery

TABLE A-14

Dependent Variable: Dispatch Time, Logarithm

Independent Variables	B	Beta	F	Simple r
Rape	0.16189	0.04345	1.655	-0.00262
Assault	0.04423	0.03180	0.655	-0.10058
Involvement Burglary	0.08303	0.04007	1.281	-0.04451
Discovery Burglary	0.23944	0.28331	33.900	0.11778
Involvement Larceny	0.14621	0.10960	7.563	-0.02124
Discovery Larceny	0.20064	0.21014	20.954	0.03864
Involvement Auto Theft	0.30115	0.05584	2.975	0.02411
Discovery Auto Theft	0.36080	0.24135	39.550	0.13672
Alarm	-0.02564	-0.00819	0.060	-0.06410
Constant	0.53766			

Multiple R:	0.26256	Sample:	All Part I Crime
R Square:	0.06894	N:	930
F:	7.56848	Reference Group:	Robbery

*While all times in the Figures of this report are given in minutes to aid interpretation, all statistics in all of the following regression tables are based on time recorded in one-hundreths of an hour.

TABLE A-15

Dependent Variable: Travel Time, Logarithm

Independent Variables	B	Beta	F	Simple r
Rape	0.01745	0.03835	1.507	-0.03382
Assault	0.03991	0.03916	1.103	-0.17357
Involvement Burglary	-0.02164	-0.01425	0.180	-0.15250
Discovery Burglary	0.28744	0.46421	101.005	0.20498
Involvement Larceny	0.27921	0.28569	57.023	0.08839
Discovery Larceny	0.26054	0.37247	73.054	0.10855
Involvement Auto Theft	0.27987	0.07083	5.313	0.02002
Discovery Auto Theft	0.23051	0.21047	33.377	0.02895
Alarm	0.15351	0.06693	4.446	-0.02113
Constant	0.40127			

Multiple R: 0.40127
R Square: 0.16101
F: 19.61807

Sample: All Part I Crime
N: 930
Reference Group: Robbery

Table A-16.-- T-test of mean differences for reporting time (Logarithm).

Type of Crime	Rape	Robbery	Aggravated Assault	Involvement Burglary	Involvement Larceny	Involvement Auto Theft	Discovery Burglary	Discovery Larceny	Discovery Auto Theft	Alarms
Rape		1.08 p<.284	0.48 p<.632	1.72 p<.120	0.45 p<.652	-0.19 p<.853	-0.79 p<.432	-1.12 p<.263	-0.37 p<.713	
Robbery			-1.15 p<.251	2.37 p<.020	-1.35 p<.179	-0.45 p<.686	-6.14 p<.001	-6.79 p<.001	-3.35 p<.001	
Aggravated Assault				3.01 p<.003	-0.12 p<.907	-0.31 p<.780	-3.35 p<.001	-4.53 p<.001	-1.84 p<.068	
Involvement Burglary					-3.30 p<.001	-0.71 p<.527	-7.87 p<.001	-8.37 p<.001	-5.00 p<.001	
Involvement Larceny						-0.29 p<.791	-3.79 p<.001	-4.66 p<.001	-1.81 p<.072	
Involvement Auto Theft							-0.14 p<.899	-0.49 p<.627	0.04 p<.973	
Discovery Burglary								-1.47 p<.142	1.45 p<.150	
Discovery Larceny									2.48 p<.014	
Discovery Auto Theft										
Alarms										

* The .01 level of statistical significance was required for inclusion of the mean or proportional difference in the text.
p=Probability that the difference is due to chance.

Table A - 17.-- T-test of mean differences for dispatch time (Logarithm).

Type of Crime	Rape	Robbery	Aggravated Assault	Involvement Burglary	Involvement Larceny	Involvement Auto Theft	Discovery Burglary	Discovery Larceny	Discovery Auto Theft	Alarms
Rape		1.39 p<.167	1.11 p<.269	0.81 p<.432	0.11 p<.909	−0.89 p<.391	−0.59 p<.555	−0.30 p< .763	−1.77 p<.080	1.98 p< .069
Robbery			−0.90 p<.369	−1.49 p<.140	−2.72 p<.007	−1.84 p<.068	−5.61 p<.001	−4.54 p<.001	−6.91 p<.001	0.51 p<.616
Aggravated Assault				−0.63 p<.530	−1.80 p<.074	−1.74 p<.085	−4.58 p<.001	−3.46 p<.001	−5.95 p<.001	1.33 p<.191
Involvement Burglary					−1.00 p<.321	−1.68 p<.102	−3.07 p<.003	−2.21 p<.031	−4.22 p<.001	1.83 p<.075
Involvement Larceny						−0.81 p<.421	−1.87 p<.062	−1.05 p<.292	−3.56 p<.001	2.91 p<.005
Involvement Auto Theft							0.33 p<.739	0.56 p<.579	−0.41 p<.682	2.24 p<.076
Discovery Burglary								1.05 p<.296	−2.43 p<.016	5.82 p<.001
Discovery Larceny									−3.11 p<.002	4.71 p<.001
Discovery Auto Theft										6.90 p<.001
Alarms										

* The .01 level of statistical significance was required for inclusion of the mean or proportional difference in the text.
p=Probability that the difference is due to chance.

Table A - 18.-- T-test of mean differences for travel time(Logarithm).

Type of Crime	Rape	Robbery	Aggravated Assault	Involvement Burglary	Involvement Larceny	Involvement Auto Theft	Discovery Burglary	Discovery Larceny	Discovery Auto Theft	Alarms
Rape		1.04 p<.299	0.73 p<.469	1.38 p<.182	−2.28 p<.025	−1.55 p<.145	−2.31 p<.021	−1.92 p<.056	−1.24 p<.219	−0.45 p<.655
Robbery			−1.17 p<.245	0.19 p<.847	−7.45 p<.001	−5.28 p<.001	−8.77 p<.001	−7.64 p<.001	−4.90 p<.001	−1.76 p<.081
Aggravated Assault				1.06 p<.292	−6.28 p<.001	−1.92 p<.059	−7.98 p<.001	−6.63 p<.001	−4.09 p<.001	−1.46 p<.146
Involvement Burglary					−4.88 p<.001	−4.14 p<.001	−5.24 p<.001	−4.71 p<.001	−3.94 p<.001	−1.79 p<.080
Involvement Larceny						0.01 p<.992	−0.20 p<.838	0.72 p<.472	1.32 p<.189	1.97 p<.052
Involvement Auto Theft							−0.06 p<.949	0.19 p<.851	0.41 p<.682	1.57 p<.136
Discovery Burglary								1.26 p<.210	1.65 p<.101	2.08 p<.038
Discovery Larceny									0.94 p<.346	1.61 p<.109
Discovery Auto Theft										0.90 p<.371
Alarms										

* The .01 level of statistical significance was required for inclusion of the mean or proportional difference in the text.
p=Probability that the difference is due to chance.

Appendix B

Summary Statistics for Arrest

TABLE B-1

Dependent Variable: Arrest

Independent Variables	B	Beta	F	Simple r
Rape	0.21803	0.06936	5.662	0.05809
Assault	0.28389	0.24828	50.931	0.23543
Involvement Burglary	0.37518	0.22023	49.334	0.20604
Discovery Burglary	-0.06519	-0.09383	4.740	-0.21726
Involvement Larceny	0.34026	0.31029	77.272	0.30578
Discovery Larceny	-0.07704	-0.09816	5.829	-0.18651
Involvement Auto Theft	0.11803	0.02662	0.862	0.01829
Discovery Auto Theft	-0.08197	-0.06670	3.851	-0.10503
Alarm	0.38470	0.14948	25.475	0.13716
Constant	0.08197			

Multiple R: 0.51930
R Square: 0.26967
F: 37.74580

Sample: All Part I Crime
N: 930
Reference Group: Robbery

TABLE B-2

Dependent Variable: Response-Related Arrest

Independent Variables	B	Beta	F	Simple r
Rape	0.05082	0.02754	0.823	0.03417
Assault	0.01180	0.01757	0.235	0.03814
Involvement Burglary	0.29368	0.29368	80.912	0.31716
Discovery Burglary	-0.04582	-0.11236	6.279	-0.12368
Involvement Larceny	-0.02696	-0.04188	1.298	-0.02651
Discovery Larceny	-0.04918	-0.10675	6.358	-0.10450
Involvement Auto Theft	0.15082	0.05795	3.769	0.06273
Discovery Auto Theft	-0.04918	-0.06818	3.711	-0.95642
Alarm	0.41749	0.27635	80.308	0.28864
Constant	0.04918			

Multiple R: 0.45625
R Square: 0.20816
F: 26.87279

Sample: All Part I Crime
N: 930
Reference Group: Robbery

Table B-3.-- T-test of proportional differences for arrests.

Type of Crime	Rape	Robbery	Aggravated Assault	Involvement Burglary	Involvement Larceny	Involvement Auto Theft	Discovery Burglary	Discovery Larceny	Discovery Auto Theft	Alarms
Rape		1.43 p<.186	−0.50 p<.621	−0.90 p<.383	−0.71 p<.477	0.39 p<.705	1.85 p<.097	1.93 p<.086	5.56 p<.001	−0.81 p<.426
Robbery			−5.17 p<.001	−4.26 p<.001	−5.92 p<.001	−0.60 p<.580	2.48 p<.014	3.02 p<.003	2.50 p<.013	−2.86 p<.012
Aggravated Assault				−0.77 p<.444	−0.49 p<.624	0.81 p<.421	6.77 p<.001	7.03 p<.001	6.71 p<.001	−0.62 p<.536
Involvement Burglary					0.40 p<.691	1.08 p<.288	5.14 p<.001	5.29 p<.001	7.82 p<.001	−0.06 p<.952
Involvement Larceny						0.96 p<.340	7.64 p<.001	7.91 p<.001	7.24 p<.001	−0.35 p<.725
Involvement Auto Theft							0.92 p<.411	0.98 p<.385	4.25 p<.001	−1.03 p<.317
Discovery Burglary								1.33 p<.185	1.11 p<.266	−3.37 p<.005
Discovery Larceny									0.60 p<.550	−3.46 p<.004
Discovery Auto Theft										−7.96 p<.001
Alarms										

*The .01 level of statistical significance was required for inclusion of the mean or proportional difference in the text.
p=Probability that the difference is due to chance.

Table B - 4.-- T-test of proportional differences for response-related arrests.

Type of Crime	Rape	Robbery	Aggravated Assault	Involvement Burglary	Involvement Larceny	Involvement Auto Theft	Discovery Burglary	Discovery Larceny	Discovery Auto Theft	Alarms
Rape		0.73 p<.469	0.49 p<.625	−1.88 p<.073	0.77 p<.460	−0.50 p<.622	0.97 p<.359	4.76 p<.001	2.83 p<.006	−2.00 p<.057
Robbery			−0.39 p<.696	−3.54 p<.001	1.03 p<.302	−0.76 p<.489	2.29 p<.024	3.19 p<.002	1.91 p<.058	−3.11 p<.007
Aggravated Assault				−3.32 p<.002	1.24 p<.216	−0.70 p<.524	2.15 p<.035	3.60 p<.001	2.15 p<.033	−3.00 p<.009
Involvement Burglary					3.87 p<.001	0.63 p<.536	4.17 p<.001	10.32 p<.001	6.16 p<.001	−0.82 p<.419
Involvement Larceny						−0.89 p<.425	1.18 p<.240	2.14 p<.033	1.28 p<.202	−3.31 p<.005
Involvement Auto Theft							0.98 p<.381	7.14 p<.001	4.25 p<.001	−1.03 p<.317
Discovery Burglary								0.83 p<.409	0.49 p<.621	−3.47 p<.004
Discovery Larceny									0.0 p<1.000	−13.36 p<.001
Discovery Auto Theft										−7.96 p<.001
Alarms										

* The .01 level of statistical significance was required for inclusion of the mean or proportional difference in the text.
p=Probability that the difference is due to chance.

TABLE B-5

Dependent Variable: Arrest

Independent Variable	B	Beta	F	Simple r
Involvement-Discovery	0.27516	0.42238	195.431	0.42238
Constant	0.00887			

Multiple R: 0.42238
R Square: 0.17841
F: 195.43051

Sample: All Part I Crime
N: 902
Reference Group: Discovery Crimes

TABLE B-6

Dependent Variable: Response-Related Arrest

Independent Variable	B	Beta	F	Simple r
Involvement-Discovery	0.07988	0.22691	48.856	0.22691
Constant	0.00000			

Multiple R: 0.22691
R Square: 0.05149
F: 48.85606

Sample: All Part I Crime
N: 902
Reference Group: Discovery Crimes

TABLE B-7

Dependent Variable: Arrest

Independent Variables	B	Beta	F	Simple r
Reporting Time, Reciprocal	-0.03060	-0.01425	0.088	0.20445
Involvement-Discovery	0.20573	0.31580	53.737	0.42238
Interaction of Variables 1 and 2	0.37503	0.16777	7.558	0.36590
Constant	0.01197			

Multiple R: 0.43802
R Square: 0.19186
F: 71.06383

Sample: All Part I Crime
N: 902
Reference Group: Discovery Crimes

TABLE B-8

Dependent Variable: Response-Related Arrest

Independent Variables	B	Beta	F	Simple r
Reporting Time, Reciprocal	0.00000	0.00000	0.000	0.22622
Involvement-Discovery	0.01188	0.03374	0.551	0.22691
Interaction of Variables 1 and 2	0.24214	0.29234	20.598	0.31463
Constant	0.00000			

Multiple R: 0.31565
R Square: 0.09964
F: 33.12500

Sample: All Part I Crime
N: 902
Reference Group: Discovery Crimes

TABLE B-9

Dependent Variable: Arrest

Independent Variable	B	Beta	F	Simple r
Violent-Nonviolent	-0.23876	-0.25642	23.648	-0.25642
Constant	0.43307			

Multiple R: 0.25642
R Square: 0.06575
F: 23.64794

Sample: Involvement Crime
N: 338
Reference Group: Nonviolent Crimes

TABLE B-10

Dependent Variable: Response-Related Arrest

Independent Variable	B	Beta	F	Simple r
Violent-Nonviolent	-0.06124	-0.10940	4.070	-0.10940
Constant	0.11811			

Multiple R: 0.10940
R Square: 0.01197
F: 4.06982

Sample: Involvement Crime
N: 338
Reference Group: Nonviolent Crimes

TABLE B-11

Dependent Variable: Arrest

Independent Variables	B	Beta	F	Simple r
Reporting Time, Reciprocal	0.34254	0.13138	6.306	0.13210
Violent-Nonviolent	-0.23841	-0.25605	23.952	-0.25642
Constant	0.36689			

Multiple R: 0.28812
R Square: 0.08301
F: 15.16371

Sample: Involvement Crime
N: 338
Reference Group: Nonviolent Crimes

TABLE B-12

Dependent Variable: Response-Related Arrest

Independent Variables	B	Beta	F	Simple r
Reporting Time, Reciprocal	0.58792	0.37508	18.762	0.22530
Violent-Nonviolent	0.01101	0.01967	0.062	-0.10940
Interaction of Variables 1 and 2	-0.37285	-0.22822	4.761	0.02887
Constant	0.00453			

Multiple R: 0.27525
R Square: 0.07576
F: 9.12665

Sample: Involvement Crime
N: 338
Reference Group: Nonviolent Crimes

TABLE B-13

Dependent Variable: Arrest

Independent Variables	B	Beta	F	Simple r
Assault	0.26803	0.25640	19.325	0.08489
Burglary	0.37518	0.25816	21.313	0.13423
Larceny	0.34985	0.34509	34.837	0.20119
Constant	0.08197			

Multiple R: 0.35474
R Square: 0.12584
F: 15.40312

Sample: Robbery, Assault, Burglary and Larceny Involvement Crimes
N: 325
Reference Group: Robbery

TABLE B-14

Dependent Variable: Response-Related Arrest

Independent Variables	B	Beta	F	Simple r
Assault	0.01332	0.02153	0.136	-0.03093
Burglary	0.29368	0.34164	37.215	0.34671
Larceny	-0.02645	-0.04411	0.568	-0.12393
Constant	0.04918			

Multiple R: 0.35107
R Square: 0.12325
F: 15.04172

Sample: Robbery, Assault, Burglary and Larceny Involvement Crimes
N: 325
Reference Group: Robbery

TABLE B-15

Dependent Variable: Arrest

Independent Variables	B	Beta	F	Simple r
Reporting Time, Reciprocal	0.34579	0.13276	6.478	0.11717
Assault	0.27682	0.26470	20.897	0.08489
Burglary	0.07637	0.24934	20.142	0.13423
Larceny	0.36124	0.35632	37.559	0.20119
Constant	0.01125			

Multiple R: 0.37840
R Square: 0.14318
F: 13.36900

Sample: Robbery, Assault, Burglary and Larceny Involvement Crimes
N: 325
Reference Group: Robbery

TABLE B-16

Dependent Variable: Response-Related Arrest

Independent Variables	B	Beta	F	Simple r
Reporting Time, Reciprocal	0.32114	0.20845	7.209	0.22863
Assault	0.05923	0.09576	1.289	-0.03093
Burglary	0.08637	0.08884	0.898	0.34671
Larceny	0.01943	0.03240	0.156	-0.12393
Interaction of Variables 1 and 2	-0.21080	-0.08753	1.037	-0.00198
Interaction of Variables 1 and 3	0.85022	0.29252	9.204	0.41730
Interaction of Variables 1 and 4	-0.20576	-0.09008	1.134	-0.05206
Constant	-0.01649			

Multiple R: 0.44505
R Square: 0.19807
F: 11.18497

Sample: Robbery, Assault, Burglary and Larceny Involvement Crimes
N: 325
Reference Group: Robbery

TABLE B-17

Dependent Variable: Response-Related Arrest

Independent Variables	B	Beta	F	Simple r
Travel Time, Logarithm	0.00000	0.00000	0.000	-0.19992
Involvement-Discovery	0.22089	0.62745	34.396	0.22691
Interaction of Variables 1 and 2	-0.17237	-0.44563	19.146	0.11833
Constant	0.00000			

Multiple R: 0.29941
R Square: 0.08965
F: 29.47653

Sample: All Part I Crime
N: 903
Reference Group: Discovery Crimes

TABLE B-18

Dependent Variable: Response-Related Arrest

Independent Variables	B	Beta	F	Simple r
Travel Time, Logarithm	-0.51471	-0.59893	44.659	-0.20057
Violent-Nonviolent	-0.50002	-0.89324	32.432	-0.10940
Interactions of Variables 1 and 2	0.46418	0.75243	23.647	-0.11629
Constant	0.59493			

Multiple R: 0.36103
R Square: 0.13034
F: 16.68619

Sample: Involvement Crime
N: 338
Reference Group: Nonviolent Crimes

TABLE B-19

Dependent Variable: Arrest

Independent Variables	B	Beta	F	Simple r
Travel Time, Logarithm	-0.01858	-0.01315	0.027	-0.00774
Assault	0.52150	0.49867	9.913	0.08489
Burglary	0.86699	0.59659	21.301	0.13423
Larceny	0.12515	0.12345	0.327	0.03912
Interaction of Variables 1 and 2	-0.32602	-0.26095	2.581	0.03912
Interaction of Variables 1 and 3	-0.69551	-0.37849	8.487	0.04272
Interaction of Variables 1 and 4	0.22773	0.23471	1.045	0.20873
Constant	0.09552			

Multiple R: 0.41227
R Square: 0.16997
F: 9.27312

Sample: Robbery, Assault, Burglary and Larceny Involvement Crimes
N: 325
Reference Group: Robbery

TABLE B-20

Dependent Variable: Response-Related Arrest

Independent Variables	B	Beta	F	Simple r
Travel Time, Logarithm	-0.01910	-0.02286	0.087	-0.23233
Assault	0.15709	0.25394	2.715	-0.03093
Burglary	0.75073	0.87334	48.215	0.34671
Larceny	0.12103	0.20182	0.924	-0.12393
Interaction of Variables 1 and 2	-0.18441	-0.24954	2.493	-0.06803
Interaction of Variables 1 and 3	-0.64641	-0.59469	22.131	0.18830
Interaction of Variables 1 and 4	-0.14079	-0.24531	1.205	-0.13828
Constant	0.06311			

Multiple R: 0.46276
R Square: 0.21415
F: 12.34073

Sample: Robbery, Assault, Burglary and Larceny Involvement Crimes
N: 325
Reference Group: Robbery

TABLE B-21

Dependent Variable: Response-Related Arrest

Independent Variable	B	Beta	F	Simple r
Travel Time, Logarithm	-0.21858	-0.19682	4.513	-0.19682
Constant	0.32532			

Multiple R: 0.19682
R Square: 0.03874
F: 4.51328

Sample: Involvement Crimes With a Reporting Time of 2 Minutes or Less
N: 114

TABLE B-22

Dependent Variable: Response-Related Arrest

Independent Variable	B	Beta	F	Simple r
Travel Time, Reciprocal	0.57002	0.26365	8.591	0.26365
Constant	-0.03813			

Multiple R: 0.26365
R Square: 0.06951
F: 8.59123

Sample: Involvement Crimes With a Reporting Time Between 3 & 9 Minutes
N: 117

Appendix C

Summary Statistics for the Effects of Patrol Strategy on Response Time

TABLE C-1

Dependent Variable: Distance Traveled

Independent Variables	B	Beta	F	Simple r
Officer In or Out of Assigned Beat	-0.03230	-0.00899	0.052	0.06560
Dispatched to Incorrect Beat (Beat of Incident)	0.31336	0.02629	0.522	0.01700
Officer's Location is in Beat of Incident	0.73571	0.18738	18.548	0.21222
Incident is in Officer's Assigned Beat	0.24525	0.06798	2.756	0.13820
Rape	-0.38765	-0.01947	0.273	-0.02612
Assault	-0.24163	-0.03774	0.720	-0.03851
Involvement Burglary	-0.30272	-0.03447	0.712	-0.03525
Discovery Burglary	0.10905	0.02860	0.266	0.03242
Involvement Larceny	0.33588	0.05466	1.465	0.05445
Discovery Larceny	0.08125	0.01862	0.127	-0.00426
Involvement Auto Theft	-0.57972	-0.01685	0.212	-0.00872
Discovery Auto Theft	-0.04681	-0.00721	0.026	-0.04596
Constant	0.76491			

Multiple R: 0.23769
R Square: 0.05650
F: 3.58788

Sample: All Part I Crime
N: 732
Reference Group: Robbery

TABLE C-2

Dependent Variable: Distance Traveled

Independent Variable	B	Beta	F	Simple r
Officer's Location is in Beat of Incident	0.83324	0.21222	34.428	0.21222
Constant	0.86404			

Multiple R; 0.21222
R Square: 0.04504
F: 34.42827

Sample: All Part I Crime
N: 732

TABLE C-3

Dependent Variable: Travel Time, Logarithm

Independent Variables	B	Beta	F	Simple r
Officer In or Out of Assigned Beat	0.03066	0.05455	2.716	0.15169
Dispatched to Incorrect Beat (Beat of Incident)	0.12676	0.06799	5.023	0.03056
Officer's Location is in Beat of Incident	0.12960	0.21105	32.981	0.25601
Incident is in Officer's Assigned Beat	0.02215	0.03926	1.299	0.05092
In or Out of Car	-0.06481	-0.16963	31.004	-0.17287
One or Two Man Car	0.00730	0.00853	0.078	0.00966
Code One or Code Two	0.18050	0.10730	10.583	0.23376
Busted Call	-0.19077	-0.25884	54.082	-0.39432
Distance Traveled	0.02309	0.14765	22.531	0.20753
Rape	0.06177	0.01983	0.405	-0.02403
Assault	0.01017	0.01015	0.071	-0.16814
Involvement Burglary	-0.06012	-0.04377	1.634	-0.16912
Discovery Burglary	0.16199	0.27164	28.121	0.19764
Involvement Larceny	0.16535	0.17205	18.988	0.09122
Discovery Larceny	0.13810	0.20233	17.823	0.09366
Involvement Auto Theft	0.14239	0.02647	0.753	0.01282
Discovery Auto Theft	0.16041	0.15788	15.802	0.04772
Constant	-1.14968			

Multiple R: 0.59582
R Square: 0.35500
F: 23.11604

Sample: All Part I Crime
N: 732
Reference Group: Robbery

TABLE C-4

Dependent Variable: Travel Time, Logarithm

Independent Variables	B	Beta	F	Simple r
Officer's Location is in Beat of Incident	0.15173	0.24708	62.992	0.25601
Distance Traveled	0.02345	0.14991	23.491	0.20753
Dispatched to Incorrect Beat (Beat of Incident)	0.12410	0.06656	4.821	0.03056
In or Out of Car	-0.06404	-0.16762	30.499	-0.17287
Code One or Code Two	0.16851	0.10017	9.342	0.23376
Busted Call	-0.19183	-0.26027	55.157	-0.39432
Rape	0.05596	0.01797	0.335	-0.02403
Assault	0.01205	0.01203	0.100	-0.16814
Involvement Burglary	-0.05902	-0.04298	1.576	-0.16912
Discovery Burglary	0.16137	0.27060	28.298	0.19764
Involvement Larceny	0.16496	0.17164	19.041	0.09122
Discovery Larceny	0.13565	0.19874	17.372	0.09366
Involvement Auto Theft	0.14333	0.02664	0.764	0.01282
Discovery Auto Theft	0.15819	0.15569	15.601	0.04772
Constant	-1.11763			

Multiple R: 0.59309
R Square: 0.35176
F: 27.79047

Sample: All Part I Crime
N: 732
Reference Group: Robbery

TABLE C-5

Dependent Variable: Arrests

Independent Variables	B	Beta	F	Simple r
Officer In or Out of Assigned Beat	-0.00805	-0.01359	0.147	-0.00703
Dispatched to Incorrect Beat (Beat of Incident)	0.05374	0.02735	0.697	0.04141
Officer's Location is in Beat of Incident	0.00601	0.00929	0.053	-0.00863
Incident is in Officer's Assigned Beat	-0.01823	-0.03066	0.690	0.01952
In or Out of Car	-0.00833	-0.02068	0.385	-0.02068
One or Two Man Car	0.01318	0.01462	0.199	0.00380
Busted Call	-0.12827	-0.16514	2.023	0.19975
Distance Traveled	-0.00338	-0.02053	0.366	-0.03031
Code of Call	-0.10696	-0.06033	2.872	-0.13724
Travel Time	-0.02403	-0.02280	0.322	-0.15131
Report Time	0.00174	0.08490	5.938	0.20688
Officer Could View Crime on Routine Patrol	-0.18447	-0.30374	8.007	-0.08008
Interaction of Variables 7 and 12	0.12730	0.37721	5.817	0.11045
Rape	0.11799	0.03595	1.163	0.02140
Assault	0.22235	0.21071	26.690	0.21214
Involvement Burglary	0.37049	0.25596	48.250	0.24600
Discovery Burglary	-0.00345	-0.00548	0.009	-0.20163
Involvement Larceny	0.32689	0.32274	56.335	0.28922
Discovery Larceny	-0.00023	-0.00032	0.000	-0.16073
Involvement Auto Theft	0.03540	0.00624	0.037	-0.01715
Discovery Auto Theft	-0.00986	-0.00921	0.046	-0.09882
Constant	0.31180			

Multiple R: 0.51734
R Square: 0.26769
F: 12.35890

Sample: All Part I Crime
N: 732
Reference Group: Robbery

TABLE C-6

Dependent Variable: Arrests

Independent Variables	B	Beta	F	Simple r
Reporting Time	0.00170	0.08307	5.736	0.20688
Officer's Location is in Beat of Incident	-0.00480	-0.00742	0.046	-0.00836
Distance Traveled	-0.00333	-0.02022	0.360	-0.03031
Dispatched to Incorrect Beat (Beat of Incident)	0.05672	0.02887	0.781	0.04141
In or Out of Car	-0.00928	-0.02304	0.483	-0.02068
Code One or Code Two	-0.10150	-0.05725	2.636	-0.13724
Busted Call	-0.12518	-0.16116	1.934	0.19975
Travel Time	-0.02639	-0.02504	0.391	-0.15131
Patrol View	-0.18163	-0.29906	7.803	-0.08008
Interaction of Patrol View with Busted Call	0.12426	0.36820	5.577	0.11045
Rape	0.11971	0.03647	1.208	0.02140
Assault	0.21990	0.20839	26.313	0.21214
Involvement Burglary	0.36894	0.25489	48.047	0.24600
Discovery Burglary	-0.00438	-0.00697	0.015	-0.20163
Involvement Larceny	0.32667	0.32252	56.836	0.28922
Discovery Larceny	-0.00009	-0.00013	0.000	-0.16073
Involvement Auto Theft	0.02863	0.00505	0.024	-0.01715
Discovery Auto Theft	-0.00743	-0.00694	0.026	-0.09882
Constant	0.31277			

Multiple R: 0.51633
R Square: 0.26660
F: 14.39923

Sample: All Part I Crime
N: 732
Reference Group: Robbery

TABLE C-7

Dependent Variable: Response-Related Arrests

Independent Variables	B	Beta	F	Simple r
Officer In or Out of Assigned Beat	0.00816	0.02442	0.473	-0.01430
Dispatched to Incorrect Beat (Beat of Incident)	0.03413	0.03080	0.882	0.02784
Officer's Location is in Beat of Incident	-0.01506	-0.04126	1.051	-0.04914
Incident is in Officer's Assigned Beat	0.00618	0.01843	0.249	0.04104
In or Out of Car	-0.01485	-0.06539	3.838	-0.00739
One or Two Man Car	0.01748	0.03438	1.096	0.03534
Busted Call	-0.06544	-0.14937	1.651	0.19974
Distance Traveled	-0.00029	-0.00309	0.008	-0.03843
Code of Call	-0.08530	-0.08530	5.728	-0.11754
Travel Time	-0.07233	-0.12168	9.149	-0.24690
Report Time	0.00137	0.11848	11.536	0.22280
Officer Could View Crime on Routine Patrol	-0.05338	-0.15582	2.102	0.01927
Interaction of Variables 7 and 12	0.05531	0.29057	3.443	0.16859
Rape	-0.01529	-0.00826	0.061	-0.01562
Assault	-0.00786	-0.01320	0.105	0.03480
Involvement Burglary	0.33315	0.40806	122.331	0.44357
Discovery Burglary	0.00552	0.01556	0.075	-0.12115
Involvement Larceny	0.00615	0.01077	0.063	-0.02743
Discovery Larceny	0.00304	0.00748	0.020	-0.09017
Involvement Auto Theft	0.02256	0.00705	0.047	-0.00900
Discovery Auto Theft	-0.00517	-0.00855	0.039	-0.05182
Constant	0.07550			

Multiple R: 0.51567
R Square: 0.26592
F: 12.24741

Sample: All Part I Crime
N: 732
Reference Group: Robbery

TABLE C-8

Dependent Variable: Response-Related Arrests

Independent Variables	B	Beta	F	Simple r
Reporting Time	0.00138	0.11892	11.712	0.22280
Officer's Location is in Beat of Incident	-0.00953	-0.02612	0.564	-0.04914
Distance Traveled	0.00048	0.00521	0.024	-0.03843
Dispatched to Incorrect Beat (Beat of Incident)	0.04061	0.03664	1.266	0.02784
In or Out of Car	-0.01392	-0.06130	3.414	-0.00739
Code One or Code Two	-0.08377	-0.08377	5.631	-0.11754
Busted Call	0.02236	0.05104	1.674	0.19974
Travel Time	-0.07397	-0.12443	9.663	-0.24690
Rape	-0.01938	-0.01047	0.099	-0.01562
Assault	-0.00880	-0.01479	0.132	0.03480
Involvement Burglary	0.32955	0.40364	120.551	0.44357
Discovery Burglary	-0.00024	-0.00069	0.000	-0.12115
Involvement Larceny	0.00185	0.00323	0.006	-0.02743
Discovery Larceny	-0.00223	-0.00550	0.011	-0.09017
Involvement Auto Theft	0.01756	0.00549	0.028	-0.00900
Discovery Auto Theft	-0.00830	-0.01375	0.104	-0.05182
Constant	0.01189			

Multiple R: 0.50957
R Square: 0.25966
F: 15.67335

Sample: All Part I Crime
N: 732
Reference Group: Robbery

Appendix D

Summary Statistics for Witness Availability

TABLE D-1

Dependent Variable: Witness - Availability

Independent Variable	B	Beta	F	Simple r
Reporting Time, Logarithm	-0.20635	-0.24748	21.920	-0.24748
Constant	0.69840			

Multiple R: 0.24748
R Square: 0.06124
F: 21.92046

Sample: Involvement Crime
N: 338

TABLE D-2

Dependent Variable: Witness - Availability

Independent Variable	B	Beta	F	Simple r
Travel Time	-0.00991	-0.11398	4.422	-0.11398
Constant	0.57903			

Multiple R: 0.11398
R Square: 0.01299
F: 4.42238

Sample: Involvement Crime
N: 338

TABLE D-3

Dependent Variable: Witness - Availability

Independent Variable	B	Beta	F	Simple r
Travel Time	-0.01976	-0.18597	7.846	0.18597
Constant	0.63561			

Multiple R: 0.18597
R Square: 0.03459
F: 7.84582

Sample: Violent Crime
N: 221

Appendix E

Summary Statistics for Injury

TABLE E-1

Dependent Variable: Reporting Time, Logarithm

Independent Variable	B	Beta	F	Simple r
Seriousness Index	0.00739	0.02232	0.041	0.02232
Constant	0.94746			

Multiple R:	0.02232	Sample:	Field Injury Cases
R Square:	0.00050	N:	85
F:	0.04138		

TABLE E-2

Dependent Variable: Dispatch Time, Logarithm

Independent Variable	B	Beta	F	Simple r
Seriousness Index	-0.03817	-0.24475	5.416	-0.24475
Constant	0.70401			

Multiple R:	0.24475	Sample:	Field Injury Cases
R Square:	0.05990	N:	87
F:	5.41617		

TABLE E-3

Dependent Variable: Travel Time, Logarithm

Independent Variable	B	Beta	F	Simple r
Seriousness Index	-0.05804	-0.34348	11.771	-0.34348
Constant	0.98876			

Multiple R:	0.34348	Sample:	Field Injury Cases
R Square:	0.11798	N:	90
F:	11.77051		

TABLE E-4

Dependent Variable: Travel Time, Logarithm

Independent Variable	B	Beta	F	Simple r
Assigned Code of Call	-0.25611	-0.35913	13.031	-0.35913
Constant	0.81132			

Multiple R:	0.35913	Sample:	Field Injury Cases
R Square:	0.12898	N:	90
F:	12.03051		

TABLE E-5

Dependent Variable: Travel Time, Logarithm

Independent Variables	B	Beta	F	Simple r
Seriousness Index	-0.03815	-0.22579	4.200	-0.34348
Assigned Code of Call	-0.18176	-0.25487	5.351	-0.35913
Constant	0.94780			

Multiple R: 0.41120
R Square: 0.61909
F: 8.85194

Sample: Field Injury Cases
N: 90

TABLE E-6

Dependent Variable: Type and Length of Hospital Stay

Independent Variable	B	Beta	F	Simple r
Assigned Code of Call	0.87069	0.34046	5.113	0.34046
Constant	2.37931			

Multiple R: 0.34046
R Square: 0.11591
F: 5.11333

Sample: Field Injury Cases
N: 41

TABLE E-7

Dependent Variable: Type and Length of Hospital Stay

Independent Variable	B	Beta	F	Simple r
Seriousness Index	0.60742	0.45303	10.071	0.45303
Constant	-0.59558			

Multiple R: 0.45303
R Square: 0.20523
F: 10.07097

Sample: Field Injury Cases
N: 41

Appendix F

Summary Statistics for Problems and Patterns in Reporting

TABLE F-1

Dependent Variable: Delay Due to Chasing Suspect

Independent Variables	B	Beta	F	Simple r
Rape	-0.12598	-0.05095	3.049	-0.02845
Assault	-0.11408	-0.12826	13.637	-0.07127
Involvement Burglary	0.01687	0.01259	0.162	0.05681
Discovery Burglary	-0.12598	-0.23159	29.409	-0.18906
Involvement Larceny	0.31358	0.36544	108.037	0.47769
Discovery Larceny	-0.11142	-0.18155	20.214	-0.11504
Involvement Auto Theft	-0.12598	-0.03613	1.582	-0.02006
Discovery Auto Theft	-0.12598	-0.13373	15.380	-0.08023
Constant	0.12598			

Multiple R: 0.51185
R Square: 0.26199
F: 41.04726

Sample: All Part I Crime
N: 934
Reference Group: Robbery

TABLE F-2

Dependent Variable: Delay Due to Investigating Incident Scene

Independent Variables	B	Beta	F	Simple r
Rape	-0.04724	-0.01260	0.148	-0.04907
Assault	0.00037	0.00028	0.000	-0.10949
Involvement Burglary	0.15276	0.07519	4.570	0.00920
Discovery Burglary	0.24746	0.29998	39.075	0.20188
Involvement Larceny	0.02968	0.02281	0.333	-0.08948
Discovery Larceny	0.14208	0.15267	11.319	0.01007
Involvement Auto Theft	-0.04724	-0.00893	0.077	-0.03461
Discovery Auto Theft	0.19600	0.13720	12.820	0.04655
Constant	0.04724			

Multiple R: 0.26083
R Square: 0.06803
F: 8.44060

Sample: All Part I Crime
N: 934
Reference Group: Robbery

TABLE F-3

Dependent Variable: Delay Due to Waiting or Observing the Situation

Independent Variables	B	Beta	F	Simple r
Rape	0.26850	0.09819	8.815	0.07884
Assault	0.05184	0.05270	1.792	-0.00379
Involvement Burglary	0.13993	0.09443	7.087	0.05939
Discovery Burglary	0.04466	0.07423	2.352	-0.02595
Involvement Larceny	0.21026	0.22155	30.915	0.18099
Discovery Larceny	0.03647	0.05372	1.378	-0.03546
Involvement Auto Theft	0.16850	0.04369	1.802	0.02953
Discovery Auto Theft	-0.01798	-0.01726	0.199	-0.07631
Constant	0.03150			

Multiple R: 0.22809
R Square: 0.05203
F: 6.34552

Sample: All Part I Crime
N: 934
Reference Group: Robbery

TABLE F-4

Dependent Variable: Delay Due to Contacting Security

Independent Variables	B	Beta	F	Simple r
Rape	0.07638	0.03560	1.130	0.02290
Assault	-0.01172	-0.01518	0.145	-0.05622
Involvement Burglary	0.00495	0.00426	0.014	-0.02039
Discovery Burglary	0.00287	0.00608	0.015	-0.07796
Involvement Larceny	0.04231	0.05683	1.983	0.02164
Discovery Larceny	0.08803	0.16530	12.719	0.14518
Involvement Auto Theft	-0.02362	-0.00781	0.056	-0.01708
Discovery Auto Theft	0.04395	0.05376	1.886	0.02149
Constant	0.02362			

Multiple R: 0.16621
R Square: 0.02763
F: 3.28489

Sample: All Part I Crime
N: 934
Reference Group: Robbery

TABLE F-5

Dependent Variable: Delay Due to Apathy

Independent Variables	B	Beta	F	Simple r
Rape	-0.04724	-0.01953	0.344	-0.02774
Assault	-0.01153	-0.01325	0.112	-0.03873
Involvement Burglary	0.06704	0.05115	2.051	0.03797
Discovery Burglary	-0.00089	-0.00167	0.001	-0.05560
Involvement Larceny	0.00770	0.00917	0.052	-0.01509
Discovery Larceny	0.08868	0.14769	10.274	0.14859
Involvement Auto Theft	0.35276	0.10340	9.955	0.09832
Discovery Auto Theft	-0.04724	-0.05126	1.735	-0.07822
Constant	0.04724			

Multiple R: 0.19767
R Square: 0.03907
F: 4.70143

Sample: All Part I Crime
N: 934
Reference Group: Robbery

TABLE F-6

Dependent Variable: Delay Due to Injury

Independent Variables	B	Beta	F	Simple r
Rape	0.18976	0.08159	8.696	0.10385
Assault	0.36595	0.43736	176.383	0.54520
Involvement Burglary	-0.11024	-0.08746	8.686	-0.05030
Discovery Burglary	-0.11024	-0.21540	28.301	-0.17623
Involvement Larceny	-0.11024	-0.13656	16.782	-0.08376
Discovery Larceny	-0.11024	-0.19094	24.870	-0.13561
Involvement Auto Theft	-0.11024	-0.03360	1.523	-0.01870
Discovery Auto Theft	-0.11024	-0.12438	14.801	-0.07478
Constant	0.11024			

Multiple R: 0.58012
R Square: 0.33654
F: 58.65196

Sample: All Part I Crime
N: 934
Reference Group: Robbery

TABLE F-7

Dependent Variable: Delay Due to Fear or Emotional Upset

Independent Variables	B	Beta	F	Simple r
Rape	0.37165	0.12371	14.192	0.16585
Assault	-0.04978	-0.04606	1.388	0.07270
Involvement Burglary	-0.14263	-0.08761	6.187	-0.01363
Discovery Burglary	-0.15219	-0.23023	22.950	-0.06910
Involvement Larceny	-0.16241	-0.15577	15.499	-0.04371
Discovery Larceny	-0.16524	-0.22158	23.775	-0.07563
Involvement Auto Theft	-0.02835	-0.00669	0.043	0.02205
Discovery Auto Theft	-0.17429	-0.15225	15.742	-0.05029
Constant	0.22835			

Multiple R: 0.25563
R Square: 0.06535
F: 8.08392

Sample: All Part I Crime
N: 934
Reference Group: Robbery

TABLE F-8

Dependent Variable: Delay Due to Public Communications Problems

Independent Variables	B	Beta	F	Simple r
Rape	0.08268	0.02035	0.380	0.06819
Assault	-0.17923	-0.12262	9.735	0.00916
Involvement Burglary	-0.24589	-0.11167	9.945	-0.02571
Discovery Burglary	-0.28818	-0.32235	44.507	-0.15997
Involvement Larceny	-0.15359	-0.10891	7.496	0.02972
Discovery Larceny	-0.16975	-0.16831	13.570	0.02756
Involvement Auto Theft	-0.41732	-0.07282	5.022	-0.03963
Discovery Auto Theft	-0.24165	-0.15608	16.366	-0.03524
Constant	0.41732			

Multiple R: 0.23497
R Square: 0.05521
F: 6.75673

Sample: All Part I Crime
N: 934
Reference Group: Robbery

TABLE F-9

Dependent Variable: Delay Due to Not Being Informed or Being Misinformed About the Incident

Independent Variables	B	Beta	F	Simple r
Rape	0.35276	0.11446	11.622	0.09397
Assault	0.03609	0.03255	0.663	-0.02989
Involvement Burglary	-0.01867	-0.01118	0.096	-0.05282
Discovery Burglary	0.08852	0.13053	7.058	0.04854
Involvement Larceny	0.06265	0.05857	2.096	-0.00373
Discovery Larceny	0.09839	0.12861	7.662	0.05390
Involvement Auto Theft	-0.04724	-0.01087	0.108	-0.02625
Discovery Auto Theft	0.04735	0.04032	1.056	-0.01747
Constant	0.04724			

Multiple R: 0.15167
R Square: 0.02300
F: 2.72237

Sample: All Part I Crime
N: 934
Reference Group: Robbery

Table F-10.-- T-test of proportional difference between types of crime for delay due to chasing suspect.

Type of Crime	Rape	Robbery	Aggravated Assault	Involvement Burglary	Involvement Larceny	Involvement Auto Theft	Discovery Burglary	Discovery Larceny	Discovery Auto Theft	Alarms
Rape		−1.19 p<.235	−0 34 p<.732	−1.26 p<.214	−2.77 p<.007	0.00 p<1.000	0.00 p<1.000	−0.38 p<.702	0.00 p<1.000	
Robbery			3.58 p<.001	−0.26 p<.04	−5.22 p<.001	0.84 p<.401	6.58 p<.001	3.63 p<.001	3.25 p<.001	
Aggravated Assault				−2.14 p<.039	−7.97 p<.001	0.24 p<.809	1.90 p<.058	−0.18 p<.861	0.94 p<.350	
Involvement Burglary					−3.73 p<.001	0.89 p<.379	7.07 p<.001	2.12 p<.041	3.48 p<.001	
Involvement Larceny						1.96 p<.053	15.35 p<.001	8.02 p<.001	7.57 p<.001	
Involvement Auto Theft							0.0 p<1.000	−0.27 p<.787	0.0 p<1.000	
Discovery Burglary								−2.11 p<.035	0.0 p<1.000	
Discovery Larceny									1.04 p<.298	
Discovery Auto Theft										
Alarms										

* The .01 level of statistical significance was required for inclusion of the mean or proportional difference in the text.
p=Probability that the difference is due to chance.

Table F-11.-- T-test of proportional difference between types of crime for delay due to investigating the incident scene.

Type of Crime	Rape	Robbery	Aggravated Assault	Involvement Burglary	Involvement Larceny	Involvement Auto Theft	Discovery Burglary	Discovery Larceny	Discovery Auto Theft	Alarms
Rape		−0.70 p<.486	−0.70 p<.486	−1.55 p<.130	−0.90 p<.368	0.00 p<1.000	−2.04 p<.042	−1.52 p<.130	−1.77 p<.080	
Robbery			−0.01 p<.990	−2.15 p<.038	−0.88 p<.382	0.49 p<.622	−7.64 p<.001	−4.27 p<.001	−3.65 p<.001	
Aggravated Assault				−2.10 p<.042	−0.80 p<.424	0.49 p<.622	−7.03 p<.001	−3.94 p<.001	−3.53 p<.001	
Involvement Burglary					1.66 p<.104	1.09 p<.283	−1.17 p<.241	0.15 p<.882	−0.50 p<.620	
Involvement Larceny						0.64 p<.525	−5.66 p<.001	−2.87 p<.005	−2.89 p<.005	
Involvement Auto Theft							−1.44 p<.151	−1.08 p<.283	−1.25 p<.215	
Discovery Burglary								2.78 p<.006	0.88 p<.381	
Discovery Larceny									−0.99 p<.325	
Discovery Auto Theft										
Alarms										

* The .01 level of statistical significance was required for inclusion of the mean or proportional difference in the text.
p=Probability that the difference is due to chance.

Table F-12.-- T-test of proportional difference between types of crime for delay due to waiting or observing the situation.

Type of Crime	Rape	Robbery	Aggravated Assault	Involvement Burglary	Involvement Larceny	Involvement Auto Theft	Discovery Burglary	Discovery Larceny	Discovery Auto Theft	Alarms
Rape		1.75 p<.114	1.39 p<.194	0.88 p<.382	0.40 p<.689	0.39 p<.705	1.46 p<.179	1.51 p<.136	1.87 p<.095	
Robbery			−1.52 p<.131	−2.10 p<.042	−4.40 p<.001	−0.84 p<.448	−2.05 p<.041	−1.55 p<.121	0.87 p<.384	
Aggravated Assault				−1.23 p<.223	−2.91 p<.004	−0.88 p<.381	0.22 p<.829	0.46 p<.648	2.10 p<.038	
Involvement Burglary					−0.85 p<.399	−0.15 p<.833	1.43 p<.160	1.54 p<.130	2.39 p<.022	
Involvement Larceny						0.21 p<.833	3.48 p<.001	3.59 p<.001	4.84 p<.001	
Involvement Auto Theft							0.62 p<.570	0.66 p<.547	0.93 p<.405	
Discovery Burglary								0.35 p<.728	3.07 p<.002	
Discovery Larceny									2.46 p<.015	
Discovery Auto Theft										
Alarms										

* The .01 level of statistical significance was required for inclusion of the mean or proportional difference in the text.
p = Probability that the difference is due to chance.

Table F-13.-- T-test of proportional difference between types of crime for delay due to contacting security.

Type of Crime	Rape	Robbery	Aggravated Assault	Involvement Burglary	Involvement Larceny	Involvement Auto Theft	Discovery Burglary	Discovery Larceny	Discovery Auto Theft	Alarms
Rape		0.76 p<.468	0.87 p<.404	0.69 p<.506	0.40 p<.691	0.69 p<.500	0.73 p<.483	-0.11 p<.909	0.37 p<.713	
Robbery			0.65 p<.516	-0.17 p<.868	-1.44 p<.153	0.35 p<.731	-0.17 p<.864	-3.41 p<.001	-1.36 p<.177	
Aggravated Assault				-0.54 p<.593	-1.88 p<.062	0.24 p<.809	-0.97 p<.335	-3.99 p<.001	-1.76 p<.082	
Involvement Burglary					-0.96 p<.337	0.37 p<.711	0.07 p<.943	-2.30 p<.024	-0.95 p<.344	
Involvement Larceny						0.59 p<.558	1.42 p<.158	-1.34 p<.182	-0.04 p<.967	
Involvement Auto Theft							-0.37 p<.713	-0.79 p<.431	-0.59 p<.554	
Discovery Burglary								-3.57 p<.001	-1.33 p<.186	
Discovery Larceny									1.20 p<.231	
Discovery Auto Theft										
Alarms										

* The .01 level of statistical significance was required for inclusion of the mean or proportional difference in the text.
p = Probability that the difference is due to chance.

Table F-14.-- T-test of proportional difference between types of crime for delay due to apathy.

Type of Crime	Rape	Robbery	Aggravated Assault	Involvement Burglary	Involvement Larceny	Involvement Auto Theft	Discovery Burglary	Discovery Larceny	Discovery Auto Theft	Alarms
Rape		-0.70 p<.486	-0.60 p<.549	-1.11 p<.273	-0.75 p<.452	-2.40 p<.032	-0.69 p<.488	-1.25 p<.213	0.00 p<1.000	
Robbery			0.40 p<.687	-1.16 p<.252	-0.26 p<.799	-1.44 p<.224	0.04 p<.968	-2.91 p<.004	1.91 p<.058	
Aggravated Assault				-1.35 p<.325	-0.61 p<.099	-1.48 p<.232	-0.42 p<.729	-3.19 p<.002	1.65 p<.102	
Involvement Burglary					1.00 p<.325	-1.69 p<.099	1.22 p<.232	-0.35 p<.729	3.06 p<.003	
Involvement Larceny						-1.40 p<.234	0.33 p<.739	-2.39 p<.018	2.06 p<.041	
Involvement Auto Theft							1.44 p<.223	1.67 p<.096	6.93 p<.001	
Discovery Burglary								-3.34 p<.001	1.89 p<.059	
Discovery Larceny									3.40 p<.001	
Discovery Auto Theft										
Alarms										

* The .01 level of statistical significance was required for inclusion of the mean or proportional difference in the text.
p = Probability that the difference is due to chance.

Table F-15.-- T-test of proportional difference between types of crime for delay due to injury.

Type of Crime	Rape	Robbery	Aggravated Assault	Involvement Burglary	Involvement Larceny	Involvement Auto Theft	Discovery Burglary	Discovery Larceny	Discovery Auto Theft	Alarms
Rape		1.22 p<.250	-1.05 p<.295	3.79 p<.001	6.18 p<.001	1.36 p<.196	11.34 p<.001	9.35 p<.001	5.56 p<.001	
Robbery			-5.95 p<.001	2.07 p<.040	3.34 p<.001	0.78 p<.436	6.10 p<.001	5.04 p<.001	3.01 p<.003	
Aggravated Assault				5.59 p<.001	9.04 p<.001	2.11 p<.038	16.53 p<.001	13.64 p<.001	8.15 p<.001	
Involvement Burglary					0.00 p<1.000	0.00 p<1.000	0.00 p<1.000	0.00 p<1.000	0.00 p<1.000	
Involvement Larceny						0.00 p<1.000	0.00 p<1.000	0.00 p<1.000	0.00 p<1.000	
Involvement Auto Theft							0.00 p<1.000	0.00 p<1.000	0.00 p<1.000	
Discovery Burglary								0.00 p<1.000	0.00 p<1.000	
Discovery Larceny									0.00 p<1.000	
Discovery Auto Theft										
Alarms										

* The 01 level of statistical significance was required for inclusion of the mean or proportional difference in the text.
p=Probability that the difference is due to chance.

Table F-16.-- T-test of proportional difference between types of crime for delay due to emotional shock.

Type of Crime	Rape	Robbery	Aggravated Assault	Involvement Burglary	Involvement Larceny	Involvement Auto Theft	Discovery Burglary	Discovery Larceny	Discovery Auto Theft	Alarms
Rape		2.64 p<.009	3.15 p<.002	3.02 p<.012	3.23 p<.010	1.47 p<.165	3.19 p<.011	3.27 p<.010	3.30 p<.009	
Robbery			0.87 p<.386	2.34 p<.022	3.56 p<.001	0.15 p<.883	3.77 p<.001	4.02 p<.001	3.80 p<.001	
Aggravated Assault				1.46 p<.149	2.27 p<.024	-0.12 p<.905	2.29 p<.024	2.55 p<.012	2.51 p<.013	
Involvement Burglary					0.38 p<.702	-0.78 p<.439	0.20 p<.842	0.49 p<.621	0.62 p<.533	
Involvement Larceny						-0.66 p<.543	-0.33 p<.744	0.09 p<.927	0.32 p<.752	
Involvement Auto Theft							0.62 p<.570	0.68 p<.533	0.72 p<.509	
Discovery Burglary								0.56 p<.574	0.66 p<.510	
Discovery Larceny									0.28 p<.781	
Discovery Auto Theft										
Alarms										

* The .01 level of statistical significance was required for inclusion of the mean or proportional difference in the text.
p = Probabity that the difference is due to chance.

Table F-17.-- T-test of proportional difference between types of crime for delay due to public communications problems.

Type of Crime	Rape	Robbery	Aggravated Assault	Involvement Burglary	Involvement Larceny	Involvement Auto Theft	Discovery Burglary	Discovery Larceny	Discovery Auto Theft	Alarms
Rape		0.51 p<.614	1.78 p<.078	2.20 p<.033	1.57 p<.119	2.08 p<.058	2.21 p<.054	1.78 p<.076	2.40 p<.019	
Robbery			2.71 p<.007	2.72 p<.007	2.36 p<.019	1.88 p<.063	6.00 p<.001	3.29 p<.001	3.86 p<.001	
Aggravated Assault				0.80 p<.427	-0.39 p<.698	1.24 p<.220	2.15 p<.033	-0.17 p<.865	0.96 p<.339	
Involvement Burglary					-1.09 p<.280	0.99 p<.328	0.69 p<.488	-0.98 p<.329	-0.05 p<.957	
Involvement Larceny						1.32 p<.189	2.68 p<.008	0.29 p<.768	1.35 p<.180	
Involvement Auto Theft							-0.86 p<.391	-1.28 p<.203	-1.02 p<.311	
Discovery Burglary								-3.31 p<.001	-1.04 p<.300	
Discovery Larceny									1.26 p<.208	
Discovery Auto Theft										
Alarms										

* The 01 level of statistical significance was required for inclusion of the mean or proportional difference in the text.
p=Probability that the difference is due to chance.

Table F-18.-- T-test of proportional difference between types of crime for delay due to not being informed or being misinformed.

Type of Crime	Rape	Robbery	Aggravated Assault	Involvement Burglary	Involvement Larceny	Involvement Auto Theft	Discovery Burglary	Discovery Larceny	Discovery Auto Theft	Alarms
Rape		2.15 p<.060	1.91 p<.086	2.24 p<.049	1.74 p<.112	1.70 p<.113	1.61 p<.143	2.17 p<.031	1.83 p<.097	
Robbery			-1.01 p<.314	0.48 p<.633	-1.65 p<.101	0.49 p<.622	-3.24 p<.001	-3.17 p<.002	-1.29 p<.229	
Aggravated Assault				1.31 p<.192	-0.59 p<.556	0.67 p<.507	-1.45 p<.149	-1.59 p<.113	-0.25 p<.805	
Involvement Burglary					-1.86 p<.065	0.37 p<.711	-3.09 p<.003	-3.10 p<.003	-1.48 p<.142	
Involvement Larceny						0.78 p<.439	-0.64 p<.521	-0.83 p<.407	0.32 p<.750	
Involvement Auto Theft							-0.88 p<.378	-0.92 p<.359	-0.71 p<.478	
Discovery Burglary								-0.31 p<.753	0.95 p<.343	
Discovery Larceny									1.11 p<.268	
Discovery Auto Theft										
Alarms										

* The .01 level of statistical significance was required for inclusion of the mean or proportional difference in the text.
p= Probability that the difference is due to chance.

TABLE F-19

Dependent Variable: Whether the Citizen Owned, Rented, or Boarded

Independent Variables	B	Beta	F	Simple r
Rape	-0.13051	-0.02186	0.383	0.01069
Assault	0.00048	0.00021	0.000	0.09107
Involvement Burglary	-0.23792	-0.06480	3.030	-0.01247
Discovery Burglary	-0.25080	-0.18191	12.666	-0.06178
Involvement Larceny	-0.27923	-0.12514	8.919	-0.04230
Discovery Larceny	-0.23889	-0.15462	10.140	-0.03793
Involvement Auto Theft	-0.83051	-0.09865	8.060	-0.07611
Discovery Auto Theft	-0.22113	-0.09060	4.943	-0.01221
Constant	1.83051			

Multiple R: 0.17778
R Square: 0.03161
F: 3.39017

Sample: All Part I Crime
N: 840
Reference Group: Robbery

TABLE F-20

Dependent Variable: Marital Status

Independent Variables	B	Beta	F	Simple r
Rape	-0.14407	-0.03135	0.781	-0.00774
Assault	0.04607	0.02571	0.384	0.09448
Involvement Burglary	-0.23666	-0.08374	5.021	-0.04671
Discovery Burglary	-0.12043	-0.11334	4.886	-0.01613
Involvement Larceny	-0.20817	-0.12120	8.303	-0.06372
Discovery Larceny	-0.17286	-0.14533	8.893	-0.06962
Involvement Auto Theft	-0.04407	-0.00680	0.038	0.01007
Discovery Auto Theft	-0.06594	-0.03510	0.736	0.02475
Constant	0.64407			

Multiple R: 0.15911
R Square: 0.02531
F: 2.69458

Sample: All Part I Crime
N: 839
Reference Group: Robbery

TABLE F-21

Dependent Variable: Whether the Respondent was the Head of the Household

Independent Variables	B	Beta	F	Simple r
Rape	0.01356	0.00340	0.009	-0.01209
Assault	-0.01501	-0.00959	0.053	-0.05314
Involvement Burglary	-0.13089	-0.05339	2.031	-0.08096
Discovery Burglary	0.14812	0.15995	9.742	0.13952
Involvement Larceny	0.10577	0.07056	2.813	0.03280
Discovery Larceny	0.03314	0.03196	0.430	-0.03497
Involvement Auto Theft	0.11356	0.02020	0.334	0.00938
Discovery Auto Theft	0.00106	0.00065	0.000	-0.03994
Constant	0.68644			

Multiple R: 0.16872
R Square: 0.02847
F: 3.01445

Sample: All Part I Crime
N: 832
Reference Group: Robbery

TABLE F-22

Dependent Variable: Income

Independent Variables	B	Beta	F	Simple r
Rape	0.44058	0.01613	0.827	-0.00537
Assault	-0.60840	-0.04765	0.141	-0.10174
Involvement Burglary	-0.99275	-0.04843	0.881	-0.07933
Discovery Burglary	0.70993	0.09566	0.003	0.02519
Involvement Larceny	1.08619	0.09110	1.169	0.04645
Discovery Larceny	1.12729	0.13742	2.145	0.08674
Involvement Auto Theft	0.09058	0.00211	3.060	-0.01158
Discovery Auto Theft	0.57643	0.04679	4.914	-0.00074
Constant	7.15942			

Multiple R: 0.16464
R Square: 0.02711
F: 2.06531

Sample: All Part I Crime
N: 602
Reference Group: Robbery

TABLE F-23

Dependent Variable: Race

Independent Variables	B	Beta	F	Simple r
Rape	-0.00442	-0.00098	0.001	0.01248
Assault	0.12244	0.06761	2.689	0.01981
Involvement Burglary	-0.11981	-0.04232	1.294	-0.02178
Discovery Burglary	0.01763	0.01672	0.106	0.11054
Involvement Larceny	-0.13956	-0.08061	3.713	-0.05046
Discovery Larceny	-0.25037	-0.21089	18.749	-0.20716
Involvement Auto Theft	0.29558	0.04639	1.784	0.05617
Discovery Auto Theft	-0.05827	-0.03173	0.597	0.00109
Constant	0.50442			

Multiple R: 0.24598
R Square: 0.06051
F: 6.50492

Sample: All Part I Crime
N: 817
Reference Group: Robbery

TABLE F-24

Dependent Variable: Sex

Independent Variables	B	Beta	F	Simple r
Rape	0.07627	0.01669	0.222	0.01477
Assault	0.05514	0.03096	0.557	0.02792
Involvement Burglary	0.09479	0.03374	0.816	0.03133
Discovery Burglary	0.07082	0.06706	1.712	0.08618
Involvement Larceny	-0.10322	-0.06045	2.068	-0.07284
Discovery Larceny	-0.03629	-0.03070	0.397	-0.05025
Involvement Auto Theft	0.57627	0.08945	6.584	0.08849
Discovery Auto Theft	-0.10065	-0.05427	1.755	-0.06444
Constant	0.42373			

Multiple R: 0.15908
R Square: 0.02531
F: 2.69693

Sample: All Part I Crime
N: 840
Reference Group: Robbery

Table F-25.-- T-test of proportional difference between types of crime for tenure (own-rent-board).

Type of Crime	Rape	Robbery	Aggravated Assault	Involvement Burglary	Involvement Larceny	Involvement Auto Theft	Discovery Burglary	Discovery Larceny	Discovery Auto Theft	Alarms
Rape		-0.55 p<.581	-0.61 p<.545	0.42 p<.676	0.76 p<.451	2.28 p<.040	0.64 p<.519	0.49 p<.624	0.38 p<.705	
Robbery			0.00 p<.996	1.56 p<.121	3.01 p<.003	2.37 p<.011	3.35 p<.001	2.93 p<.004	1.99 p<.048	
Aggravated Assault				1.62 p<.108	2.83 p<.005	2.92 p<.005	3.21 p<.001	2.58 p<.011	1.93 p<.056	
Involvement Burglary					0.31 p<.761	1.88 p<.069	0.11 p<.913	0.01 p<.994	-0.10 p<.917	
Involvement Larceny						2.14 p<.035	-0.39 p<.700	-0.46 p<.645	-0.54 p<.589	
Involvement Auto Theft							-2.25 p<.025	-1.94 p<.054	-1.92 p<.059	
Discovery Burglary								-0.20 p<.843	-0.31 p<.755	
Discovery Larceny									-0.18 p<.858	
Discovery Auto Theft										
Alarms										

* The .01 level of statistical significance was required for inclusion of the mean or proportional difference in the text.
p = Probability that the difference is due to chance.

Table F-26.-- T-test of proportional difference between types of crime for marital status.

Type of Crime	Rape	Robbery	Aggravated Assault	Involvement Burglary	Involvement Larceny	Involvement Auto Theft	Discovery Burglary	Discovery Larceny	Discovery Auto Theft	Alarms
Rape		-0.90 p<.368	-1.19 p<.238	0.49 p<.625	0.38 p<.705	-0.34 p<.738	-0.15 p<.884	0.18 p<.860	-0.46 p<.648	
Robbery			-0.65 p<.519	2.29 p<.024	2.92 p<.004	0.20 p<.842	2.21 p<.028	2.99 p<.003	0.87 p<.384	
Aggravated Assault				2.63 p<.010	3.21 p<.002	0.41 p<.680	2.53 p<.012	3.21 p<.002	1.35 p<.179	
Involvement Burglary					-0.26 p<.799	-0.78 p<.442	-1.15 p<.250	-0.62 p<.536	-1.49 p<.139	
Involvement Larceny						-0.71 p<.480	-1.37 p<.172	-0.53 p<.600	-1.69 p<.093	
Involvement Auto Theft							0.34 p<.736	0.57 p<.571	0.09 p<.925	
Discovery Burglary								1.11 p<.267	-0.79 p<.433	
Discovery Larceny									-1.48 p<.140	
Discovery Auto Theft										
Alarms										

* The .01 level of statistical significance was required for inclusion of the mean or proportional difference in the text.
p = Probability that the difference is due to chance.

Table F - 27.-- T-test of proportional difference between types of crime for head of household.

Type of Crime	Rape	Robbery	Aggravated Assault	Involvement Burglary	Involvement Larceny	Involvement Auto Theft	Discovery Burglary	Discovery Larceny	Discovery Auto Theft	Alarms
Rape		0.09 p<.930	0.18 p<.859	0.78 p<.441	-0.66 p<.512	-0.39 p<.705	-1.11 p<.268	-0.13 p<.894	0.08 p<.938	
Robbery			0.21 p<.832	1.30 p<.197	-1.63 p<.106	-0.53 p<.594	-3.06 p<.003	-0.62 p<.537	-0.01 p<.988	
Aggravated Assault				1.06 p<.292	-1.66 p<.099	-0.59 p<.558	-2.68 p<.009	-0.75 p<.452	-0.20 p<.844	
Involvement Burglary					-2.43 p<.017	-1.01 p<.322	-2.79 p<.009	-1.74 p<.083	-1.20 p<.223	
Involvement Larceny						-0.04 p<.967	-0.86 p<.389	1.22 p<.222	1.42 p<.158	
Involvement Auto Theft							-0.21 p<.838	0.39 p<.694	0.52 p<.605	
Discovery Burglary								2.89 p<.004	2.35 p<.021	
Discovery Larceny									0.49 p<.626	
Discovery Auto Theft										
Alarms										

* The .01 level of statistical significance was required for inclusion of the mean or proportional difference in the text.
p = Probability that the difference is due to chance.

Table F - 28.-- T-test of proportional difference between types of crime for income.

Type of Crime	Rape	Robbery	Aggravated Assault	Involvement Burglary	Involvement Larceny	Involvement Auto Theft	Discovery Burglary	Discovery Larceny	Discovery Auto Theft	Alarms
Rape		0.35 p<.724	0.82 p<.416	1.00 p<.326	-0.54 p<.588	0.16 p<.879	-0.24 p<.809	-0.62 p<.536	-0.11 p<.916	
Robbery			0.89 p<.373	1.04 p<.301	-1.72 p<.088	-0.05 p<.961	-1.47 p<.144	-2.23 p<.027	-0.86 p<.389	
Aggravated Assault				0.39 p<.699	-2.48 p<.015	-0.37 p<.712	-2.39 p<.017	-3.06 p<.003	-1.64 p<.105	
Involvement Burglary					-2.27 p<.026	-0.57 p<.574	-2.03 p<.044	-2.53 p<.013	-1.59 p<.116	
Involvement Larceny						0.57 p<.570	0.74 p<.462	-0.08 p<.938	0.76 p<.449	
Involvement Auto Theft							-0.36 p<.719	-0.61 p<.542	-0.26 p<.798	
Discovery Burglary								-1.13 p<.261	0.25 p<.803	
Discovery Larceny									1.00 p<.320	
Discovery Auto Theft										
Alarms										

* The 01 level of statistical significance was required for inclusion of the mean or proportional difference in the text.
p= Probability that the difference is due to chance.

Table F - 29.-- T-test of proportional difference between types of crime for race.

Type of Crime	Rape	Robbery	Aggravated Assault	Involvement Burglary	Involvement Larceny	Involvement Auto Theft	Discovery Burglary	Discovery Larceny	Discovery Auto Theft	Alarms
Rape		−0.03 p<.979	−0.76 p<.449	0.61 p<.543	0.82 p<.415	−1.09 p<.297	0.14 p<.891	1.72 p<.088	0.31 p<.754	
Robbery			−1.60 p<.112	1.10 p<.274	1.88 p<.061	−1.29 p<.199	−0.31 p<.753	4.53 p<.001	0.75 p<.457	
Aggravated Assault				2.14 p<.035	3.20 p<.002	−0.77 p<.444	1.54 p<.124	5.80 p<.001	2.10 p<.038	
Involvement Burglary					0.18 p<.859	−1.74 p<.093	−1.34 p<.182	1.40 p<.162	−0.53 p<.597	
Involvement Larceny						−1.95 p<.055	−2.41 p<.016	1.79 p<.075	−0.97 p<.333	
Involvement Auto Theft							1.23 p<.219	2.76 p<.006	1.53 p<.130	
Discovery Burglary								6.07 p<.001	1.10 p<.273	
Discovery Larceny									−2.93 p<.004	
Discovery Auto Theft										
Alarms										

* The .01 level of statistical significance was required for inclusion of the mean or proportional difference in the text.
p= Probability that the difference is due to chance.

Table F - 30.-- T-test of proportional difference between types of crime for sex.

Type of Crime	Rape	Robbery	Aggravated Assault	Involvement Burglary	Involvement Larceny	Involvement Auto Theft	Discovery Burglary	Discovery Larceny	Discovery Auto Theft	Alarms
Rape		0.46 p<.643	0.12 p<.902	-0.10 p<.923	1.12 p<.265	-2.08 p<.058	0.03 p<.973	0.71 p<.480	1.09 p<.280	
Robbery			-0.74 p<.463	-0.89 p<.374	1.46 p<.147	-2.59 p<.011	-1.29 p<.198	0.63 p<.529	1.34 p<.183	
Aggravated Assault				-0.35 p<.729	1.99 p<.049	-2.30 p<.024	-0.23 p<.814	1.34 p<.183	1.86 p<.065	
Involvement Burglary					1.85 p<.068	-2.09 p<.046	0.24 p<.813	1.30 p<.195	1.77 p<.080	
Involvement Larceny						-3.22 p<.002	-2.75 p<.006	-1.03 p<.304	-0.03 p<.974	
Involvement Auto Theft							2.25 p<.025	2.80 p<.006	3.19 p<.002	
Discovery Burglary								2.29 p<.022	2.51 p<.013	
Discovery Larceny									0.93 p<.356	
Discovery Auto Theft										
Alarms										

* The .01 level of statistical significance was required for inclusion of the mean or proportional difference in the text.
p = Probability that the difference is due to chance.

TABLE F-31

Dependent Variable: Delay Due to Talking to Another Person

Independent Variables	B	Beta	F	Simple r
Residence in K.C., Mo.	0.00030	0.00935	0.034	-0.09410
Residence at Present Address	-0.00608	-0.10871	5.208	-0.11515
Hometown Population	-0.01481	-0.07860	3.587	-0.09070
Own-Rent-Board	0.01347	0.01734	0.177	0.06367
Head of Household	-0.09820	-0.08746	5.193	-0.08141
Constant	0.75177			

Multiple R: 0.16429
R Square: 0.02699
F: 3.80605

Sample: All Part I Crime
N: 692

CONTINUED

3 OF 4

TABLE F-32

Dependent Variable: Delay Due to Chasing Suspect

Independent Variables	B	Beta	F	Simple r
(1) Own-Rent-Board	-0.07364	-0.19015	4.854	0.02767
(2) Socioeconomic Rating	-0.00286	-0.29930	1.121	0.01834
(3) Age	0.00200	0.12149	1.888	-0.02230
(4) Education	-0.01090	-0.09866	0.972	0.05234
(5) Head of Household	-0.09572	-0.15980	2.148	0.03379
(6) Income	0.01255	0.18455	1.706	0.03749
(7) Race	-0.11256	-0.23388	4.958	-0.01161
(8) Sex	-0.15143	-0.31295	6.168	-0.06256
Variable 2 Squared	-0.00004	-0.27302	4.260	-0.01806
Interaction of Variables 1 and 2	0.00179	0.32168	5.227	0.05928
Interaction of Variables 1 and 8	0.07562	0.28146	4.999	-0.02674
Interaction of Variables 2 and 3	0.00007	0.29525	3.366	0.00223
Interaction of Variables 3 and 6	-0.00057	-0.40273	5.921	-0.00906
Interaction of Variables 4 and 5	0.02094	0.24655	2.977	0.06866
Interaction of Variables 6 and 7	0.01512	0.25920	6.296	0.06202
Constant	0.21339			

Multiple R:	0.24284	Sample:	All Part I Crime
R Square:	0.05897	N:	582
F:	2.36456		

TABLE F-31

Dependent Variable: Delay Due to Talking to Another Person

Independent Variables	B	Beta	F	Simple r
Residence in K.C., Mo.	0.00030	0.00935	0.034	-0.09410
Residence at Present Address	-0.00608	-0.10871	5.208	-0.11515
Hometown Population	-0.01481	-0.07860	3.587	-0.09070
Own-Rent-Board	0.01347	0.01734	0.177	0.06367
Head of Household	-0.09820	-0.08746	5.193	-0.08141
Constant	0.75177			

Multiple R: 0.16429
R Square: 0.02699
F: 3.80605

Sample: All Part I Crime
N: 692

TABLE F-33

Dependent Variable: Delay Due to Investigating Incident Scene

Independent Variables	B	Beta	F	Simple r
(1) Present Address	-0.00809	-0.16580	8.146	-0.03994
(2) Hometown Population	-0.12897	-0.94824	10.752	0.01412
(3) Marital Status	-0.03627	-0.04578	0.565	-0.02128
(4) Socioeconomic Rating	-0.00052	-0.03256	0.301	0.05730
(5) Education	-0.01268	-0.06927	1.478	-0.00810
(6) Income	0.00515	0.04510	0.666	0.04928
(7) Sex	-0.12216	-0.15190	1.513	0.01970
Variable 2 Squared	0.01048	0.98155	11.471	0.03395
Interaction of Variables 1 and 4	0.00020	0.16510	6.587	0.07714
Interaction of Variables 3 and 7	0.07679	0.08829	1.073	0.02759
Interaction of Variables 5 and 7	0.01770	0.12140	1.164	0.03241
Constant	0.52460			

Multiple R: 0.21111
R Square: 0.04457
F: 2.28570

Sample: All Part I Crime
N: 551

TABLE F-34

Dependent Variable: Delay Due to Waiting or Observing the Situation

Independent Variables	B	Beta	F	Simple r
(1) Residence in K.C., Mo.	-0.00012	-0.00584	0.002	-0.01154
(2) Hometown Population	-0.03623	-0.34281	6.784	-0.04601
(3) Index Rating	0.00160	0.13018	3.308	0.02389
(4) Age	-0.00404	-0.19771	3.538	-0.02788
(5) Education	-0.06064	-0.43585	8.850	-0.02186
(6) Income	-0.01092	-0.12467	1.015	0.06059
(7) Sex	0.06180	0.10138	2.170	-0.02571
Interaction of Variables 1 and 5	0.00023	0.06225	0.249	0.02105
Interaction of Variables 2 and 5	0.00550	0.42013	4.921	-0.01388
Interaction of Variables 3 and 7	-0.00262	-0.18993	5.588	-0.06678
Interaction of Variables 4 and 6	0.00041	0.22275	2.230	0.06061
Constant	0.53918			

Multiple R:	0.21329	Sample:	All Part I Crime
R Square:	0.04549	N:	491
F:	2.07533		

TABLE F-35

Dependent Variable: Delay Due to Apathy

Independent Variables	B	Beta	F	Simple r
(1) Residence at Present Address	0.00649	0.21888	3.458	0.03050
(2) Own-Rent-Board	0.07767	0.19637	4.728	-0.04238
(3) Socioeconomic Rating	0.00363	0.35392	16.475	0.08546
(4) Age	0.00027	0.01635	0.094	0.01233
(5) Education	0.03176	0.26844	7.002	0.00427
(6) Head of Household	0.06179	0.10430	4.293	-0.00200
(7) Race	0.05668	0.11016	1.555	-0.03657
Interaction of Variables 1 and 4	-0.00010	-0.20895	2.515	0.00658
Interaction of Variables 2 and 5	-0.01935	-0.35511	8.453	-0.05193
Interaction of Variables 3 and 6	-0.00321	-0.31937	12.140	0.02271
Interaction of Variables 3 and 7	-0.00054	-0.03821	0.390	-0.01213
Interaction of Variables 5 and 7	-0.01248	-0.12220	1.614	-0.05667
Constant	-0.15035			

Multiple R:	0.20715	Sample:	All Part I Crime
R Square:	0.04291	N:	798
F:	2.93307		

TABLE F-36

Dependent Variable: Delay Due to Fear or Emotional Upset

Independent Variables	B	Beta	F	Simple r
(1) Residence in K.C., Mo.	0.00991	0.46075	4.098	-0.01635
(2) Hometown Population	0.01703	0.14849	3.013	-0.04985
(3) Own-Rent-Board	0.06034	0.11091	4.119	0.11102
(4) Marital Status	0.22295	0.33996	2.881	0.03649
(5) Age	0.00223	0.10149	1.143	-0.01844
(6) Head of Household	-0.16955	-0.21152	8.868	-0.19645
(7) Income	-0.00099	-0.01044	0.040	-0.06583
(8) Sex	0.03874	0.05907	1.135	0.12779
Interaction of Variables 1 and 2	-0.00101	-0.49446	4.650	-0.04623
Interaction of Variables 1 and 4	-0.00016	-0.00784	0.003	-0.01917
Interaction of Variables 2 and 4	-0.02106	-0.30479	3.309	-0.00885
Interaction of Variables 4 and 5	-0.00265	-0.17299	0.958	-0.00370
Interaction of Variables 4 and 6	0.07526	0.11546	0.895	-0.02430
Constant	-0.09456			

Multiple R: 0.28503
R Square: 0.08124
F: 3.23763

Sample: All Part I Crime
N: 490

TABLE F-37

Dependent Variable: Delay Due to Police Communications Problems

Independent Variables	B	Beta	F	Simple r
Residence at Present Address	-0.00166	-0.05658	2.574	-0.07468
Marital Status	0.03115	0.06108	2.934	0.08324
Race	0.03808	0.07432	4.325	0.09474
Constant	0.04765			

Multiple R: 0.12787
R Square: 0.01635
F: 4.51579

Sample: All Part I Crime
N: 819

TABLE F-38

Dependent Variable: Reporting Time, Logarithm

Independent Variables	B	Beta	F	Simple r
(1) Residence in K.C., Mo.	-0.00871	-0.18080	1.389	-0.03043
(2) Residence at Present Address	0.00515	0.05741	0.591	0.01547
(3) Own-Rent-Board	0.18717	0.15516	1.857	-0.05277
(4) Marital Status	0.24768	0.16995	4.075	0.02176
(5) Socioeconomic Rating	-0.00634	-0.21626	2.307	0.03785
(6) Education	-0.08633	-0.25849	0.885	0.03195
(7) Income	-0.00150	-0.00720	0.007	0.07221
Variable 5 Squared	0.00009	0.21871	2.419	0.06351
Variable 6 Squared	0.01553	0.49795	3.816	0.04692
Interaction of Variables 1 and 4	-0.00412	-0.08795	0.524	-0.04490
Interaction of Variables 1 and 7	0.00112	0.21063	2.727	0.05340
Interaction of Variables 2 and 4	-0.00358	-0.03103	0.145	-0.02340
Interaction of Variables 3 and 6	-0.05223	-0.34439	4.483	-0.03476
Constant	1.28379			

Multiple R: 0.22379
R Square: 0.05008
F: 2.03989

Sample: All Part I Crime
N: 516

TABLE F-39

Dependent Variable: Reporting Time, Logarithm

Independent Variables	B	Beta	F	Simple r
Rape	-0.13654	-0.01842	0.376	-0.01080
Assault	-0.07071	-0.02729	0.521	-0.08027
Involvement Burglary	-0.26633	-0.06983	4.615	-0.13022
Discovery Burglary	0.31370	0.19986	18.112	0.18805
Involvement Larceny	0.06751	0.02720	0.484	-0.07947
Discovery Larceny	0.37985	0.21465	24.340	0.16783
Involvement Auto Theft	-0.19564	-0.01765	0.366	0.00245
Discovery Auto Theft	0.26569	0.09588	7.339	0.00035
(1) Telephoning Delay	0.39006	0.16181	23.889	0.22829
(2) Talking Delay	0.08403	0.05703	3.208	0.06552
(3) Chasing Delay	0.02354	0.00809	0.055	-0.09450
(4) Investigating Delay	0.16209	0.08607	7.672	0.13809
(5) Waiting-Observing Delay	0.22761	0.08786	4.747	0.19989
(6) Contacting Security	0.38806	0.11591	12.212	0.06986
(7) Apathy Delay	0.55820	0.19031	29.713	0.25686
(8) Being Unsure of the Police	0.26947	0.09659	9.263	0.19623
(9) Injury Delay	0.20737	0.06503	3.440	-0.00175
(10) Fear-Emotional Upset Delay	-0.03042	-0.01297	0.181	-0.06163
(11) Public Communications Delay	-0.01338	-0.00764	0.059	-0.09095
(12) Police Communications Delay	0.09724	0.03290	1.124	0.05731
(13) Not Being Informed-Being Misinformed	0.53413	0.23259	21.524	0.20453
(14) Residence in K.C., Mo.	0.00181	0.03450	0.106	-0.01354
(15) Residence at Present Address	0.00489	0.05429	1.256	0.00879
(16) Own-Rent-Board	0.05211	0.04384	0.341	-0.04548
(17) Marital Status	0.29820	0.19233	11.144	0.02236
(18) Socioeconomic Rating	0.00030	0.00968	0.011	0.02015
(19) Education	-0.02275	-0.06325	0.145	0.03612

Independent Variables	B	Beta	F	Simple r
(20) Income	-0.00527	-0.02004	0.127	0.04858
Interaction of Variables 1 and 5	0.05672	0.01077	0.077	0.25329
Interaction of Variables 1 and 6	-1.05247	-0.12539	14.047	-0.03533
Interaction of Variables 2 and 13	-0.15235	-0.05498	1.170	0.12946
Interaction of Variables 3 and 5	-0.30815	-0.04158	1.550	-0.04770
Interaction of Variables 4 and 5	0.15384	0.02393	0.500	0.17550
Interaction of Variables 4 and 6	-0.23741	-0.02620	0.675	0.01234
Interaction of Variables 5 and 7	0.17132	0.02665	0.470	0.25124
Interaction of Variables 5 and 8	0.69873	0.10869	8.608	0.24295
Interaction of Variables 5 and 9	0.63719	0.05748	3.247	0.12019
Interaction of Variables 5 and 12	0.78525	0.08666	6.598	0.14251
Interaction of Variables 6 and 7	-0.01310	-0.00102	0.001	0.04986
Interaction of Variables 7 and 10	-0.28075	-0.02195	0.476	-0.01971
Interaction of Variables 7 and 12	-0.98881	-0.10913	10.865	0.02626
Interaction of Variables 11 and 13	-0.47164	-0.09878	8.679	-0.00075
Variable 18 Squared	-0.00001	-0.02218	0.059	0.04814
Variable 19 Squared	0.00601	0.17663	1.309	0.05121
Interaction of Variables 14 and 17	-0.00753	-0.14584	3.677	-0.02689
Interaction of Variables 14 and 20	0.00017	0.02776	0.089	0.03652
Interaction of Variables 15 and 17	-0.00547	-0.04616	0.777	-0.03417
Interaction of Variables 16 and 19	-0.01803	-0.10937	1.178	-0.02292
Constant	0.64944			

Multiple R:	0.58066	Sample:	All Part I Crime
R Square:	0.33716	N:	516
F:	9.04991	Reference Group:	Robbery

TABLE F-40

Dependent Variable: Reporting Time, Logarithm

Independent Variables	B	Beta	F	Simple r
Rape	-0.08321	-0.01123	0.142	-0.01080
Assault	-0.06251	-0.02413	0.408	-0.08027
Involvement Burglary	-0.24825	-0.06509	4.075	-0.13022
Discovery Burglary	0.32730	0.20852	19.916	0.11805
Involvement Larceny	0.06324	0.02548	0.429	-0.07947
Discovery Larceny	0.39432	0.22282	26.599	0.16783
Involvement Auto Theft	-0.10384	-0.00937	0.104	0.00245
Discovery Auto Theft	0.29512	0.10650	9.149	0.00035
(1) Telephoning Delay	0.38574	0.16002	23.557	0.22829
(2) Talking Delay	0.08148	0.05530	3.119	0.06552
(3) Chasing Delay	0.04173	0.01433	0.174	-0.09450
(4) Investigating Delay	0.15253	0.08100	6.864	0.13809
(5) Waiting-Observing Delay	0.21714	0.08382	4.350	0.19989
(6) Contacting Security	0.38285	0.11435	12.005	0.06986
(7) Apathy Delay	0.57880	0.19733	32.567	0.25686
(8) Being Unsure of the Police	0.28575	0.10243	10.522	0.19623
(9) Injury Delay	0.22148	0.06945	3.962	-0.00175
(10) Fear-Emotional Upset Delay	-0.01389	-0.00592	0.038	-0.06163
(11) Public Communications Delay	-0.00906	-0.00517	0.027	-0.09095
(12) Police Communications Delay	0.11492	0.03888	1.585	0.05731
(13) Not Being Informed-Being Misinformed	0.55765	0.24283	23.694	0.20453
Interaction of Variables 1 and 5	0.10799	0.02050	0.281	0.25329
Interaction of Variables 1 and 6	-1.05175	-0.12530	14.223	-0.03533
Interaction of Variables 2 and 13	-0.18885	-0.06815	1.828	0.12946

Independent Variables	B	Beta	F	Simple r
Interaction of Variables 3 and 5	-0.32024	-0.04321	1.687	-0.04770
Interaction of Variables 4 and 5	0.19587	0.03047	0.810	0.17550
Interaction of Variables 4 and 6	-0.15867	-0.01751	0.308	0.01234
Interaction of Variables 5 and 7	0.12518	0.01947	0.253	0.25124
Interaction of Variables 5 and 8	0.66090	0.10280	7.757	0.24295
Interaction of Variables 5 and 9	0.62104	0.05602	3.096	0.12019
Interaction of Variables 5 and 12	0.74950	0.08272	6.118	0.14251
Interaction of Variables 6 and 7	0.05186	0.00405	0.016	0.04986
Interaction of Variables 7 and 10	-0.24211	-0.01893	0.355	-0.01971
Interaction of Variables 7 and 12	-0.96322	-0.10630	10.373	0.02626
Interaction of Variables 11 and 13	-0.45777	-0.09587	8.221	-0.00075
Constant	0.74576			

Multiple R: 0.56824
R Square: 0.32289
F: 11.81278

Sample: All Part I Crime
N: 903
Reference Group: Robbery

Appendix G

Summary Statistics for Process of Reporting

Interview Completion Rates

Using information gained by the observers and tape analysts, victims of incidents and citizens who contacted police about incidents were interviewed to get information about the length of crime occurrence, the length of time taken to report the crime, problems encountered and patterns followed during this reporting delay, and socio-demographic information about victims of crimes and about the persons reporting crimes.

Citizens interviewed were divided into three groups, victims, victims who called police, or victim-callers, and witnesses who called police and citizens who called police only, or witness callers/callers. Field procedures did not allow field observers to question citizens about their relationship to a crime so observers got victim identities from police offense reports and relied upon police officer inquiries to get the identities of the citizens who called police about the incidents, if those citizens were not also the victim.

Through tape content analysis, it was determined that in 20 to 25 percent of the Part I cases, police inquiries had not accurately determined the name of the person who initially called police about the incident. In some cases, someone else had contacted police; in some cases the victim was listed as calling the police when it had been the victim's spouse who had contacted the police; and in some cases the listed caller had not been the first person to contact police about the incident. A caller was not considered eligible for an interview unless their call had instigated the police response to the incident.

Completion rates were computed for the follow-up interviews based upon corrected field information. If the person originally listed as the citizen-caller was later determined not to be the citizen-caller, he was excluded from the computation. However, citizens determined through tape analysis to be the actual

citizen-caller, but who could not be located by interviewers, were considered eligible citizen-callers and included in the computation. To be eligible for an interview, citizens also had to be 12-years-of-age or older, must not be a suspect to the offense committed, and must have been at the scene of the incident when police arrived.

There were 1,097 eligible citizens. Follow-up interviews were completed for all but 101, or for 90.8 percent of the citizens. Figure G-1 gives the frequencies of citizens interviewed by type of crime.

Of the 101 citizens not interviewed, 3 were not interviewed because of insufficient identification by field observers; 73 were not interviewed because the interviewers could not locate the citizens by phone or in person; 9 could not remember the incident; 1 citizen refused an interview, and 15 were not interviewed for miscellaneous reasons. The citizens who could not be located were listed as such only after it was determined they had given incorrect names and addresses to the officer or had moved without leaving a forwarding address.

The follow-up completion rate by incident, i.e., percent of those cases for which either a victim-caller phone survey or both a victim and a witness-caller survey was completed, was 68.4 percent. The difference between incident and citizen completion rates was primarily due to incidents where a victim or witness-caller were not at the incident scene when police arrived, making them ineligible for an interview and so preventing an interview from being completed for that particular incident.

The follow-up completion rate by incident for each type of crime were 60.0 percent for rape, 65.4 percent for robbery, 40.5 percent for aggravated assault, 71.3 percent for burglary, 71.7 percent for larceny, and 78.5 percent for auto theft.

Table G-1.-- Completion results for citizen follow-up interviews.

Crime Category	Victim			Witness		
	Eligible	Competed	Percent	Eligible	Competed	Percent
Rape	9	8	88.9	8	8	100.0
Robbery	123	114	92.7	43	38	88.4
Aggravated Assault	76	62	81.6	38	32	84.2
Burglary	300	279	93.0	76	67	88.1
Larceny	271	251	93.0	70	62	88.6
Auto Theft	76	68	89.5	8	8	100.0
Total	855	774	90.5	243	215	88.5

Table G - 2.-- T-test of proportional difference between types of telephones used for length of residence, tenure(own-rent-board), marital status, and type of work.

Length of residence of present address

Type of Telephone Used	Pay Telephone	Own Home Telephone	Business Telephone	Other Person's Telephone
Pay Telephone		-1.95 p<.052	-0.10 p<.918	0.09 p<.932
Own Home Telephone			3.81 p<.001	3.27 p<.001
Business Telephone				0.27 p<.789
Other Person's Telephone				

Tenure (own-rent-board)

Pay Telephone	Own Home Telephone	Business Telephone	Other Person's Telephone
	3.37 p<.001	2.47 p<.014	-0.37 p<.716
		-0.95 p<.343	-5.12 p<.001
			-3.77 p<.001

Marital Status

Type of Telephone Used	Pay Telephone	Own Home Telephone	Business Telephone	Other Person's Telephone
Pay Telephone		0.63 p<.527	2.86 p<.005	-0.76 p<.451
Own Home Telephone			3.94 p<.001	-1.98 p<.048
Business Telephone				-4.81 p<.001
Other Person's Telephone				

Type of Work

Pay Telephone	Own Home Telephone	Business Telephone	Other Person's Telephone
	-0.19 p<.848	-4.61 p<.001	1.46 p<.147
		-7.19 p<.001	2.27 p<.024
			8.17 p<.001

Table G - 3.-- T-test of proportional difference between types of telephones used for age, education, head of household, and income.

Age

Type of Telephone Used	Pay Telephone	Own Home Telephone	Business Telephone	Other Person's Telephone
Pay Telephone		-3.09 p< .002	-2.68 p<.008	-1.29 p<.198
Own Home Telephone			1.49 p< .137	2.37 p<.018
Business Telephone				1.38 p<.168
Other Person's Telephone				

Education

Pay Telephone	Own Home Telephone	Business Telephone	Other Person's Telephone
	0.81 p< .417	-1.79 p< .075	1.50 p<.135
		-4.44 p<.001	1.10 p<.273
			4.25 p<.001

Head of Household

Type of Telephone Used	Pay Telephone	Own Home Telephone	Business Telephone	Other Person's Telephone
Pay Telephone		0.09 p< .929	-2.54 p<.013	-0.09 p<.929
Own Home Telephone			-5.33 p<.001	-0.25 p<.800
Business Telephone				3.29 p<.001
Other Person's Telephone				

Income

Pay Telephone	Own Home Telephone	Business Telephone	Other Person's Telephone
	0.42 p<.676	-2.99 p<.005	1.67 p<.099
		-7.49 p<.001	2.13 p<.034
			7.87 p<.001

Table G-4.-- T-test of proportional difference between types of telephones used for race and sex.

Race

Type of Telephone Used	Pay Telephone	Own Home Telephone	Business Telephone	Other Person's Telephone
Pay Telephone		-0.79 p<.430	2.64 p<.009	-1.31 p<.192
Own Home Telephone			5.72 p<.001	-0.94 p<.350
Business Telephone				-5.34 p<.001
Other Person's Telephone				

Sex

Pay Telephone	Own Home Telephone	Business Telephone	Other Person's Telephone
	-3.27 p<.001	1.48 p<.141	-1.66 p<.099
		8.50 p<.001	1.81 p<.072
			-4.38 p<.001

Table G-5.-- T-test of proportional difference between telephone numbers used for length of residence, tenure(own-rent-board), type of work, education, and age.

Length of residence in K.C., Mo.

Telephone Number Used	Crime Alert	Police Switchboard Operator	Telephone Company Operator
Crime Alert		1.18 p<.240	3.37 p<.001
Police Switchboard Operator			2.03 p<.044
Telephone Company Operator			

Length of residence at present address

Crime Alert	Police Switchboard Operator	Telephone Company Operator
	0.76 p<.448	3.63 p<.001
		2.64 p<.009

Tenure (own-rent-board)

Crime Alert	Police Switchboard Operator	Telephone Company Operator
	-1.19 p<.223	-3.31 p<.001
		-1.88 p<.061

Type of work

Telephone Number Used	Crime Alert	Police Switchboard Operator	Telephone Company Operator
Crime Alert		1.00 p<.319	3.90 p<.001
Police Switchboard Operator			2.69 p<.007
Telephone Company Operator			

Education

Crime Alert	Police Switchboard Operator	Telephone Company Operator
	0.26 p<.794	3.70 p<.001
		3.23 p<.001

Age

Crime Alert	Police Switchboard Operator	Telephone Company Operator
	0.46 p<.646	3.09 p<.002
		2.40 p<.017

Table G-6.-- T-test of proportional difference between telephone numbers used for head of household, income, and race.

Head of household

Telephone Number Used	Crime Alert	Police Switchboard Operator	Telephone Company Operator
Crime Alert		1.64 p<.101	3.77 p<.001
Police Switchboard Operator			2.00 p<.047
Telephone Company Operator			

Income

Crime Alert	Police Switchboard Operator	Telephone Company Operator
	-0.66 p<.512	3.22 p<.001
		3.64 p<.001

Race

Crime Alert	Police Switchboard Operator	Telephone Company Operator
	-1.34 p<.183	-3.66 p<.001
		-2.10 p<.036

Table G-7.-- T-test of proportional difference between ways telephone number known for length of residence, population of community, and tenure (own-rent-board).

Length of residence in Kansas City, Mo.

How Citizen Knew Number	Telephone Directory	Number Written Down	Memory	Telephone Company Operator
Telephone Directory		-3.08 p<.002	-2.96 p<.003	0.35 p<.730
Number Written Down			0.76 p<.448	3.74 p<.001
Memory				3.92 p<.001
Telephone Company Operator				

Length of residence at present address

Telephone Directory	Number Written Down	Memory	Telephone Company Operator
	-1.45 p<.148	-0.37 p<.711	1.64 p<.102
		1.31 p<.191	3.11 p<.002
			2.03 p<.043

Population of community of longest residence

How Citizen Knew Number	Telephone Directory	Number Written Down	Memory	Telephone Company Operator
Telephone Directory		-2.88 p<.004	-3.27 p<.001	-3.40 p<.001
Number Written Down			-0.05 p<.964	-0.64 p<.525
Memory				-0.67 p<.501
Telephone Company Operator				

Tenure (own-rent-board)

Telephone Directory	Number Written Down	Memory	Telephone Company Operator
	-0.32 p<.748	-0.03 p<.975	-2.82 p<.005
		0.35 p<.728	-2.29 p<.023
			-3.19 p<.002

Table G-8.-- T-test of proportional difference between ways telephone number known for marital status, type of work, age, and education.

Marital status

How Citizen Knew Number	Telephone Directory	Number Written Down	Memory	Telephone Company Operator
Telephone Directory		0.53 p<.598	0.66 p<.511	-2.16 p<.032
Number Written Down			0.06 p<.954	-2.64 p<.009
Memory				-2.95 p<.003
Telephone Company Operator				

Type of work

Telephone Directory	Number Written Down	Memory	Telephone Company Operator
	1.91 p<.058	1.82 p<.069	4.87 p<.001
		-0.42 p<.677	3.12 p<.002
			3.80 p<.001

Age

How Citizen Knew Number	Telephone Directory	Number Written Down	Memory	Telephone Company Operator
Telephone Directory		-1.64 p<.102	-0.44 p<.660	2.27 p<.024
Number Written Down			1.48 p<.139	3.81 p<.001
Memory				2.90 p<.004
Telephone Company Operator				

Education

Telephone Directory	Number Written Down	Memory	Telephone Company Operator
	1.32 p<.189	2.16 p<.031	3.29 p<.001
		0.61 p<.539	1.97 p<.051
			1.66 p<.099

Table G - 9. -- T-test of proportional difference between ways telephone number known for head of household, income, race, and sex.

Head of household

How Citizen Knew Number	Telephone Directory	Number Written Down	Memory	Telephone Company Operator
Telephone Directory		1.50 p<.135	-1.20 p<.233	1.68 p<.095
Number Written Down			-2.76 p<.006	0.29 p<.772
Memory				2.71 p<.008
Telephone Company Operator				

Income

Telephone Directory	Number Written Down	Memory	Telephone Company Operator
	0.66 p<.510	1.81 p<.071	3.34 p<.001
		0.90 p<.368	2.41 p<.017
			2.00 p<.046

Race

How Citizen Knew Number	Telephone Directory	Number Written Down	Memory	Telephone Company Operator
Telephone Directory		-0.77 p<.441	-1.93 p<.054	-5.53 p<.001
Number Written Down			-1.08 p<.282	-4.73 p<.001
Memory				-4.13 p<.001
Telephone Company Operator				

Sex

Telephone Directory	Number Written Down	Memory	Telephone Company Operator
	-1.23 p<.220	1.23 p<.221	-0.56 p<.577
		2.62 p<.009	0.54 p<.586
			-1.70 p<.090

Table G-10.-- T-test of proportional difference between types of citizen-callers for head of household, income, and sex.

Head of household

Type of Caller	Victim Caller	Witness Caller	Caller
Victim Caller		5.69 p < .001	1.26 p<.207
Witness Caller			-3.91 p< .001
Caller			

Income

Victim Caller	Witness Caller	Caller
	-0.18 p< .859	-2.91 p<.004
		-1.70 p<.091

Sex

Victim Caller	Witness Caller	Caller
	-3.56 p < .001	-1.06 p<.290
		2.49 p<.014

Appendix H

Summary Statistics for Citizen Satisfaction

TABLE H-1

Dependent Variable: Dispatch Time

Independent Variables	B	Beta	F	Simple r
Rape	0.00789	0.01048	0.059	-0.03128
Assault	0.00656	0.01770	0.133	-0.07159
Involvement Burglary	-0.00502	-0.00889	0.040	-0.06585
Discovery Burglary	0.04295	0.20259	11.488	0.08266
Involvement Larceny	0.03381	0.09848	3.935	0.00892
Discovery Larceny	0.03253	0.13846	5.852	0.00833
Involvement Auto Theft	0.09480	0.05671	1.859	0.03829
Discovery Auto Theft	0.07682	0.20741	18.240	0.13399
Constant	0.05050			

Multiple R: 0.21847
R Square: 0.04773
F: 3.51486

Sample: All Part I Crime
N: 570
Reference Group: Robbery

TABLE H-2

Dependent Variable: Travel Time

Independent Variables	B	Beta	F	Simple r
Rape	0.00702	0.01447	0.117	-0.05356
Assault	0.00607	0.02542	0.285	-0.12026
Involvement Burglary	0.01820	0.04995	1.310	-0.04071
Discovery Burglary	0.04989	0.36504	38.870	0.18628
Involvement Larceny	0.04356	0.19686	16.387	0.05471
Discovery Larceny	0.03547	0.23424	17.455	0.02499
Involvement Auto Theft	0.05668	0.05260	1.667	0.02247
Discovery Auto Theft	0.04065	0.17030	12.814	0.03675
Constant	0.07127			

Multiple R: 0.29360
R Square: 0.08620
F: 6.61483

Sample: All Part I Crime
N: 570
Reference Group: Robbery

TABLE H-3

Dependent Variable: Faster Response Time Could Make a Difference

Independent Variables	B	Beta	F	Simple r
Rape	-0.20663	-0.08711	2.448	-0.00490
Assault	-0.01723	-0.01364	0.047	0.11213
Involvement Burg	-0.01127	-0.00503	0.007	0.03929
Discovery Burglary	-0.24184	-0.33373	15.123	-0.16976
Involvement Larceny	-0.01987	-0.01665	0.060	0.11826
Discovery Larceny	-0.17273	-0.21093	7.014	-0.08535
Involvement Auto Theft	-0.27563	-0.05858	1.128	-0.02914
Discovery Auto Theft	-0.16673	-0.13780	4.354	-0.01373
(1) Length of Time in K.C., Mo.	0.00122	0.05382	0.006	0.00579
(2) Length of Time at Present Address	-0.01115	-0.26041	0.297	-0.07876
(3) Population of Life Residency	-0.04496	-0.35517	1.413	-0.03554
(4) Own, Rent or Board Residency	-0.21690	-0.38284	2.438	0.05204
(5) Marital Status	-0.02887	-0.04189	0.275	-0.01280
(6) Socioeconomic Status (Duncan Index)	-0.00076	-0.05422	0.073	-0.13086
(7) Age	0.00428	0.17397	0.169	-0.08750
(8) Education	-0.07788	-0.49622	2.136	-0.17638
(9) Head of Household	0.04495	0.05372	0.025	-0.05873
(10) Family Income	0.00341	0.03389	0.225	-0.07973
(11) Race	0.08620	0.12524	0.205	0.06890
(12) Sex	0.06310	0.09130	0.145	0.05492
Length of Time in K.C., Mo., Squared	-0.00002	-0.05214	0.084	-0.02648
Socioeconomic Status Squared	-0.00001	-0.03281	0.032	-0.13256
Age Squared	0.00514	0.35285	1.241	-0.16199
Travel Time	0.41830	0.07918	2.038	0.00056
Dispatch Time	0.29902	0.09356	3.108	0.06864
Interaction of Variables 1 and 3	0.00855	0.03944	0.003	-0.01299

Independent Variables	B	Beta	F	Simple r
Interaction of Variables 1 and 9	0.24820	0.11910	0.310	-0.03736
Interaction of Variables 2 and 3	0.07356	0.15924	0.111	-0.08766
Interaction of Variables 2 and 4	0.14745	0.04816	0.143	-0.02834
Interaction of Variables 3 and 4	2.43455	0.50010	3.485	0.04612
Interaction of Variables 3 and 7	-0.04825	-0.23515	0.236	-0.10490
Interaction of Variables 3 and 11	1.00598	0.13831	0.486	0.06012
Interaction of Variables 4 and 9	-0.53860	-0.01291	0.005	-0.02067
Interaction of Variables 4 and 12	1.85980	0.04956	0.074	0.07242
Interaction of Variables 5 and 12	-0.23841	-0.00323	0.001	0.01524
Interaction of Variables 6 and 11	-0.02031	-0.01144	0.013	-0.07255
Interaction of Variables 7 and 9	-0.34832	-0.19567	0.613	-0.11243
Interaction of Variables 7 and 12	-0.14809	-0.08055	0.263	0.03191
Interaction of Variables 8 and 9	1.94179	0.16466	0.682	-0.11707
Interaction of Variables 8 and 11	-1.95070	-0.15458	0.885	-0.03568
Interaction of Variables 9 and 12	-4.14192	-0.05455	0.122	-0.01019
Constant	1.76702			

Multiple R: 0.42177
R Square: 0.17789
F: 1.75212

Sample: All Part I Crime
N: 374
Reference Group: Robbery

TABLE H-4

Dependent Variable: Faster Response Time Could Make a Difference

Independent Variables	B	Beta	F	Simple r
Rape	-0.19885	-0.07065	2.709	-0.02284
Assault	-0.00340	-0 00245	0.003	0.10355
Involvement Burglary	-0.02107	-0.00997	0.051	0.05601
Discovery Burglary	-0.21094	-0.26614	20.007	-0.13947
Involvement Larceny	-0.06808	-0.05305	1.152	0.05797
Discovery Larceny	-0.18435	-0.20990	13.572	-0.07193
Involvement Auto Theft	-0.29885	-0.04782	1.334	-0.02620
Discovery Auto Theft	-0.18521	-0.13378	7.658	-0.03876
Constant	1.29885			

Multiple R: 0.23744
R Square: 0.05638
F: 4.18982

Sample: All Part I Crime
N: 570
Reference Group: Robbery

TABLE H-5

Dependent Variable: Expectations

Independent Variables	B	Beta	F	Simple r
Rape	0.02533	0.01645	0.088	-0.05217
Assault	0.03040	0.03706	0.348	-0.08367
Involvement Burglary	-0.03940	-0.02710	0.210	-0.09633
Discovery Burglary	0.10638	0.22611	6.708	0.09598
Involvement Larceny	0.06442	0.08313	1.522	-0.06380
Discovery Larceny	0.09658	0.18167	5.148	0.02991
Involvement Auto Theft	0.11750	0.03846	0.490	-0.02341
Discovery Auto Theft	0.22281	0.28366	18.396	0.18418
(1) Length of Time in K.C., Mo.	0.01193	0.80839	1.449	-0.13013
(2) Length of Time at Present Address	-0.01215	-0.40125	0.711	-0.11665
(3) Population of Life Residency	-0.01100	-0.13380	0.202	-0.04730
(4) Own, Rent or Board Residency	0.04195	0.11404	0.217	0.02992
(5) Marital Status	0.00789	0.01763	0.049	-0.02649
(6) Socioeconomic Status (Duncan Index)	-0.00439	-0.48217	5.855	0.15955
(7) Age	-0.00196	-0.12304	0.085	-0.09453
(8) Education	-0.03578	-0.35114	1.074	0.12845
(9) Head of Household	0.28972	0.53323	2.491	0.02575
(10) Family Income	0.00175	0.02683	0.142	0.05444
(11) Race	-0.12350	-0.27638	1.006	-0.00540
(12) Sex	-0.01890	-0.04212	0.031	-0.07046
Length of Time in K.C., Mo., Squared	0.00001	0.01987	0.012	-0.12245
Socioeconomic Status Squared	0.00008	0.62303	11.534	0.21384
Age Squared	0.00505	0.53428	2.863	0.14972
Travel Time	-0.25030	-0.07298	1.738	0.00419
Dispatch Time	0.03183	0.01534	0.084	0.09544
Faster Response Time Could Make a Difference	0.00659	0.01014	0.035	-0.05096

Independent Variables	B	Beta	F	Simple r
Interaction of Variables 1 and 3	-0.13350	-0.94799	1.880	-0.12669
Interaction of Variables 1 and 9	0.05511	0.04073	0.037	-0.09370
Interaction of Variables 2 and 3	0.10754	0.35859	0.570	-0.11284
Interaction of Variables 2 and 4	-0.01320	-0.00664	0.003	-0.10691
Interaction of Variables 3 and 4	-0.08778	-0.02777	0.011	-0.00817
Interaction of Variables 3 and 7	0.04426	0.33227	0.476	-0.09585
Interaction of Variables 3 and 11	0.89912	0.19041	0.929	0.00119
Interaction of Variables 4 and 9	-3.82931	-0.14139	0.607	0.02879
Interaction of Variables 4 and 12	-1.14894	-0.04716	0.067	-0.05996
Interaction of Variables 5 and 12	-4.36349	-0.09102	0.428	-0.05559
Interaction of Variables 6 and 11	0.12674	0.10997	1.181	0.08386
Interaction of Variables 7 and 9	-0.43273	-0.37442	2.264	-0.04985
Interaction of Variables 7 and 11	0.07675	0.06430	0.169	-0.01765
Interaction of Variables 8 and 9	-2.53959	-0.33171	2.790	0.08563
Interaction of Variables 8 and 11	0.22389	0.02733	0.028	0.02975
Interaction of Variables 9 and 12	5.50560	0.11168	0.518	-0.02470
Constant	0.23459			

Multiple R:	0.43445	Sample:	All Part I Crime
R Square:	0.18875	N:	374
F:	1.83361	Reference Group:	Robbery

TABLE H-6

Dependent Variable: Perceptions

Independent Variables	B	Beta	F	Simple r
Rape	0.05292	0.05326	1.230	-0.04161
Assault	0.03616	0.06833	1.583	-0.07267
Involvement Burglary	0.04055	0.04322	0.714	-0.03888
Discovery Burglary	0.07981	0.26290	12.148	0.12833
Involvement Larceny	0.07468	0.14933	6.577	0.06740
Discovery Larceny	0.05464	0.15927	5.300	-0.04928
Involvement Auto Theft	-0.01184	-0.00601	0.016	-0.03147
Discovery Auto Theft	0.09863	0.19459	11.597	-0.04161
(1) Length of Time in K.C., Mo.	0.00733	0.76956	1.759	-0.07243
(2) Length of Time at Present Address	-0.00035	-0.01793	0.002	-0.08391
(3) Population of Life Residency	-0.00786	-0.14814	0.331	-0.02591
(4) Own, Rent or Board Residency	-0.04925	-0.20752	0.963	-0.01968
(5) Marital Status	0.04119	0.14265	4.316	-0.01042
(6) Socioeconomic Status (Duncan Index)	-0.00125	-0.21286	1.529	0.07768
(7) Age	0.00036	0.03495	0.009	-0.12821
(8) Education	-0.00714	-0.10861	0.138	0.04252
(9) Head of Household	0.15691	0.44755	2.351	-0.02236
(10) Family Income	0.00170	0.04036	0.432	0.07403
(11) Race	-0.10264	-0.35596	2.235	-0.03175
(12) Sex	-0.03643	-0.12581	0.365	-0.01751
Length of Time in K.C., Mo., Squared	-0.00001	-0.04244	0.075	-0.10962
Socioeconomic Status Squared	0.00002	0.29473	3.457	0.11108
Age Squared	0.00109	0.17907	0.431	0.05639
Travel Time	0.28395	0.12830	7.197	0.25159
Dispatch Time	0.53976	0.40314	77.385	0.48189
Faster Response Time Could Make a Difference	0.07886	0.18824	15.921	0.20528

Independent Variables	B	Beta	F	Simple r
Interaction of Variables 1 and 3	-0.07969	-0.87696	2.155	-0.08431
Interaction of Variables 1 and 9	0.13722	0.15717	0.731	-0.07755
Interaction of Variables 2 and 3	-0.01992	-0.10294	0.063	-0.09877
Interaction of Variables 2 and 4	0.16151	0.12593	1.326	-0.05337
Interaction of Variables 3 and 4	0.36910	0.18099	0.611	-0.01136
Interaction of Variables 3 and 7	0.00766	0.08911	0.046	-0.12920
Interaction of Variables 3 and 11	0.96963	0.31823	3.476	-0.01375
Interaction of Variables 4 and 9	-2.71182	-0.15517	0.979	-0.04178
Interaction of Variables 4 and 12	3.14556	0.20010	1.626	-0.00276
Interaction of Variables 5 and 12	-6.53132	-0.21113	3.088	-0.03610
Interaction of Variables 6 and 11	-0.04072	-0.05476	0.392	-0.05536
Interaction of Variables 7 and 9	-0.27355	-0.36681	2.910	-0.10466
Interaction of Variables 7 and 11	0.00610	0.00792	0.003	-0.05844
Interaction of Variables 8 and 9	-0.99381	-0.20117	1.375	0.01264
Interaction of Variables 8 and 11	0.42443	0.08028	0.322	-0.03184
Interaction of Variables 9 and 12	3.29931	0.10372	0.599	-0.02955
Constant	0.03303			

Multiple R: 0.62801
R Square: 0.32440
F: 5.13249

Sample: All Part I Crime
N: 374
Reference Group: Robbery

TABLE H-7

Dependent Variable: Perceptions and Expectations

Independent Variables	B	Beta	F	Simple r
Rape	0.52873	0.05968	1.244	0.00745
Assault	0.15656	0.03318	0.301	-0.02521
Involvement Burglary	1.11479	0.13328	5.475	0.08255
Discovery Burglary	0.47069	0.17389	4.285	0.09336
Involvement Larceny	0.48784	0.10941	2.846	0.09727
Discovery Larceny	0.06288	0.02056	0.071	-0.07918
Involvement Auto Theft	-0.42619	-0.02425	0.210	-0.02569
Discovery Auto Theft	-0.19614	-0.04340	0.465	-0.06110
(1) Length of Time in K.C., Mo.	0.03727	0.43899	0.461	-0.04036
(2) Length of Time at Present Address	0.03745	0.21493	0.220	-0.05675
(3) Population of Life Residency	-0.15011	-0.31746	1.227	0.03783
(4) Own, Rent or Board Residency	-0.82561	-0.39014	2.743	0.02836
(5) Marital Status	0.31660	0.12298	2.586	0.03360
(6) Socioeconomic Status (Duncan Index)	0.00326	0.06225	0.105	-0.03842
(7) Age	-0.03749	-0.40819	1.015	-0.09651
(8) Education	-0.01072	-0.01828	0.003	0.01270
(9) Head of Household	-0.01003	-0.00321	0.000	0.00189
(10) Family Income	0.00571	0.01518	0.049	0.02689
(11) Race	-0.81053	-0.31527	1.414	-0.00986
(12) Sex	-0.18329	-0.07100	0.094	0.02305
Length of Time in K.C., Mo., Squared	0.00003	0.02260	0.017	-0.06110
Socioeconomic Status Squared	-0.00008	-0.10916	0.382	-0.03600
Age Squared	0.00154	0.02833	0.009	0.01262
Travel Time	2.42176	0.12272	5.309	0.18684
Dispatch Time	2.84951	0.23869	21.869	0.26916
Faster Response Time Could Make a Difference	0.98633	0.26406	25.257	0.27515

Independent Variables	B	Beta	F	Simple r
Interaction of Variables 1 and 3	-0.25982	-0.32069	0.232	-0.03821
Interaction of Variables 1 and 9	-2.18219	-0.28033	1.874	-0.05467
Interaction of Variables 2 and 3	-0.39211	-0.22725	0.247	-0.05949
Interaction of Variables 2 and 4	0.18810	0.01645	0.018	-0.03381
Interaction of Variables 3 and 4	8.39121	0.46148	3.204	0.07067
Interaction of Variables 3 and 7	0.19267	0.25139	0.294	-0.06628
Interaction of Variables 3 and 11	4.71370	0.17351	0.833	0.01099
Interaction of Variables 4 and 9	-2.71068	-0.01740	0.010	0.01200
Interaction of Variables 4 and 12	17.79138	0.12693	0.527	0.03536
Interaction of Variables 5 and 12	-77.72094	-0.28177	4.434	-0.00100
Interaction of Variables 6 and 11	-0.24501	-0.03695	0.144	-0.06403
Interaction of Variables 7 and 9	2.00825	0.30202	1.591	-0.05786
Interaction of Variables 7 and 11	-0.14921	-0.02173	0.021	-0.03687
Interaction of Variables 8 and 9	-3.50615	-0.07960	0.174	0.01505
Interaction of Variables 8 and 11	6.87432	0.14584	0.858	0.00244
Interaction of Variables 9 and 12	63.92698	0.22539	2.279	0.03724
Constant	0.16078			

Multiple R: 0.49873
R Square: 0.24873
F: 2.60928

Sample: All Part I Crime
N: 374
Reference Group: Robbery

TABLE H-8

Dependent Variable: Perceptions and Expectations

Independent Variables	B	Beta	F	Simple r
Rape	0.10729	0.00936	0.054	-0.01085
Assault	0.06504	0.01154	0.065	0.01642
Involvement Burglary	0.09907	0.01151	0.076	0.01562
Discovery Burglary	0.01701	0.05267	0.789	0.06644
Involvement Larceny	-0.12277	-0.02349	0.247	0.00631
Discovery Larceny	-0.07680	-0.02147	0.151	-0.04443
Involvement Auto Theft	-0.40861	-0.01606	0.168	-0.02007
Discovery Auto Theft	-0.43214	-0.07665	2.674	-0.06866
Faster Response Time Could Make a Difference	1.36182	0.33442	70.760	0.33618
Travel Time	3.33777	0.14132	12.197	0.16678
Dispatch Time	2.40455	0.15796	15.817	0.18080
Interaction of Marital Status and Sex	-15.64501	-0.04707	1.457	-0.04430
Constant	1.76552			

Multiple R: 0.42048
R Square: 0.17680
F: 9.96893

Sample: All Part I Crime
N: 570
Reference Group: Robbery

TABLE H-9

Dependent Variable: Citizen Satisfaction

Independent Variables	B	Beta	F	Simple r
Rape	0.37909	0.03965	1.017	-0.00722
Assault	0.34979	0.06869	2.394	0.03006
Involvement Burglary	-0.10247	-0.01135	0.073	0.00968
Discovery Burglary	0.53819	0.18425	8.823	0.08592
Involvement Larceny	0.08724	0.01813	0.144	0.05012
Discovery Larceny	0.39901	0.12088	4.572	-0.05933
Involvement Auto Theft	0.09647	0.00509	0.017	-0.03671
Discovery Auto Theft	0.31321	0.06422	1.889	-0.02626
(1) Length of Time in K.C., Mo.	0.07114	0.77656	2.679	-0.03822
(2) Length of Time at Present Address	0.11860	0.63075	3.521	-0.08290
(3) Population of Life Residency	0.05694	0.11159	0.281	0.00639
(4) Own, Rent or Board Residency	-0.09046	-0.03961	0.052	0.06243
(5) Marital Status	-0.02912	-0.01048	0.035	0.01447
(6) Socioeconomic Status (Duncan Index)	0.00891	0.15765	1.255	-0.09217
(7) Age	-0.02292	-0.23127	0.604	-0.14268
(8) Education	-0.04195	-0.06632	0.077	-0.08739
(9) Head of Household	-0.93533	-0.27727	1.351	-0.04996
(10) Family Income	-0.03400	-0.08375	2.783	-0.07016
(11) Race	-0.81141	-0.29247	2.251	0.02789
(12) Sex	-0.57994	-0.20817	1.495	0.06904
Length of Time in K.C., Mo., Squared	-0.00003	-0.02100	0.028	-0.08047
Socioeconomic Status Squared	-0.00013	-0.16136	1.550	-0.09078
Age Squared	-0.00142	-0.02417	0.012	-0.08287
Travel Time	0.27068	0.01271	0.104	0.14940
Dispatch Time	1.74892	0.13575	12.328	0.30809
Faster Response Time Could Make a Difference	1.35021	0.33497	70.157	0.48260

Independent Variables	B	Beta	F	Simple r
Perceptions and Expectations	0.52938	0.49055	147.988	0.64265
Interaction of Variables 1 and 3	-0.76937	-0.87995	3.247	-0.05505
Interaction of Variables 1 and 9	0.76983	0.09164	0.370	-0.06664
Interaction of Variables 2 and 3	-1.19219	-0.64027	3.642	-0.10149
Interaction of Variables 2 and 4	0.51275	0.04155	0.216	-0.03345
Interaction of Variables 3 and 4	-2.58592	-0.13178	0.481	0.07483
Interaction of Variables 3 and 7	0.17893	0.21633	0.405	-0.12876
Interaction of Variables 3 and 11	9.90457	0.33784	5.852	0.05237
Interaction of Variables 4 and 7	24.60465	0.14632	1.304	-0.00005
Interaction of Variables 4 and 12	32.91620	0.21762	2.876	0.10263
Interaction of Variables 5 and 12	-22.57750	-0.07585	0.589	0.02614
Interaction of Variables 6 and 11	-0.21626	-0.03022	0.179	-0.08401
Interaction of Variables 7 and 9	-0.36474	-0.05083	0.083	-0.12785
Interaction of Variables 7 and 11	0.39045	0.05269	0.228	-0.00372
Interaction of Variables 8 and 9	7.45329	0.15680	1.250	-0.06449
Interaction of Variables 8 and 11	4.37877	-0.08608	0.554	-0.03763
Interaction of Variables 9 and 12	33.14602	0.10829	0.971	0.02524
Constant	0.31718			

Multiple R: 0.77257
R Square: 0.59687
F: 11.36249

Sample: All Part I Crime
N: 374
Reference Group: Robbery

TABLE H-10

Dependent Variable: Citizen Satisfaction

Independent Variables	B	Beta	F	Simple r
Rape	0.13915	0.01235	0.162	-0.02472
Assault	0.16668	0.03007	0.761	0.02203
Involvement Burglary	0.13667	0.01615	0.260	0.00728
Discovery Burglary	0.34187	0.10772	5.708	0.08696
Involvement Larceny	-0.03185	-0.00620	0.030	-0.02154
Discovery Larceny	0.22308	0.06343	2.255	-0.03200
Involvement Auto Theft	-0.33596	-0.01343	0.204	-0.03103
Discovery Auto Theft	0.10364	0.01870	0.274	-0.04017
Faster Response Time Could Make a Difference	1.27783	0.31913	98.354	0.47508
Travel Time	1.43631	0.06185	3.954	0.18019
Dispatch Time	2.24174	0.14976	23.950	0.26329
Interaction of Marital Status and Sex	-0.73893	-0.00226	0.006	-0.01803
Perceptions and Expectations	0.48035	0.48851	229.116	0.64039
Interaction of Population of Life Residency and Race	1.02758	0.03284	1.163	0.11607
Constant	-0.41840			

Multiple R: 0.72559
R Square: 0.52648
F: 44.07703

Sample: All Part I Crime
N: 570
Reference Group: Robbery

ARREST--The transporting of a suspect to any specific location for the purpose of booking, questioning, or identification.

BEAT--The smallest geographically designated area for the purpose of patrol to which one officer is assigned.

BEAT-WATCH--An 8-hour patrol watch in a beat. There are three watches per day in each beat, making a total of 207 beat-watches for the 69 beats in the city.

BUSTED CALL--Any dispatched call in which the first of two officers dispatched responds to the incident scene without waiting for the arrival of the backup officer, or any call in which an officer not assigned responds to the scene before the arrival of the officially dispatched officer.

CALLER--Any citizen whose call to the police initiated a response to an incident but who was not involved in the incident as a victim or a witness.

CITIZEN-CALLER--Any citizen, victim, witness or caller, whose call to the police initiated a response.

CITIZEN EXPECTATIONS--The length of time a citizen expects response to a call to take.

CITIZEN PERCEPTIONS--The length of time a citizen has perceived that response to a call has taken.

DISCOVERY CRIME--Any crime which occurred unobserved, or if witnessed, the witness did not report the crime.

DISPATCH TIME--The time from when a dispatcher understands the nature and location of a call until an officer acknowledges the end of the dispatch assigning him to the call or has begun response to the call, whichever comes first.

FIELD INJURY--An injury to a citizen who was not transported to the hospital before arrival of police.

INITIAL INVESTIGATION BEGINS--When an officer made contact with a citizen

directly related to a crime incident or when the officer arrived at the actual scene of the crime.

INVOLVEMENT CRIME--Any crime in which a citizen saw, heard, or became involved between the time the suspect began committing the crime and the citizen was free from involvement in the crime.

NONTARGET BEAT--Those beats not included in the target area. This involved 34 of the city's 69 beats. The nontarget beats were excluded from the target area because none of the three beat-watches within the beat fell within the upper 27th percentile of beat-watches based upon combined numbers of robberies and aggravated assaults in 1974. Observers were not assigned to these beats.

NONVIOLENT CRIMES--As defined in the FBI Uniform Crime Report, the crimes of burglary, larceny, and auto theft.

OBSERVER--Any of nine civilians employed by the Kansas City, Missouri, Police Department to accompany officers in specially designated beat-watches and collect data pertinent to the study.

ON-SCENE APPREHENSION--The apprehension of a suspect in flight from, adjacent to, or at the scene of an incident before the conclusion of the initial investigation of the call. The arrest must have been directly related to the crime for which an officer wrote his offense report.

PART I CRIME--As defined in the FBI Uniform Crime Report, the crimes of homicide, rape, robbery, aggravated assault, burglary, larceny, and auto theft.

PATTERNS IN REPORTING--Those voluntary actions taken prior to or in the process of reporting and the attitudes which affected them.

PROBLEMS IN REPORTING--Uncontrollable hindrances encountered prior to or in the process of telephoning police.

REPORTING TIME--The time from the end of a citizen's involvement in or discovery of a crime or noncrime incident until a dispatcher had been contacted

about the incident and understood the nature of the incident and location to which an officer should be dispatched.

RESPONSE TIME COMPONENT--Any of eight lengths of time identified as occurring within the reporting, dispatch, and travel intervals and comprising the total response time continuum. The components were 1. crime begins until citizen involvement ends. 2. discovery of a crime or citizen involvement ends until initial connection with police dispatcher. 3. initial connection until information about the nature and location of the call is understood by dispatcher. 4. information about the nature and location of the call available until dispatcher calls for location of a specific car or any car in the vicinity. 5. dispatcher calls car until dispatch assigning car to call is terminated. 6. dispatch terminates until officer begins his response to the call. 7. officer responds until arrival at dispatched location. 8. arrival until initial investigation begins.

RESPONSE TIME CONTINUUM--The total length of time elapsed from the end of citizen involvement in or discovery of a crime or noncrime incident until a police officer begins his initial investigation of the incident. The time period includes the time necessary for a citizen to report an incident, for a dispatcher to assign an officer to the call, and for the officer to travel to the scene of the incident.

RESPONSE TIME INTERVAL--One of three lengths of time which correspond to the three processes followed in reporting, dispatching, and traveling to a call for police service. The three intervals making up the entire response time continuum are the reporting, dispatch, and travel intervals and are synonymous with reporting time, dispatch time, and travel time.

RESPONSE-RELATED ARREST--The arrests which resulted from rapid response. This excludes arrests made after a citizen apprehended a suspect, when the suspect's name or address was provided by the victim or a witness, when the suspect was unable to leave the scene because of an injury, or when the suspect turned himself over to police.

TARGET AREA--The area included in 35 of the city's 69 beats which contained the 56 beat-watches comprising the upper 27th percentile of beat-watches based upon combined numbers of robberies and aggravated assaults for 1974.

TARGET BEAT--Any beat which fell within the target area and to which observers were deployed for collection of data.

TRAVEL TIME--The time from when an officer acknowledged the end of a dispatch assigning him to a call, or when the officer began response to a call, whichever came first, until the officer began his initial investigation of the call.

VICTIM--The citizen against whom a crime was committed. Unlike most statutory definitions, the victim of a commercial robbery, by study criteria, would be the clerk held up at the business and not the individual or corporate owner or the business.

VICTIM-CALLER--The victim of a crime whose call to police also initiated police response.

VIOLENT CRIME--As defined in the FBI Uniform Crime Report, the crimes of murder, forcible rape, robbery, and aggravated assault.

WITNESS--Any citizen, other than a victim or suspect, who saw, heard, or became involved in a crime or noncrime incident at any point during its occurrence.

WITNESS AVAILABILITY--Contact between a field officer and at least one witness to a crime other than the victim, before the conclusion of the initial investigation of a call.

WITNESS-CALLER--A witness to a crime whose call to police initiated police response.

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