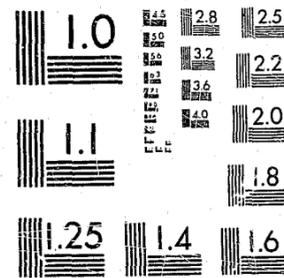


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Volume III: Part II Crime Analysis  
**RESPONSE TIME  
ANALYSIS**



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a publication of the National Institute of Justice

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Harry M. Bratt  
Acting Director

# RESPONSE TIME ANALYSIS

## Volume III: Part II Crime Analysis

Kansas City, Missouri, Police Department  
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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. This volume deals with Part II crimes.

To test these assumptions, response time was conceptualized as consisting of three intervals, citizen reporting time, communications dispatching time, and police travel time. Variations in these intervals were analyzed for Part II crimes 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 II 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 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 outcome of the incident they reported or in which they were involved.

Results indicated reporting time was longer than either the time taken to dispatch a call or the time taken to travel to a call and, on the average, was longer than dispatch time and travel time combined. Citizen apathy and misunder-

standings about the reporting of Part II crimes were found to result in significant reporting delay. The probability that an on-scene arrest attributable to rapid response would be made was greater for crimes involving a victim or witness when both reporting and travel times were short. Reporting time affected the probability of a witness being available on-scene for both crimes that were discovered and crimes which involved a victim or witness. Citizen satisfaction with police response time was more closely related to citizens' expectations and perceptions about response time than actual response time.

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## 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 third 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 findings from analysis of the relationship of response time to Part II crimes, and follows volumes one and two and an executive summary which detailed the methodological design of the study and analysis and findings for Part I crimes. Additional reports, which are currently in various stages of development, will focus upon the following areas:

1. 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.
2. An analysis of "general service" calls including traffic, potential crime calls, e.g., alarms, disturbances, suspicious parties, etc., and noncrime medical-emergency incidents.
3. A summary of results presented in previous reports which provides an over-all 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 the 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.; Dr. Cris Kukuk, Social Impact Research, Lawrence, Kan.; Thomas J. Sweeney, Portsmouth, Virginia, Police Department; and Maj. Charles Key, Kansas City, Missouri, Police Department, for their guidance and evaluations during the analysis of the data and preparation of this volume.

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EXECUTIVE SUMMARY

Because of the lack of quantitative evaluations of the effect of various patrol strategies on crime outcomes, police have been compelled to accept reasonable but untested assumptions as the basis for decision-making. The present study was conceived to provide comprehensive baseline data to assess one of the most basic assumptions of policing - that rapid response is a critical factor in obtaining on-scene arrests, locating witnesses, minimizing citizen injury, and enhancing citizen satisfaction. This volume presents findings which address the impact of response time on these specific outcomes for Part II crimes.

The data presented in this volume were collected in Kansas City, Missouri, between March 1975 and January 1976, as part of a study to evaluate the role of response time in all types of calls for police service. Response time was defined in its broadest context to include the times taken by citizens to report incidents, by dispatchers to relay incident information, and by field officers to arrive at the dispatched location and begin investigation.

The data collection process was divided into three basic components analogous to these portions of the response process. First, civilian observers riding with field officers collected travel time data, descriptions of on-scene activities, and the identities of crime victims and persons who reported the incidents to the police. Utilizing the information obtained by the field observers, analysts were able to identify the corresponding tape recordings made in the department's Communications Unit of the telephone conversation between the reporting citizen and the dispatcher and the radio communication between the dispatcher and the field officer. From these tapes, analysts obtained dispatch time data. Finally, interviewers used the data provided by field obser-

vers to locate citizens associated with the observed incidents and obtain information on reporting time, expectations and perceptions of police service, any problems and the actions taken in reporting the incident, and satisfaction with police response time.

By tying the collection process together, response time could be calculated for particular calls from the time the citizen could report the incident until a field officer had begun an investigation. The effect this time might exert on the outcome of the call for police service could then be assessed.

#### Reporting Time

The first step in the response process required that a citizen make the decision to request police assistance and then place the telephone call which relayed the nature and location of the incident to a dispatcher. On the average, more than one-half of the total response time was taken in reporting the incident. A majority of the Part II crimes were not reported within 7 minutes. Part II discovery crimes had considerably longer reporting times than Part II involvement crimes. Discovery crimes were crimes detected after they had occurred and then reported to the police. Involvement crimes were those crimes in which a victim or witness saw, heard, or otherwise became involved in the commission of the crime and then saw that the crime was reported to the police. Discovery crimes, which made up 18.7 percent of the Part II sample, had a median reporting time of 20 minutes, 16 seconds. Involvement crimes, which made up 81.3 percent of the sample, had a median reporting time of 5 minutes, 39 seconds. Many of the Part II crimes were not reported within hours or even days after they occurred or were discovered.

The act of telephoning the police about a crime cannot account for the

reporting delay observed. In more than 1,000 telephone calls placed by project personnel in the Test Call Experiment,\* the average time required to reach a dispatcher after dialing was approximately 30 seconds. Data reported in this volume indicated that, on the average, only about 20 seconds were required to relate the nature and location of a Part II crime incident to a dispatcher. These findings suggest that, in most cases, the time taken to telephone the police constitutes relatively little delay compared to the time that is taken before the citizen is able or has decided to call the police.

Two factors were identified which significantly delayed the act of reporting Part II crimes. First, reporting citizens who indicated that they were apathetic toward the outcome of the incident took significantly longer to report than individuals who did not express this attitude. Expressions of apathy included statements from reporting parties that the incident was not personally important, that they did not want the responsibility of calling the police, or that the situation was perhaps not serious enough to require police assistance. The second factor found to produce reporting delays was a misunderstanding between the persons with knowledge of the incident and the reporting citizen. Situations in which the reporting parties indicated that they had not been immediately informed of the crime or mistakenly believed that the police had been previously called resulted in greater reporting delays than situations not involving this problem.

The importance of assessing reporting delays and contributing factors is indicated by the role of reporting time in determining the probability of locating one or more witnesses to an incident and in determining rates of arrest and

\*For a more complete discussion of this experiment and its findings, see Response Time Analysis, Volume II: Part I Crime Analysis.

response-related arrest. Response-related arrests were arrests not attributable to factors such as the suspect being identified by the victim, the suspect being held by a security guard, the suspect being injured and unable to leave the scene, etc. When incidents of nonaggravated assault, involvement vandalism, and involvement forgery, fraud, and embezzlement were reported within 1 minute, they resulted in response-related arrests in about 70 percent of the cases when police travel time was also short. If the reporting time for the same type of incidents increased from 1 to 5 minutes, response-related arrests dropped from about 70 percent to about 45 percent, even though travel time was unchanged. With an additional increase in reporting time to 10 minutes, even the shortest travel times produced response-related arrests in only about 35 percent of these types of cases. The effect police field response was to have on the probability of a response-related arrest was largely predetermined by the delay in reporting.

The time taken to report Part II crime incidents also influenced the probability of locating witnesses to the incident. For involvement cases, the chance of contacting one or more witnesses decreased slightly with increasing lengths of reporting time. Essentially the opposite pattern was noted for discovery crimes in that increasing reporting delay resulted in a greater proportion of cases with witnesses. These results suggest that for Part II crimes involving one or more citizens, rapid reporting enhanced the chance that witnesses were still available at the scene, while more delay in reporting discovery crimes allowed witnesses to be contacted by the discovering party and to return to the crime location prior to police arrival. This interpretation is further substantiated by the finding that a greater proportion of discovery vandalism and discovery forgery, fraud, and embezzlement incidents involved the patterns of talking or telephoning another person prior to calling the police than many of the involvement crime categories.

It should be noted at this point, however, that more rapid reporting resulted in greater dissatisfaction with police response to Part II crime incidents. Citizens who reported incidents more promptly expected police service more quickly and presumably, were therefore less satisfied with response time. Thus, though more expeditious reporting might have a positive effect on incident outcomes, it might also depress citizen satisfaction unless police response times were also reduced.

Attempts should be made to identify those involvement incidents reported quickly and minimize police response to those incidents, especially if citizen reporting delays can be reduced. Not only does such a policy appear necessary to maintain citizen satisfaction with response time, it might also result in a modest increase in the proportion of involvement incidents with witnesses available and arrests made, with the possibility of rather substantial increases in arrest rates for certain types of involvement incidents. Attempts to minimize reporting delay, however, should focus on involvement crimes without creating the expectation that rapid reporting might result in more favorable outcomes for all types of Part II crimes. All data presented in this volume indicate that on-scene outcomes of discovery incidents cannot be impacted by reductions in reporting delay.

#### Dispatch Time

The time required by a police dispatcher to broadcast the information necessary for response and to assign a specific car, if one had not already begun responding to the call, represented 19 percent of the total response time in Part II crime incidents. The median dispatch time was 2 minutes, 13 seconds.

The length of dispatch time correlated with the probability of arrest in

Part II crimes but did not play an important role in making response-related arrests. Situations resulting in arrests in which a suspect was being held by a security guard or was known by the victim or witness were dispatched more promptly than other types of incidents. However, in situations in which rapid citizen and police actions were primarily responsible for the arrest, dispatch time was not significantly shorter than in the remaining arrest and nonarrest cases. Dispatch time did not affect the probability of contacting witnesses.

The time taken to dispatch a call was also not directly related to citizen satisfaction with response time. Greater dispatch delays tended to correspond with citizens recalling longer response times. However, neither the length of the actual dispatch time nor the perceived response time was as important in determining citizen satisfaction as the difference between citizens' perceptions of how long response times were and how long they expected police response to take. Consequently, long dispatch times may not have produced dissatisfaction if citizens perceived response time to be less than they expected. Likewise, short dispatch times did not guarantee satisfaction with response time.

#### Travel Time

The final step in the response process involved an officer's field travel time, including any time required to locate either the actual incident scene or a citizen associated with the call. Travel time represented approximately 29 percent of the total response time. The median time was 4 minutes, 20 seconds, while observed travel times ranged from 20 seconds to nearly one-half hour.

The speed of officer response did influence the probability of an on-scene arrest in incidents of nonaggravated assault, involvement vandalism, and involvement forgery, fraud, and embezzlement. The probability of a response-related

arrest in nonaggravated assault and involvement vandalism cases was more than 20 percent greater when an officer arrived within 1 minute than if travel time was as long as 5 minutes. Involvement incidents of forgery, fraud, and embezzlement were especially susceptible to the impact of rapid police actions. Response-related arrests were nearly 70 percent more likely to result when travel time was 1 minute compared to 5 minutes. For all types of involvement incidents examined, the chance of making a response-related arrest after travel times of 10 minutes or more was essentially nil. The speed of officer response was not found to affect the likelihood of on-scene arrest in discovered Part II incidents. Travel time also had no effect on the probability of contacting a witness.

The high degree to which incidents of involvement forgery, fraud, and embezzlement appeared to be susceptible to the response strategy warranted a closer examination of this type of incident. Forgeries, frauds, and embezzlements were classified as involvement incidents only when the victim became suspicious of the suspect's actions while the crime was occurring. In slightly more than one-third of the observed forgery, fraud, and embezzlement cases (36.4 percent), the crime was discovered later, rendering rapid response ineffectual. Typically in involvement incidents of this type, the citizen who had become suspicious notified a supervisor or checked with a bank or credit card company employee who verified the crime, and the person who verified the crime telephoned the police. Though the sample size of this group did not allow more formal analysis, this pattern was noted in 52.4 percent of all forgery, fraud, and embezzlement incidents and in 71.4 percent of those that resulted in a response-related arrest. While the reasons a suspect fled cannot be specified, it seems apparent that the speed with which the incident was reported and handled by the police was crucial.

Travel time affected citizen satisfaction only indirectly through its affect on citizens' perceptions of response time. Citizens' levels of satisfaction with response time were determined by whether they perceived officer response time to be greater or less than they expected. Since it was citizens' perceptions of response time in relation to their expectations which determined their level of satisfaction, there was no guarantee that a short travel time would result in a citizen's being satisfied with response time. This was the same result noted for dispatch time. The consistency of this finding suggests that providing the expected time of officer arrival based on the availability of officers, the type of incident reported, how quickly it was reported, etc., might be an important consideration in maintaining citizen satisfaction with response time.

Two factors were identified that affected an officer's travel time. First, as might be expected, the distance that must be covered in response to the call exerted a significant influence on the time required. The only other determinant of field response time that was isolated was the type of Part II crime, with incidents of discovery vandalism resulting in times disproportionately long for the distance traveled compared to other types of crimes.

#### Summary

The analysis of the Part II crime findings indicate that response strategies can and should be refined and applied only when warranted. One out of every five Part II crimes was discovered sometime after commission, rendering rapid response ineffectual on the outcomes examined. Additionally, a large proportion of the involvement incidents were reported with such lengthy delays that the possibility of realizing any response-related outcomes was minimal. Even 81 percent of the

reporting citizens supported this viewpoint when they said a faster response to their calls would not have affected the outcome of that call.

Increased expenditures to reduce police dispatching and travel times do not appear to be justified without corresponding efforts to reduce reporting delays. If significant reporting delays can be substantially reduced, field response time is still limited by the demands of the distance that must be traveled, which can be minimized only to a point. The realization which must be made is that rapid response is not a universal tactic, but rather a specific tool applicable only to certain types of incidents under specific circumstances. Finally, police administrators must assess whether the cost of rapid response capabilities, in terms of the hardware and manpower requirements, the chance of damage to public property, and the risk of injuries to officers and civilians, is justified by the gains that can be made for those incidents which could be affected.

## CHAPTER ONE

### INTRODUCTION

One of the most basic assumptions of policing has been that rapid police response is a critical factor in making on-scene arrests, locating witnesses to incidents, minimizing citizen injuries, and maintaining citizen satisfaction with police performance. The assumed importance of responding rapidly to calls has influenced departments in determining the need for additional officers, new police cars, and the acquisition of communications equipment. While it is reasonable to assume that rapid response is important, data supporting this assumption have not been systematically gathered and evaluated. The Response Time Analysis study was developed to provide the kind of comprehensive baseline data necessary for an assessment of the value of rapid response time.

#### Objectives

The main objectives of the study are as follows:

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

Practical police experience indicated response time does not begin with a citizen's call to police, as most previous studies have defined it, but actually begins when a citizen first becomes aware a crime is occurring or has occurred. It was further realized that citizens often delay between the time they know a crime is occurring and when they contact police, and that these delays would have

some effect on whether police response resulted in on-scene arrests, location of witnesses, etc. To assess the effect of delays by citizens when reporting crimes, their reporting times were included in the study's definition of response time. Reporting time was defined as the time from when a citizen was free from involvement in a crime or had discovered a crime until the citizen had made initial telephone connection with a police dispatcher.

This study's definition of response time was also broadened to include a second time period generally left out of other study definitions of response time. This was the time from when an officer arrived at the dispatched location until the officer's initial investigation of the situation began. This time period was considered essential because time spent by an officer to locate the actual crime or incident scene or to locate a citizen who knew something about the situation could give suspects enough time to get away or for witnesses to decide to leave.

With the inclusion of these two additional time periods, response time was ultimately defined as the time from when a citizen was free from involvement in a crime or had discovered a crime until an officer's initial investigation of the incident began. This total response time was then conceptually divided into three intervals which were the time taken by citizens to report crimes, the time taken by dispatchers to process the information, and the time taken by police officers to travel to and locate incident scenes. Each of these intervals could then be related to the outcomes. The results of the analyses of the relationships of response time to outcomes are presented in Chapters Three through Six.

In addition to assessing the direct effects of reporting, dispatch, and travel time on crime outcomes, the study was interested in identifying the fac-

tors which might cause citizens to delay before calling the police. These factors were divided into problems, uncontrollable hindrances encountered when calling police, and patterns, voluntary actions or attitudes which result in reporting delays. These problems and patterns and their effects on reporting time are presented in Chapter Seven.

An examination was also made of the relationship persons calling police had to the crime, whose telephone they used, the number they called, and how they knew the number to see if these factors also affected the time taken to contact the police. This analysis is presented in Chapter Eight.

Finally, an assessment was made of such factors as whether an officer was in his car, in his assigned beat (patrol designation), and the urgency of the situation to determine if such factors affect how much time an officer takes to travel to a call. This information is provided in Chapter Nine.

#### Methodology

The Part II crime data presented in this volume were primarily collected from 55 of the city's 207 beat-watches.\* These beat-watches were selected for their high rates of robberies and aggravated assaults. The collection design specified that observers were to accompany officers assigned to these high crime areas and times but did not preclude the collection of data for calls in which officers were dispatched to nontarget beat-watches. Data for 24.2 percent of the Part II crime incidents came from calls made to nontarget beat-watches. Calls to nontarget beat-watches were sometimes made to beats which were in the target area during a different watch, however. Accordingly,

\* A beat-watch is an 8-hour tour of duty in a car territory. There were three watches in each of the city's 69 beats, so there were 207 beat-watches.

dispatches to nontarget beats, regardless of watch, occurred in only 14.8 percent of the observed Part II crime incidents.

Data Collection. The data collection process was divided into three basic components analogous to the three response time intervals. Observers riding with patrol officers collected travel time data, analysts collected dispatch time data from tape recordings made in the department's Communications Unit, and interviewers collected reporting time data from victims and other citizens who had reported incidents to police.

With information obtained by the field observers, tape analysts could locate the calls on tapes which corresponded to the observed crimes, and interviewers could contact the citizens associated with the observed calls. By tying the data collection process together, response time could be calculated for particular calls from the time they originated until an officer had concluded his investigation. Field data were collected from March 1, 1975, until January 2, 1976, while the other data collection processes extended into the Spring of 1976.

Field Observations. Civilian field observers rode four, 8-hour tours of duty each week with police officers assigned to the city's upper 27th percentile of beat-watches, based upon 1974 robbery and aggravated assault crime data. Observers recorded times documenting officer dispatch, response, arrival, and citizen contact at the incident scenes. Pulsar wristwatches with digital displays were used to record these times. Descriptions of on-scene activities such as arrests, the administration of first aid, and requests for ambulances were obtained along with the identities of crime victims and persons who reported the incidents to the police.

Tape Content Analysis. The Communications Unit of the Kansas City, Missouri, Police Department records all telephone conversations between citizens and dis-

patchers and radio conversations between dispatchers and field officers. Using information provided by the field observers, analysts were able to locate the recorded conversations corresponding with the incidents for which the field observers had collected data. Analysts recorded times pertaining to the initial connection between citizens and dispatchers, the length of time necessary for citizens to explain the nature and location of an incident, and the length of time required for a dispatcher to assign a field officer to a call.

Citizen Follow-up Interviews. Using the identities determined by the field observers, the citizens who were victims of observed crimes or who had reported the crimes or requested police service were contacted for interviews. Interviews obtained data for determining the approximate time the crime had occurred or was discovered and how much time had elapsed between when the citizen discovered an incident or was free from involvement in an incident and then reported it to the police.

Interviewers also questioned citizens about their expectations of police service, their satisfaction with police response time, and any problems they encountered when attempting to contact the police. If a citizen was injured during the commission of one of the crimes in the sample and taken to a hospital, the hospital was contacted about the length of stay required for the citizen. Interviewers also collected information about the social characteristics of citizens interviewed.

#### Data Base

There were 359\* eligible Part II crimes in the data base classified first

\*A review and verification of the Part II crime data base revealed that one incident was inadvertently excluded from analysis. The case involved two juveniles who were arrested on scene for disorderly conduct, making the case eligible for Part II crime analysis. However, the case also involved a warrant arrest and was incorrectly categorized as a noncrime call. Cases which involved warrant arrests in which no offense report was taken were analyzed as noncrime data.

according to what type of crime they were and secondly according to whether they were an "involvement" or a "discovery" crime, Table 1-1. The type of crime classifications were made according to the FBI Uniform Crime Report (UCR) classifications except where several classifications were grouped to form a single classification. The involvement and discovery categories were created for this study to analyze the differences in outcomes reported for cases in which there was a victim or witness who could report the crime while it was occurring, or immediately afterward, compared to cases which were discovered after they occurred.

Discovery crimes were defined as those crimes detected after the crime had occurred. Involvement crimes were defined as those crimes in which a citizen saw, heard, or became involved at any point during the commission of an offense. An involvement crime may have involved a victim, as in a nonaggravated assault, or simply a witness, as in a case where a citizen witnessed a neighbor's property being vandalized. For a witnessed crime to be classified as an involvement crime, however, the witness to the crime had to call police or have someone else call police. If a crime was witnessed but the witness did not report the crime, and the crime was later detected and reported, the case was classified as a discovery crime.

As illustrated in Table 1-1, two crime categories were formed by combining several individual categories. Because of the limited number of cases in the individual forgery, fraud, and embezzlement categories, and because of their similar natures, these three types of crimes were grouped into one classification. Individually, forgery occurred in 11 cases, fraud in 19, and embezzlement in 3.

Because of their limited individual numbers, the following five types of

TABLE 1-1

## Part II Crime Data Base

TYPE OF CRIME	N	PERCENT OF TOTAL
Involvement	292	81.3
Nonaggravated Assault	59	16.4
Vandalism	54	15.0
Forgery, Fraud, and Embezzlement	21	5.8
Weapon Possession	17	4.7
Drunkenness*	37	10.3
Disturbing the Peace	58	16.2
Disorderly Conduct	20	5.6
Other	26	7.2
Discovery	67	18.7
Vandalism	50	13.9
Forgery, Fraud, and Embezzlement	12	3.3
Other	5	1.4
All Part II Crimes	359	100.0

\*Drunkenness was an offense when the data for this study were collected, so cases of drunkenness were included in the sample. However, as of September 1977, drunkenness was eliminated as an offense in Missouri.

crime were classified as "other" offenses: arson (7 cases), narcotic violations (5 cases), sex offenses (4 cases), gambling (1 case), and incidents classified by the UCR as "all other offenses" (13 cases).<sup>\*</sup> In addition, one drunk case was discovered and classified as "other." Since the six types of crime making up the "other" offense category were so dissimilar, the 31 cases in this category were not included in any analysis of type of crime.

Two types of crime listed in the UCR were excluded from analysis in this volume altogether. Juvenile status offenses were excluded since the Kansas City, Missouri, Police Department does not treat them as criminal offenses. "Driving while intoxicated" cases were excluded from this volume but will be analyzed in a volume on noncrime and traffic calls.

The type of crime classification given to a call was determined by the way the call was classified by the responding officer. Those calls involving multiple offenses had to be classified according to only one of the offenses so the response time for the call would not be analyzed more than once. There were 28 cases (7.8 percent) in the Part II data base with multiple offenses which were classified according to the following two criteria:

1. Primacy. Incidents involving multiple offenses were classified according to the primary offense. An offense which occurred subsequent to police involvement, such as assault on an officer, would not be the primary offense when multiple offenses had occurred. Also, any offense dependent upon the occurrence of other criminal actions to be considered a crime would not be the primary offense.

<sup>\*</sup>The "all other offenses" category included city ordinance violations (one case), bomb threat (one case), nonpayment (four cases), trespass (four cases), and extortion (three cases).

For example, contributing to the delinquency of a minor would not occur unless other criminal actions were involved. If this criterion could not be used to categorize an incident, the second criterion was used.

2. Seriousness. Incidents were classified according to the most serious offense involved. Seriousness of Part II crimes was based on injury or threat of injury to persons, and loss or destruction of personal property. Crimes against persons were considered more serious than property crimes, and property crimes were taken to be more serious than crimes not falling into either of these categories, e.g., "regulatory" offenses.

Once the cases had been classified by type of crime, they could then be classified as involvement or discovery crimes. Five of the seven types of Part II crime represented in the sample generally involved a victim or complainant and so were virtually always involvement crimes. They were the nonaggravated assault, weapon possession, drunkenness, disturbing the peace, and disorderly conduct categories. Only vandalism and forgery, fraud, and embezzlement occurred undetected in a significant proportion of the incidents, and were therefore the only categories which also included discovery crimes. For the study, a victim was defined as the citizen against whom a crime was committed. Unlike most statutory definitions, the victim of a forgery, by study criteria, would be the citizen taking the forged check, not the business to which the check was written.

#### Interview Completion Rates

For a case to be included in the data base, the police response to the crime had to be initiated by a citizen's telephone call. Project interviewers then attempted to contact and interview the victims of the crimes and the persons who

called police, if they were not also the victim, to collect reporting time data, information about problems and patterns and citizen satisfaction, and socioeconomic information about the respondents.

For the interview process to be considered complete by original study criteria, interviews had to be completed with a victim who had called police (victim-caller), or both the victim and the person who had called police (either a witness-caller or caller). However, an exception had to be made for the Part II "victimless crimes" of drunkenness, disorderly conduct, gambling, narcotic violations, weapon possession, and other ordinance violations. For these crimes, only a witness-caller or caller interview had to be completed.

Of the 359 Part II cases, 211, or 58.8 percent, had the necessary interviews completed (Appendix A, Table A-1). Another 60, or 16.7 percent, were partially complete, with a victim or a caller interview having been completed, but not both. There were 88 cases, or 24.5 percent, which had no interviews and so were incomplete.

The interview completion rate was highest for victim-callers, 87.2 percent, with 136 of the 156 victim-callers interviewed. The completion rate for victims was 60 percent, with 75 of the 125 victims interviewed, and the completion rate for callers and witness-callers was 48.5 percent, with 98 of the 202 callers and witness-callers interviewed. Usually, interviews were not completed because the citizen had called about more than one incident and confused the other incidents with the one eligible for the study. In three cases, the interviewer erred by neglecting to interview the victim. Several citizens were not eligible for interviews because they were less than 12 years old, had been arrested during the incident, spoke no English, or were mentally deficient. A large number of citizens could not be located because they had moved or had given false identification to the police.

Socioeconomic Data Base. Citizens were asked to provide socioeconomic information about themselves at the end of telephone and personal interviews. Twelve questions were asked of each respondent pertaining to various social characteristics.\* These data were obtained to determine if a citizen's socioeconomic situation affected the attitudes expressed or actions taken. Because interviews were considered complete whether the citizen refused to answer any or all of these questions, the sample size varied among the measures. Statistics for the 12 socioeconomic variables are provided in Table 1-2.

The first four variables pertained to the citizens' patterns of residency. The length of residence in Kansas City, Mo., and the length of residence at the current address were the first two. Any amount of time less than 1 year was coded as 1 year, and answers given in years and months were rounded to the nearest whole number of years. The third residency question asked citizens to estimate the population of the city\*\* they had lived in most of their lives. Finally, the citizens were asked to indicate whether they owned their home, rented, or boarded (tenure).

Marital status was a dichotomous variable, being coded either married or not married. Single, widowed, divorced, and separated individuals were considered "not married." A rating of the socioeconomic status of a respondent's occupation was obtained from the Duncan Socioeconomic Status Scale,\*\*\* an ordinal scale of nearly 500 different types of jobs. Occupations listed in the 1950 United States

\*See Appendix M, Response Time Analysis Volume I: Methodology.

\*\*The population of a city was based upon its metropolitan population and not on the population within the city's boundaries.

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

TABLE 1-2

Social Characteristics of Citizens Interviewed

SOCIAL CHARACTERISTIC	N	MEAN	MEDIAN	RANGE	RESPONSES
Length of Residence in K.C., Mo.	241	20.7 years	17.7 years	1 to 71 years	N/A
Length of Residence at Address	270	6.3 years	3.3 years	1 to 49 years	N/A
Population of Respondents' Longest Address	249	8.7*	9.8*	1 to 10*	N/A
Tenure	270	N/A	N/A	N/A	Own 43.3% Rent 45.6% Board 11.1%
Marital Status	270	N/A	N/A	N/A	Married 58.5% Not Married 41.5%
Socioeconomic Status (Duncan Scale)	188	38.2	37.4	4 to 85	N/A
Age	266	36.8 years	34.4 years	13 to 82 years	N/A
Education	269	4.7**	4.0**	1 to 9**	N/A
Head of Household	266	N/A	N/A	N/A	Yes 71.4% No 28.6%
Income	185	7.6***	8.6***	1 to 13***	N/A
Race	264	N/A	N/A	N/A	White 61.0% Black 39.0%
Sex	271	N/A	N/A	N/A	Male 54.6% Female 45.4%
(Total Citizens Interviewed	271)				

\*An ordinal scale from (1) "rural" to (10) "city over 500,000 "

\*\*An ordinal scale from (1) "less than 8th grade" to (9) "graduate work."

\*\*\*An ordinal scale from (1) "under \$2,000" to (13) "\$25,000 and over."

Census are rated from 1 to 99, according to the combined educational status and income level with a slight adjustment for the age ranges in some categories.

Data regarding the respondent's age, level of education, and income were also obtained through these interviews, as well as an indication of whether citizens considered themselves "head of the household." Those indicating they shared this responsibility with a spouse were also classified as heads of their household. A respondent's race and sex were obtained from several sources, e.g., personal observation by the interviewer, information listed on the police report, or data given on Attachment A,\* a form completed during data collection by field observers which gave certain identifying information about citizens eligible for an interview.

#### The Analysis

Because of the diversity of the outcomes being investigated, the analysis techniques utilized were also diverse. With each outcome assessed, brief mention is made of the statistical procedures used and the location (Appendix and Table) of the summary statistics. Several multiple regression techniques were used throughout analysis. These techniques included analysis of variance and covariance through dummy variable regression analysis. When analysis of variance indicated systematic variation among categories, t-tests were used to perform *a posteriori* contrasts of the group means. In the analysis of citizen satisfaction, path analysis was used. In all of the analyses, when type of crime was entered into multiple regression, the "other" category was deleted because of the dissimilarity of the cases in this category. More specific information on

\*See Appendix G, Response Time Analysis Volume I: Methodology.

the statistical and analytical techniques used may be found in Appendix A, Section A-2.

The total response time was divided into the time taken by citizens to report crimes, by dispatchers to process the information, and by officers to respond to the call. For the dispatching process and officer response, exact point times were obtained. The citizen reporting times were constructed from estimates obtained during subsequent interviews of the citizens who had called the police. If the citizens interviewed were not consistent in their estimations of how long it took to report a crime, the minimum time delay given by the citizen was employed.

Despite the choice of the shortest possible reporting time cited by citizens, some rather 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. Because these extreme times were the result of actual situations, they were included throughout the analysis. Because the skewness is reflected in the means of the response times reported, the median time is suggested as more representative of the time taken to report, dispatch, and travel to a crime incident. Furthermore, logarithmic transformations were used to normalize the time distributions so differences in response times could be more adequately assessed.

It should be noted that each crime incident was entered into analysis, rather than a number of cases grouped by response times. Grouping results in an outcome based on an average time rather than 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. Finally, because of the small sample size of the variables analyzed, caution should be taken in interpretation of results.

CHAPTER TWO  
RESPONSE TIME

For the purposes of the study, response time was defined in its broadest context as the time from when a citizen discovered or was free from involvement in a crime until an officer began an on-scene investigation. Total response time was divided into seven component times which correspond to distinct processes or procedures which require a definable proportion of the total time to perform. To address the study's objective of evaluating the relationship of response time to certain incident outcomes, the seven time components were conceptually combined into three main response time intervals; the reporting interval, the dispatch interval, and the travel time interval. These intervals reflect the role of the three contributors to total response; the public, the police dispatcher, and the police patrol officer.

Response Time Components

Figure 2-1 illustrates occurrence time, the seven response time components, and the three response time intervals. Occurrence time, the length of time a victim or witness was physically detained by the commission of the crime from calling the police, was not considered part of response time and is included for descriptive purposes only. It was available for nonaggravated assaults only because in other Part II crimes, citizens would not be physically detained by suspects.

Occurrence time and the first response time component, the time a citizen knew of a call and was free to call police until initial connection with a police dispatcher, were based on citizen estimates. The other six components came from exact times taken from Communications Unit tape recordings, or were obtained



by civilian observers who accompanied patrol officers. The operational definitions for the seven response time components are presented in Appendix B, Section B-1.

Descriptive statistics for the components for all Part II crimes, involvement crimes, and discovery crimes are given in Table 2-2. Statistics provided include the median (Md) and mean times ( $\bar{X}$ ), the standard deviation (SD), minimum (Min) and maximum (Max) times observed, the sample size (N), and the proportion this component interval constituted of the total time. The last statistic was computed by first dividing the component times by the total response time for each incident and then computing the mean of those quotients. These data are provided for each type of Part II crime in Appendix B, Tables B-2 through B-5.

It can be seen from Table 2-2 that for all Part II crimes, three of the seven response time components, one from each interval, comprised 91.8 percent of total response time. Nearly one-half of the total time (49.6 percent) was taken after a citizen was free from involvement or had discovered a crime until the police dispatcher was contacted. The reported times for this component ranged from 1 minute to over 19 days, with a median time of over 6 minutes. On the average, it took citizens discovering a Part II crime longer to contact police than those citizens involved in a crime. The component made up a larger proportion of total response time in discovery cases than in involvement cases.

The component time from when the dispatcher knew the nature of the incident and the location to which an officer should be dispatched (information available) until the dispatcher first contacted a car with an observer made up 17 percent of the total response time. This component had a median time of 1 minute, 54 seconds, with a minimum of 10 seconds and a maximum of 37 minutes within the

Table 2 - 2.-- Time statistics for each response time component for the categories of all Part II crimes, Part II involvement crimes, and Part II 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 Dispatch Terminates	Dispatch Terminates to Officer Responds***	Officer Responds to Arrival	Arrival to Investigation Initiated**	**Total Response Time
All Part II Crimes	Md	1:57	6:01	0:14	1:54	0:19	0:03	3:44	0:17	15:55
	X̄	3:09	5:37:35	0:20	3:33	0:21	0:23	4:32	0:22	5:48:43
	SD	5:56	37:24:04	0:19	5:01	0:13	1:24	3:21	0:46	37:28:42
	Min.	1:00	1:00	0:04	0:10	0:06	-1:21	0:11	-5:45	4:05
	Max.	45:00	456:00:00	3:28	37:13	2:48	15:58	29:45	5:10	456:06:15
	N	57	286	352	334	337	353	359	359	285
%	—	49.6	2.1	17.0	2.5	1.5	25.2	2.1	100.0	
Part II Involvement Crimes	Md	1:57	5:01	0:14	1:51	0:19	0:03	3:35	0:15	14:37
	X̄	3:09	1:01:13	0:19	3:08	0:22	0:21	4:13	0:20	1:10:34
	SD	5:56	8:23:56	0:19	4:10	0:13	1:16	2:52	0:48	8:25:34
	Min.	1:00	1:00	0:04	0:10	0:06	-1:21	0:11	-5:45	4:05
	Max.	45:00	106:53:00	3:28	37:13	2:48	15:58	29:45	5:10	107:11:37
	N	57	224	286	268	271	288	292	292	223
%	—	46.3	2.3	17.8	2.8	1.4	27.1	2.2	99.9	
Part II Discovery Crimes	Md	—	19:50	0:15	2:25	0:18	0:03	4:28	0:21	35:01
	X̄	—	22:16:06	0:20	5:15	0:20	0:33	5:54	0:31	22:29:13
	SD	—	76:55:49	0:15	7:20	0:10	1:53	4:42	0:37	76:56:30
	Min.	—	1:00	0:05	0:16	0:10	-0:34	1:08	0:00	5:31
	Max.	—	456:00:00	1:31	35:41	1:10	13:55	23:45	3:42	456:06:15
	N	—	62	66	66	66	65	67	67	62
%	—	61.5	1.3	14.2	1.5	1.6	18.3	1.6	100.0	

\* Data are for nonaggravated assault only.

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

\*\*\* Negative times resulted when the officer began to respond before the dispatch was concluded.

\*\*\*\* Negative times resulted when an officer initiated the investigation before an officially dispatched officer arrived.

sample. The average time taken during this component was greater for discovery than for involvement incidents. However, this component made up a smaller proportion of total response time for discovery cases than for involvement cases because total response time was longer for discovery cases.

Over one-fourth (25.2 percent) of the total response time was made up by the component from the time the officer responded to the call until arrival at the dispatched location. This component had a median time of 3 minutes, 44 seconds, and times ranging from 11 seconds to nearly one-half hour. Again, the average time taken by this component was greater for discovery crimes, while proportionately this component was shorter for discovery crimes.

These three components represent the significant processes of each of the contributors to response time. The component from the time the citizen knows of the incident and can, without threat from the suspect, call the police until that call is actually placed is the responsibility of the public. The situation may warrant other actions which delay reporting, or citizens may hesitate because they are unsure of the necessary or appropriate activities. The police dispatcher is primarily responsible for the time from when the nature and location are known until an officer is requested to respond to the incident. Of course, many other actions may be demanded of the dispatcher before a specific car is assigned to a call. Other more serious calls may take precedence, or information concerning the incident may be broadcast before a specific car is assigned. Finally, the role of the field officer in response is reflected in the time elapsing in field travel. Again, many additional factors such as traffic or road conditions, the type or seriousness of the call, etc., may affect response. These three components comprise the bulk of the three response intervals used throughout the analysis; the reporting, the dispatch, and the travel interval.

### Response Time Intervals

Descriptive statistics for the response time intervals for all Part II crimes, involvement crimes, and discovery crimes are given in Table 2-3. These data are provided for each of the Part II crime divisions in Appendix B, Tables B-6 through B-9.

Reporting time consisted of the first two response components, and therefore began when a citizen knew of a crime and could call and ended when the nature of the incident and the location to which an officer should be dispatched were understood by the dispatcher.

The dispatch interval began when the nature and location of the incident were understood by the dispatcher and ended when a) the car with the observer was officially assigned to the call or b) when the car with the observer had begun responding to the incident, whichever came first. The end of this interval was operationalized in these two ways because dispatchers sometimes broadcast sufficient information about an incident before assigning a specific car so that an officer might begin responding to the scene before being assigned to the call. Any time spent in response to the call belonged with the travel interval, even though part of that time may have occurred before the officer was officially assigned to the call.

The travel interval, therefore, began when the officer was officially assigned to the call or had begun to respond, whichever came first, until the investigation of the incident began. An investigation was considered to have begun when the officer arrived at the incident scene or when the officer began getting information from a citizen who was involved in or had discovered the crime.

Analysis of variance was used to assess possible differences among types

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

Crime Category		Reporting	Dispatch	Travel	Total
All Part II Crimes	Md	7:03	2:13	4:20	15:55
	$\bar{X}$	5:39:06	3:50	5:22	5:48:43
	SD	37:27:56	4:59	3:44	37:28:42
	Min.	1:05	0:21	0:20	4:05
	Max.	456:00:11	37:33	29:58	456:06:15
	N	285	352	359	285
%	51.7	19.0	29.4	100.1	
Part II Involvement Crimes	Md	5:39	2:07	4:09	14:37
	$\bar{X}$	1:01:49	3:27	4:59	1:10:34
	SD	8:25:04	4:11	3:16	8:25:34
	Min.	1:05	0:21	0:20	4:05
	Max.	106:53:27	37:33	29:58	107:11:37
	N	223	286	292	223
%	48.5	19.9	31.5	99.9	
Part II Discovery Crimes	Md	20:16	2:40	5:25	35:01
	$\bar{X}$	22:16:27	5:31	7:01	22:29:13
	SD	76:55:50	7:19	5:00	76:56:30
	Min.	1:05	0:21	1:45	5:31
	Max.	456:00:11	35:20	24:31	456:06:15
	N	62	66	67	62
%	62.9	15.4	21.7	100.0	

of Part II crime in the time taken for each of the three intervals. Reporting and travel time were strongly affected by the type of crimes to which officers were called. The time taken by the dispatcher to assign a car to the call was only slightly influenced, although the effect was statistically significant. (Appendix B, Tables B-10 through B-12).

T-tests of the mean time differences between types of crime were performed (Appendix B, Tables B-13 through B-15). The average reporting time was longer for forgeries, frauds, and embezzlements that were discovered than for any other type of Part II crime. Citizens who discovered cases of vandalism also tended to take more time to report the incident than citizens reporting involvement crimes. These two types of Part II discovery crimes also resulted in longer travel times than cases of weapon possession, drunkenness, and disturbing the peace. Officers' field responses to incidents of weapon possession were also, on the average, more rapid than for the other types of involvement crimes. There were few differences in average dispatching time between crime categories, and these few differences occurred in no pattern.

#### Summary

The time taken by the public to contact the police department concerning a Part II crime was, on the average, longer than that required to dispatch the call or to travel to the incident scene. Reporting time, in fact, comprised approximately one-half of the total response time, and was more than 6 minutes in over 50 percent of the Part II incidents observed. Generally, discovery incidents took longer to report and had longer travel times than involvement incidents. Additionally, incidents of weapon possession tended to produce the fastest travel times. Dispatch time did not appear to be strongly or consistently related to the type of Part II crime.

## CHAPTER THREE

### ARREST

One of the most fundamental and widely held assumptions concerning police response is that reducing dispatching and field officer travel time increases the probability of apprehending a suspect. Such an assumption, however, is largely untested. Further, the potential effect of the time taken by the citizen to report the incident has not been systematically examined. This section will focus on the roles reporting, dispatch, and travel times have in influencing the probability of an on-scene arrest in a Part II crime incident.

#### The Arrest Sample

The effect of varying response times on the probability of an arrest could be tested only for the Part II crimes of nonaggravated assault, vandalism, and forgery, fraud, and embezzlement (54.6 percent of the sample). These are the only crimes in the sample in which an offense report was filed whether an arrest was made or not. Unless an arrest is made, no offense reports are filed for disturbing the peace, weapon possession, drunkenness, and disorderly conduct. Since each of these incidents in the sample was accompanied by an arrest on scene, it was not possible to analyze the effect of response time on arrest.

For the purposes of this study, arrest was defined as the transporting of a suspect to a specific location for the purpose of booking, questioning, or identification. Referrals to other agencies such as alcohol detoxification or mental health centers were excluded. This volume is limited to on-scene arrests or those arrests made before the conclusion of the initial investigation conducted by a dispatched officer. Apprehensions of suspects in flight from or

adjacent to the incident scene were included if they were made during the initial investigation. Also, on-scene arrests were included only if they were directly related to the Part II crime involved. An arrest made on a previous warrant, for example, was not included since it was not directly related to the Part II crime. Of the 196 nonaggravated assault, vandalism, and forgery, fraud, and embezzlement incidents, 61 or about 31.1 percent resulted in one or more arrests on scene.

To assume that response time was the primary determinant of all on-scene arrests seemed untenable. Many on-scene arrests would likely be made even if response time was much longer than observed, as other factors could be cited as primarily responsible for the apprehension. Establishing an arrest subsample which did not include those incidents had two potential benefits. First, it could more clearly specify the approximate proportion of on-scene arrests which could be attributed to the response process. Secondly, by excluding those arrests resulting from other explicit causes which might be accompanied by long reporting, dispatch, or travel delays, the relationship between response time and arrests could be more clearly revealed.

To establish a response-related arrest subsample, four criteria were established to identify arrests due primarily to factors other than response. Arrests were excluded from the response-related arrest subsample if a) the suspect was apprehended by a private citizen or security guard prior to police involvement, b) the suspect's name or exact address was known by a victim or witness, and this information was given to the responding officer, c) the suspect was rendered totally immobile by injuries received during the commission of the crime, or d) the suspect voluntarily turned himself over to the police.

Of the 196 Part II incidents in the arrest sample, 11, or 5.6 percent, resulted in one or more response-related arrests. The small n-size, especially of the response-related arrests, make the results questionable. However, the small n-size has a substantive implication, i.e., response-related arrests occur in a very small proportion of the cases. Although the small n-size presents a methodological weakness, analysis has still been conducted to obtain whatever value cautious interpretation might provide. To permit comparisons between the arrest and response-related arrest samples, the results for both are presented.

Table 3-1 illustrates the distribution of the arrest and response-related arrest samples by type of Part II crime. Analysis of variance indicated systematic differences in the arrest rate by type of crime. Both arrest samples varied significantly among the crime categories (Appendix C, Tables C-1 and C-2), and t-tests specified these differences (Appendix C, Tables C-3 and C-4).

In general, involvement crimes were more likely to result in arrest than discovery crimes. As a group, involvement calls showed an arrest rate of 44.0 percent, while that of Part II discovery incidents was only 3.2 percent. Cases of vandalism which were witnessed by a victim or another person resulted in arrests in 18.5 percent of the cases; those discovered had an arrest rate of only 4.0 percent. No discovery forgery, fraud, or embezzlement cases produced an arrest, while over one-half (57.1 percent) of the same types of crime when witnessed resulted in a suspect being apprehended on scene. Involvement vandalism also showed a significantly lower arrest rate than either of the other two types of Part II involvement incidents.

Involvement forgery, fraud, and embezzlement incidents tended to have a higher response-related arrest rate than any other type of Part II incident.

TABLE 3-1

Distribution of Arrest and Response-Related Arrest Incidents  
By Type of Part II Crime

TYPE OF CRIME	N	NUMBER WITH ARREST(S)	PERCENT WITH ARREST(S)	NUMBER WITH RESPONSE-RELATED ARREST(S)	PERCENT WITH RESPONSE-RELATED ARREST(S)
Involvement	134	59	44.0	11	8.2
Nonaggravated Assault	59	37	62.7	4	6.8
Vandalism	54	10	18.5	1	1.9
Forgery, Fraud, and Embezzlement	21	12	57.1	6	28.6
Discovery	62	2	3.2	0	0.0
Vandalism	50	2	4.0	0	0.0
Forgery, Fraud, and Embezzlement	12	0	0.0	0	0.0
All Part II Crimes	196	61	31.1	11	5.6

Over one-fourth (28.6 percent) of these calls produced a response-related arrest, while the response-related arrest rates of the other categories did not exceed 7 percent. The relatively high proportion of cases with a response-related arrest for involvement forgery, fraud, and embezzlement calls was probably due to several factors. First, because these were involvement incidents, the victim was aware of the suspect's fraudulent actions while the crime was occurring.\* Second, another employee or a bank or credit card company employee, whom the victim had contacted to verify the crime, was able to contact the police while the incident was still in progress. In such cases, the suspect would be unaware he had been detected, and that the police had been called.

As the type of Part II crime influenced both the probability of making an arrest and the time taken to report, dispatch, and travel to the incident, this factor was considered in the relationship of response time to the probability of arrest. The difference between involvement and discovery crimes appeared to be more pervasive, affecting both the probability of on-scene arrest and the speed of response. Although differences among types of involvement or discovery incidents occurred, they were more rare and less consistent than between involvement and discovery crimes. Consequently, the role of response as a determinant of the probability of arrest was first tested for involvement-discovery differences through analysis of covariance. Where differences between involvement and discovery categories were identified, further possible differences in the arrest-response relationship among types of crime were examined.

\*If the victim was unaware the crime was occurring and discovered the crime later, it was considered a discovery incident.

### Arrest-Response Time Relationships

Reporting Time. While reporting time was not in itself sufficient to predict an arrest, it did influence the effect of travel time on response-related arrests for involvement cases (Appendix C, Tables C-5 through C-7). This influence is illustrated in Figure 3-2.

Involvement crimes which were reported promptly, within 1 minute of their occurrence, were more susceptible to the effect of rapid field response than incidents reported in 5 or 10 minutes. Even the shortest observed travel times resulted in response-related arrests in only about three-fourths as many incidents when they were reported 5 minutes after occurrence rather than within the first minute. Additional time taken to report the incident further reduced the possible impact of even the most prompt officer arrival.

Dispatch Time. The time taken to dispatch information concerning a Part II crime incident did affect the chance of making an on-scene arrest in involvement cases, but not discovery cases, and showed no effect on the probability of making a response-related arrest (Appendix C, Table C-8). Further, dispatch time affected the on-scene arrest probability of each of the three types of involvement crimes, nonaggravated assault, involvement vandalism, and involvement forgery, fraud, and embezzlement (Appendix C, Table C-9). These relationships are depicted in Figure 3-3.

Dispatch time had a similar effect on the probability of all on-scene arrests for each type of involvement crime. The effect was greatest for the shortest delays. The chance of apprehending a suspect dropped over 8 percent when dispatch time was increased from 1 to 2 minutes, it dropped nearly 20 per-

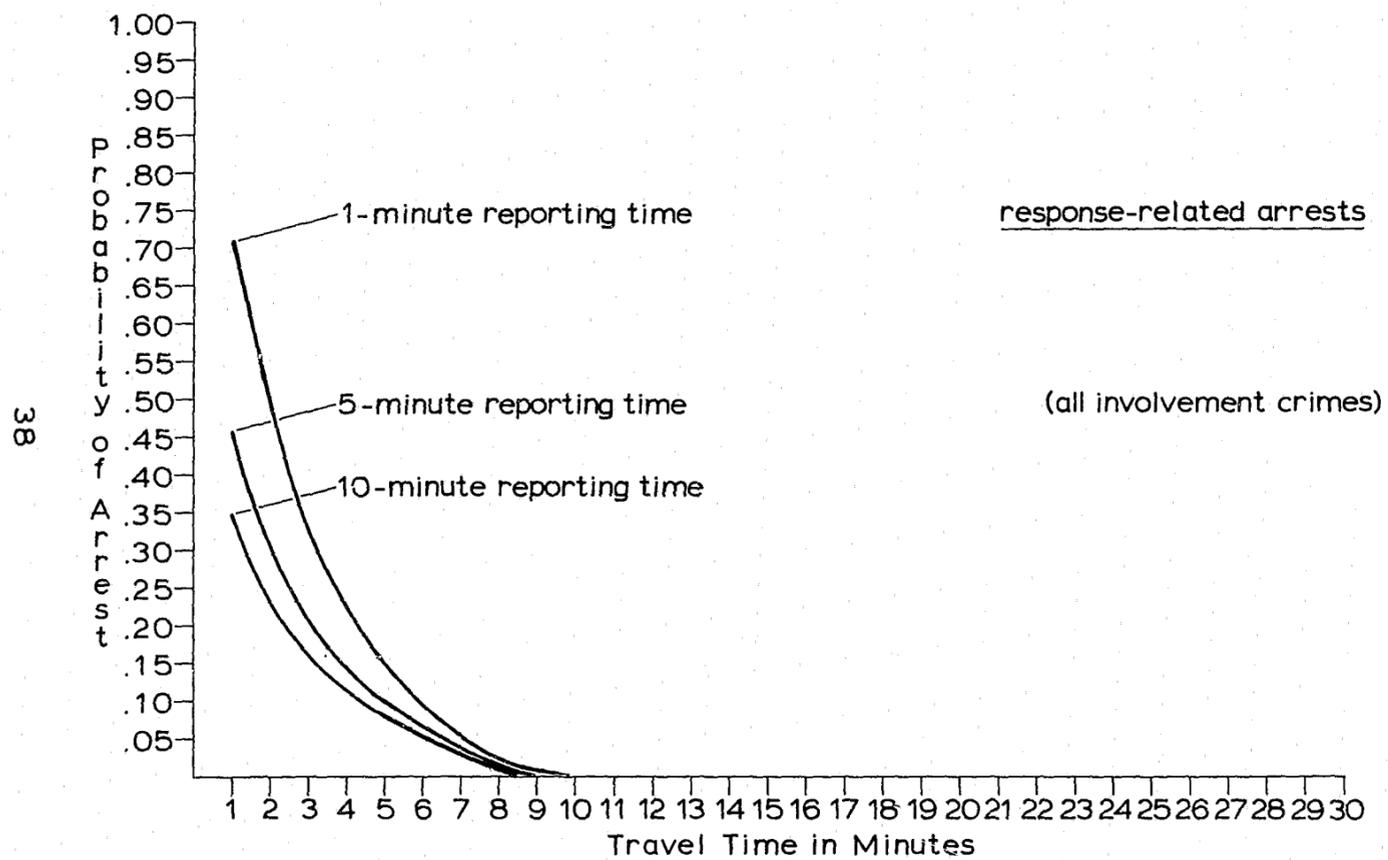


Figure 3-2.-- Effect of the time taken to report a Part II involvement crime on the relationship of travel time and response-related arrest.

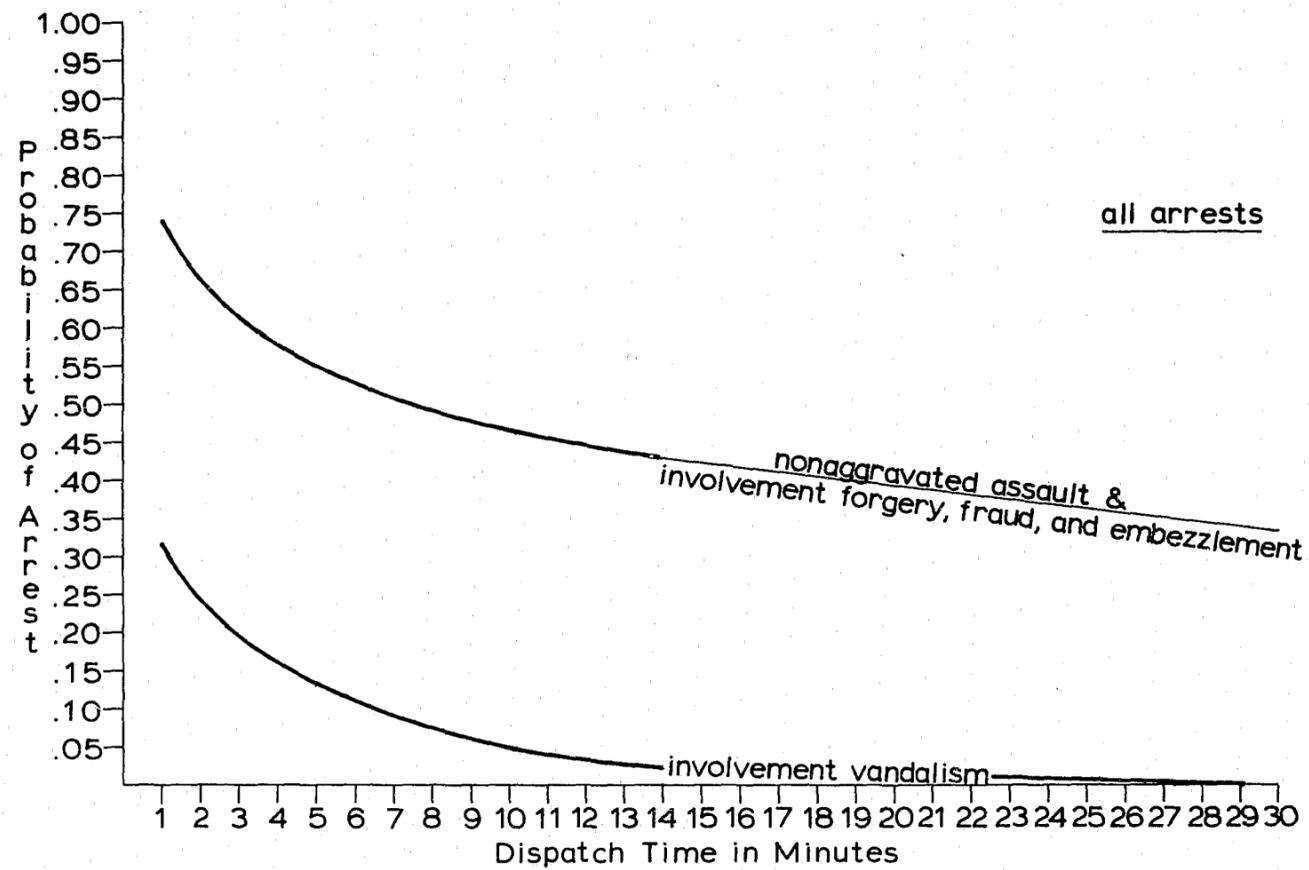


Figure 3-3.-- Probability of an arrest for nonaggravated assault, involvement vandalism, and involvement forgery, fraud, and embezzlement at dispatch times of 1 to 30 minutes.

cent when dispatch time increased from 1 to 5 minutes, and approximately 8 percent again when dispatch time increased from 5 to 10 minutes.

The probability of making an on-scene arrest was greater for involvement forgery, fraud, and embezzlement and nonaggravated assault than for involvement vandalism at all lengths of the dispatch interval. There was no significant difference between the dispatch time-arrest curves for involvement forgery, fraud, and embezzlement and nonaggravated assault incidents.

It should be noted, however, that dispatch time was faster for cases in which the arrests were attributable to factors other than rapid response, e.g., the suspect being held on scene by a security guard, the suspect's identity being provided by the victim or a witness, etc. For cases in which the arrests were related to rapid response, dispatch time was no faster than it was for all other cases. Consequently, while dispatch time was related to the arrest probability, it appeared to play an insignificant role in apprehensions made through rapid response.

Travel Time. Travel time influenced the likelihood of making an arrest on-scene in involvement, but not discovery, incidents (Appendix C, Table C-10). The probability of a response-related arrest in involvement cases was also affected by how quickly the field officer arrived at the incident scene (Appendix C, Table C-11). The relationship between arrest and travel time was also found to differ among the types of involvement crimes for all arrests and response-related arrests (Appendix C, Tables C-12 and C-13).

The probability of arrest for each type of involvement crime dropped rapidly, then leveled off with increasing lengths of travel time. If the delay in arriving at the incident scene increased from 1 to 2 minutes, the probability

of arrest dropped 12 percent; at 3 minutes, the probability dropped by an additional 7 percent, at 4 minutes an additional 5 percent, and when travel time was quite long, the impact on arrest of arriving a minute sooner or later was negligible.

The relationship of travel time to arrest for nonaggravated assault, involvement vandalism, and involvement forgery, fraud, and embezzlement is illustrated in Figure 3-4. The curves for nonaggravated assault and involvement forgery, fraud, and embezzlement did not differ significantly, while the probability of arrest in incidents of involvement vandalism was 40 percent lower at all lengths of travel time.

Figure 3-5 depicts the relationship between the travel interval and the probability of response-related arrest for each type of involvement crime. No difference between the curves for nonaggravated assault and involvement vandalism was found. Unlike the arrest curves, however, the probability of a response-related arrest was greater for involvement forgery, fraud, and embezzlement than the other two types of involvement crimes at all lengths of travel time.

The impact of travel time on response-related arrest also differed among the types of crime. The chance of making a response-related arrest in incidents of nonaggravated assault and involvement vandalism was small, about one-in-four, even with very rapid response to the incident scene. The probability fell gradually, reaching 0 percent at about 5 or 6 minutes of travel time. The likelihood of apprehending a suspect due to quick officer arrival in cases of involvement forgery, fraud, and embezzlement was quite high, nearly 90 percent, when travel time was 1 minute or less. However, with additional delay

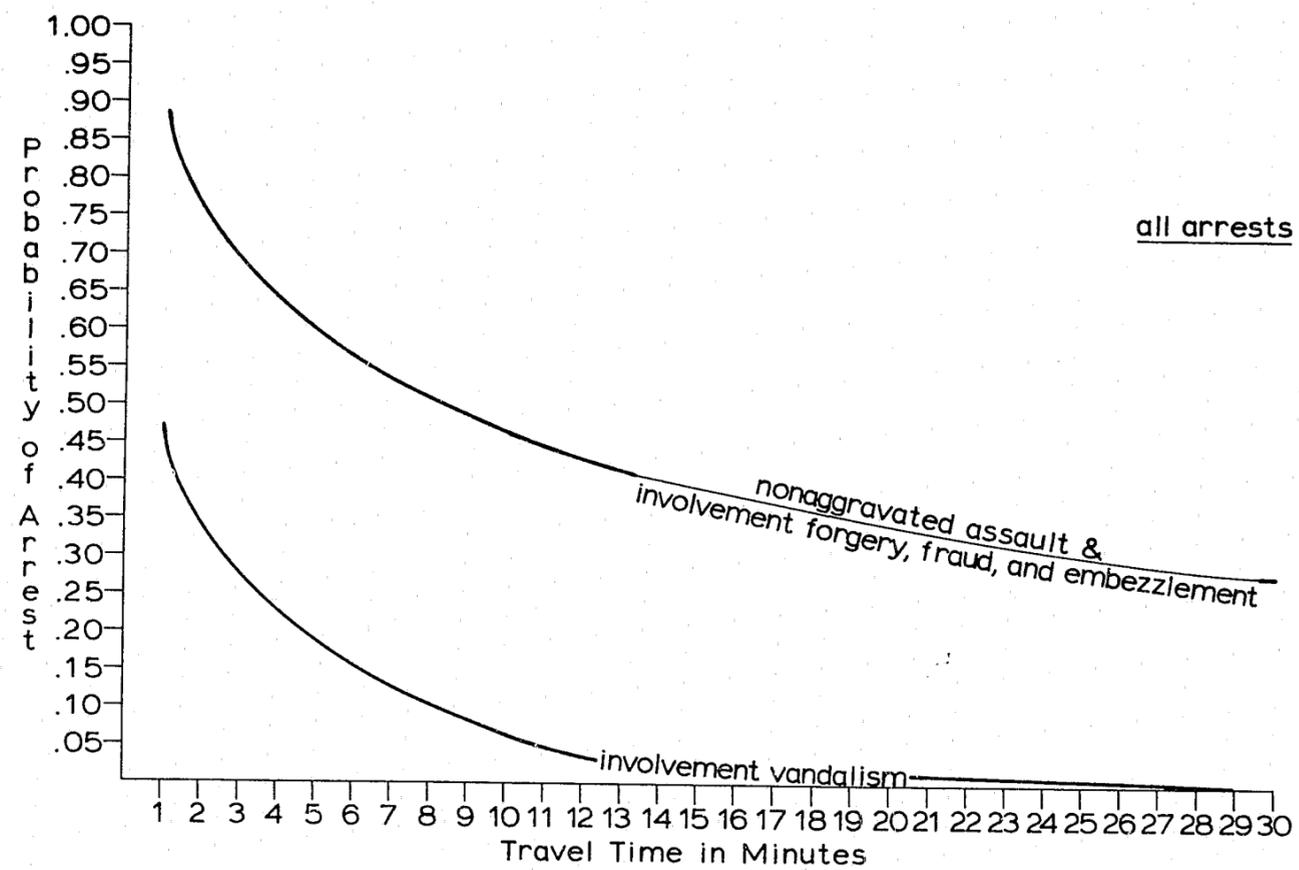


Figure 3-4.-- Probability of an arrest for nonaggravated assault, involvement vandalism, and involvement forgery, fraud, and embezzlement at travel times of 1 to 30 minutes.

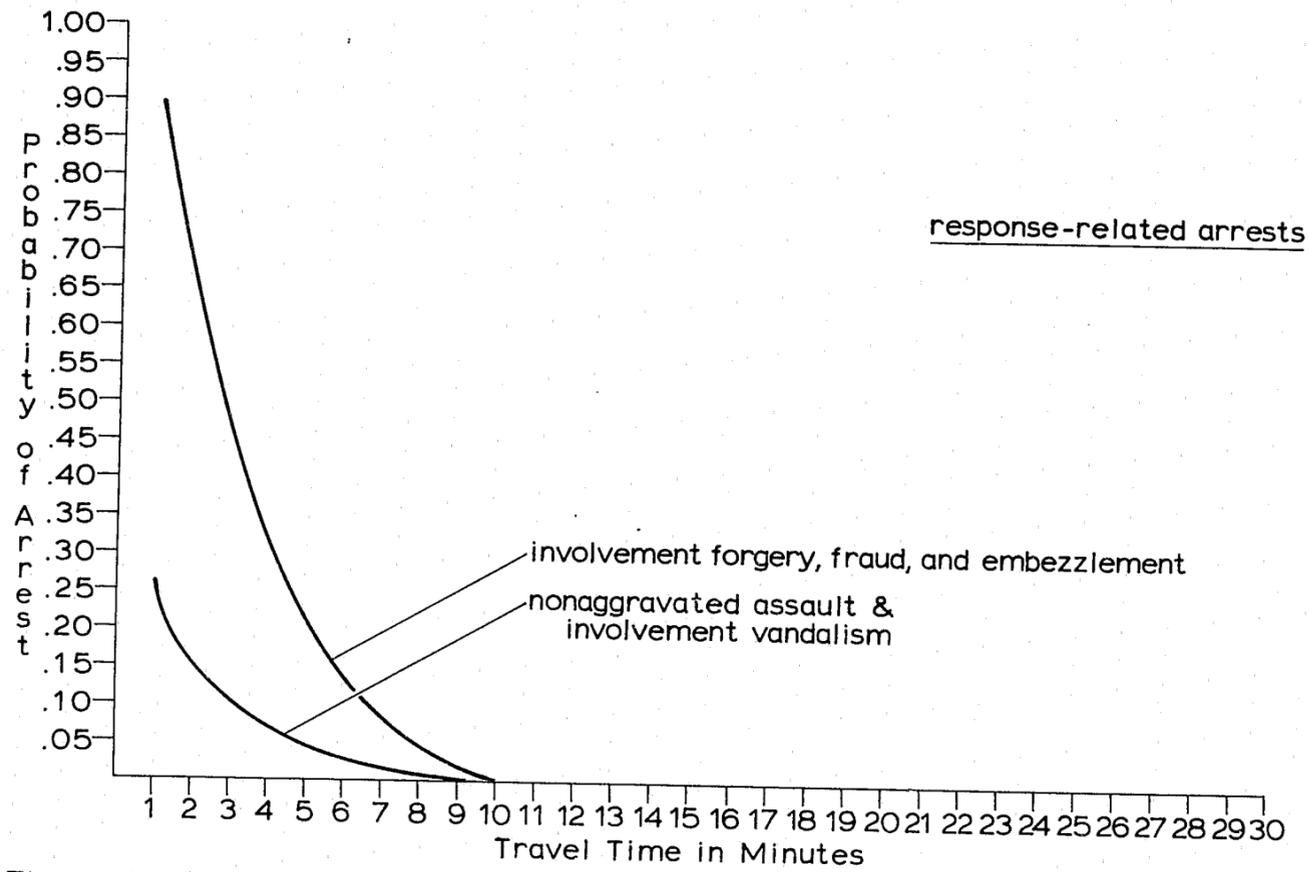


Figure 3-5.-- Probability of a response-related arrest for nonaggravated assault, involvement vandalism, and involvement forgery, fraud, and embezzlement at travel times of 1 to 30 minutes.

in arriving, the probability dropped rapidly, falling almost 30 percent at 2 minutes of travel time. The chance of response time producing an arrest in these cases was essentially nil after 8 or 9 minutes of travel.

#### Summary

The possible influence of reporting, dispatch, and travel times on the probability of arrest was examined for nonaggravated assault, involvement and discovery vandalism and forgery, fraud, and embezzlement. Incidents that involved a citizen during crime commission resulted in significantly more arrests than discovery incidents. The time taken to report a Part II involvement crime was found to influence the effect of travel time on the probability of response-related arrests. Rapid reporting enhanced the likelihood of suspect apprehension at all lengths of the travel interval, while longer reporting delays reduced the probability of a response-related arrest even with prompt officer arrival. Both rapid dispatching and travel were found to enhance the probability of apprehending a suspect on scene in involvement, but not discovery, incidents. Nearly 82 percent of the on-scene arrests in these cases could be primarily attributed to factors other than response time, such as the apprehension of a suspect by a private citizen or a security guard prior to police involvement. Incidents of involvement forgery, fraud, and embezzlement resulted in the highest proportion of cases with arrests that could be attributed to response time, and no discovery incident resulted in a response-related arrest. Prompt officer arrival at involvement forgery, fraud, and embezzlement calls greatly enhanced the chance of suspect apprehension due to response time, while the probability of response-related arrests in the other types of involvement crime were less affected by travel time.

## CHAPTER FOUR WITNESS AVAILABILITY

This chapter will assess how much effect, if any, reporting, dispatch, and travel times have in determining the probability of locating a witness at the scene of a Part II crime incident. The importance of this analysis rests upon the assumption that if witnesses are not contacted on scene, there is less chance that they will be subsequently found, and pertinent information will be lost.

#### The Witness Sample

For this study, a witness was defined as any person other than the victim (complainant) or suspect who saw, heard, or became involved in an incident at any time while it was occurring. The sample for Part II crimes included all witnesses who were contacted by a field officer during initial investigation of the call.\* Of the 359 Part II crimes, witnesses were contacted in 75 incidents (20.9 percent).

Table 4-1 illustrates the distribution of incidents with witnesses contacted according to the type of Part II crime. Analysis of variance indicated systematic differences in the probability of locating a witness on scene among the crime categories (Appendix D, Table D-1). T-tests of the proportional difference between types of Part II crimes were performed (Appendix D, Table D-2).

Incidents of drunkenness, disturbing the peace, and disorderly conduct had a significantly smaller proportion of cases with witnesses contacted than nonaggravated assault and involvement forgery, fraud, and embezzlement, but are the types of crime in which officers seldom seek witnesses to support their arrests

\*Witnesses identified through neighborhood canvasses by officers not accompanied by field observers may not have been recorded for analysis.

TABLE 4-1

Distribution of Incidents with Witness Contact  
By Type of Part II Crime

TYPE OF CRIME	N	NUMBER WITH WITNESSES	PERCENT WITH WITNESSES
Involvement	292	68	23.3
Nonaggravated Assault	59	20	33.9
Vandalism	54	14	25.9
Forgery, Fraud, and Embezzlement	21	10	47.6
Weapon Possession	17	3	17.6
Drunkenness	37	5	13.5
Disturbing the Peace	58	8	13.8
Disorderly Conduct	20	2	10.0
Other	26	6	23.1
Discovery	67	7	10.4
Vandalism	50	2	4.0
Forgery, Fraud, and Embezzlement	12	4	33.3
Other	5	1	20.0
All Part II Crimes	359	75	20.9

in court. Additionally, witnesses were identified in a smaller proportion of discovery vandalism calls than cases of nonaggravated assault, involvement vandalism, and involvement forgery, fraud, and embezzlement. Discovery forgery, fraud, and embezzlement calls did not differ significantly from involvement cases in the proportion of cases with witnesses contacted. This lack of difference was due to the fact individuals witnessed a forgery, fraud, or embezzlement without being aware at the time that the transaction was illegal; when the crime was later discovered and reported to police, they remembered having witnessed the incident.

The relationship between response time and the probability of contacting a witness on scene was expected to differ between involvement and discovery crimes. This difference was expected since witnesses to involvement crimes could usually be contacted on scene while witnesses in discovery crimes would have often left the scene and would be required to return for police to make contact with them. This possible relationship was tested through analysis of covariance. Based upon these results, further differences among crime categories were sought when appropriate.

Witness Availability-Response Time Relationships

Reporting Time. The time taken to report a Part II incident did influence the probability of contacting a witness on scene. This relationship varied between discovery and involvement crimes (Appendix D, Table D-3). However, no differences were found between types of involvement or types of discovery crimes.

Figure 4-2 illustrates the effect of reporting time on the probability of contacting a witness in involvement and discovery incidents. With increasing reporting time in an involvement crime, the probability of locating a witness

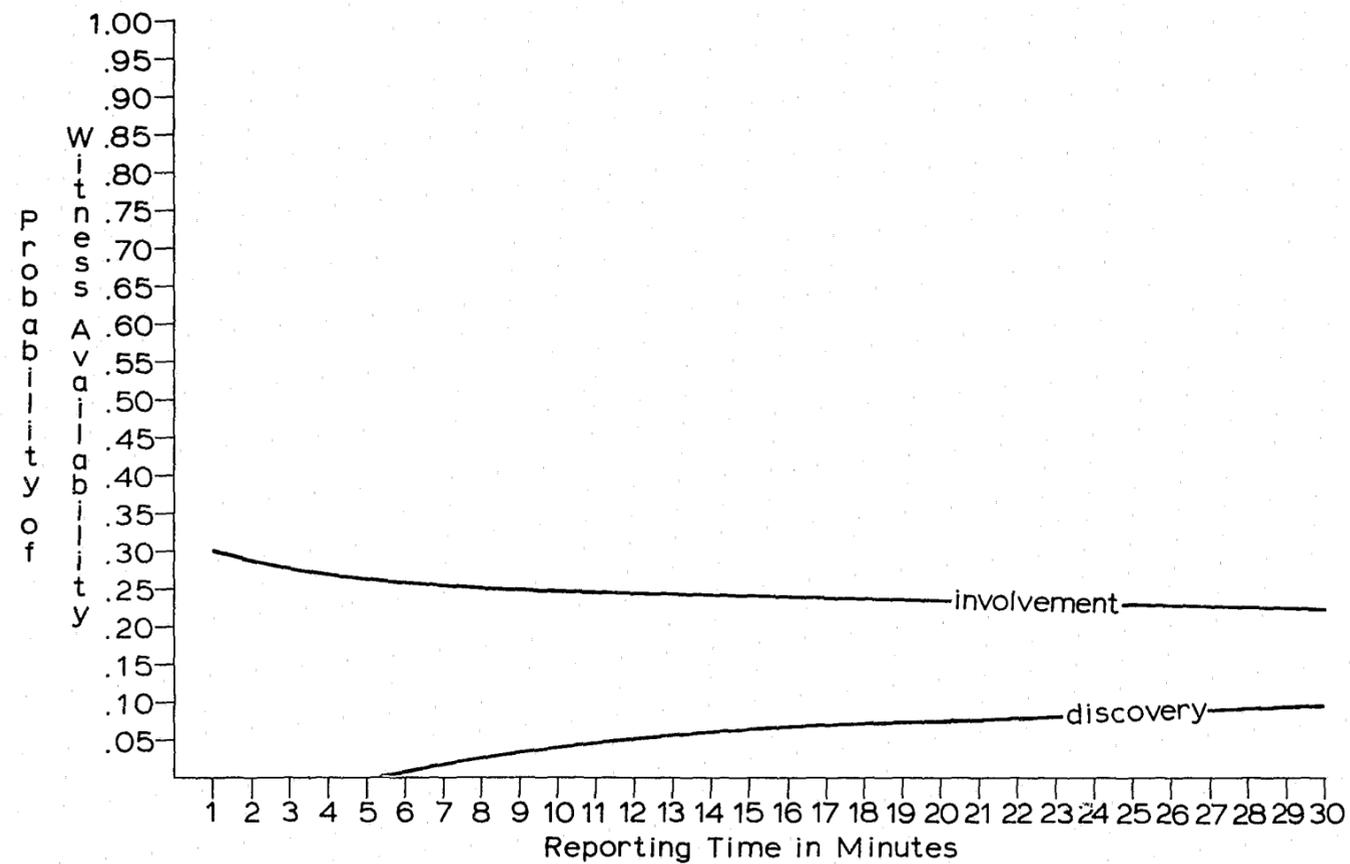


Figure 4 - 2.-- Probability of witness availability for Part II involvement crimes and discovery crimes at reporting times of 1 to 30 minutes.

decreased gradually. At 1 minute of reporting time, witnesses were contacted in almost 30 percent of the cases. This probability dropped to less than 25 percent at 10 minutes, with very little further change with additional reporting delay. For discovery crimes, the probability of having a witness present at the incident scene increased as the time taken to report the crime increased. Virtually no witnesses were contacted in discovery crimes reported in less than 5 minutes; however, with further delay, the probability of witness contact increased to just over 7 percent at 20 minutes reporting time. Additional time taken to report a discovery incident had little further impact.

Dispatch and Travel Time. The time taken to dispatch an incident and to travel to the scene did not influence the probability of contacting a witness on scene in either involvement or discovery incidents.

#### Summary

Reporting, dispatch, and travel times were tested as possible determinants of the probability of contacting a witness on scene in a Part II crime. Incidents of nonaggravated assault and involvement forgery, fraud, and embezzlement resulted in a larger proportion of cases with witnesses contacted than most other types of Part II crime. The probability of contacting a witness on scene was affected by the time taken by the reporting party to call the police, and the effect differed according to whether the crime was discovered by or involved a citizen. More time taken to report an involvement crime decreased the chance of identifying a witness, while additional time to report discovery crimes increased the probability of having a witness on scene. Neither dispatch nor travel time influenced the likelihood of witness availability.

CHAPTER FIVE  
CITIZEN INJURY

One of the benefits rapid response has been thought to provide is the reduction of the frequency and severity of injuries to citizens. It has been assumed that by arriving quickly, officers may intercept a violent crime in progress or settle a dispute before it escalates. Additionally, when an injury is sustained before the police are contacted, Kansas City, Mo., officers are often called upon to determine the need for an ambulance, render emergency first aid, and expedite the handling and transporting of the injured party. Consequently, it has also been assumed that if two injuries are equal in seriousness, the one receiving this service more quickly should result in more rapid recovery, fewer chronic impairments, and less specialized medical treatment.

This possible relationship was to be sought by assessing the effect of response time on the type and length of hospital stay for injuries of equal seriousness. As might be expected by the nature of Part II crimes, there was only a small number of cases in the sample in which injuries were sustained during the commission of the crime. Further, the incidents with injuries requiring hospitalization were a minority, and the type and length of hospital stay varied little. Because of these restrictions, the analysis was limited to a description of the frequency and severity of injuries sustained and a comparison of the reporting, dispatch, and travel times for these incidents with injuries.

The Injury Sample

Injuries were sustained in 79 (22.0 percent) of the Part II crime cases and involved 86 individuals. The types of incidents resulting in injury were 55 nonaggravated assault incidents, 1 case of vandalism, 1 sex offense incident,

2 cases of narcotics violations, 4 incidents of drunkenness, 12 disturbing the peace cases, 3 disorderly conduct cases, and 1 instance of nonpayment. In 42 of these cases, or 53.2 percent, one or more of the injuries was inflicted by a weapon.

Of the total injury sample, only 19 cases involved injuries that required hospitalization (24.1 percent). In two of these instances, the injured party was hospitalized prior to contacting the police. Consequently, officers responded to field injuries in 77 Part II incidents with injuries in 17 of these requiring subsequent hospitalization. Data concerning the type and length of hospital stay were obtained for each of the 17 field injury incidents. For 16 of these, only emergency room treatment was required. The injured party in the remaining case was admitted for overnight observation and released the following day.

The seriousness of field injuries at the time the officer arrived at the incident scene was operationalized along two dimensions. First, the observer indicated the degree of injury based upon the citizen's reported and apparent impairments. Secondly, the type of field treatment administered by the officer to the injured party was noted. The correlation between these two measures was .558. A seriousness index was developed by adding these two variables, both of which could range from one, indicating minor injury, to four. The seriousness index could thus range from two to eight, though no Part II incident had a rating of eight (an injury resulting in death prior to hospitalization). A minor injury for which no field treatment was given (an index score of two) occurred in 53 cases, or about 68.8 percent of the sample. The average seriousness index rating was 2.73.

### Injury-Response Time Relationships

Although the measure of the injury outcome based upon the type and length of hospitalization did not yield sufficient variation in Part II crime incidents to assess the effect of time, the response time of the public, dispatchers, and officers to field injuries of varying degree could be examined. Correlations between the seriousness index and the time taken to report, dispatch, or travel to the incident scene indicated that response time was unaffected by injury seriousness. Incidents involving serious injuries were not reported more rapidly, dispatched more promptly, or responded to more quickly by field officers than incidents involving only minor injuries. However, caution should be used in interpreting this finding since very little variation in seriousness among Part II crimes with injuries was noted.

### Summary

This section examined the effect of response time on the length and type of hospitalization for injuries of equal seriousness. However, due to the small number of the 77 field-injury incidents involving hospitalization (17) and the fact that virtually all of these required only emergency room treatment (16), analysis of this relationship was not possible. Although no relationship between the seriousness of the injury and the response time of the reporting party, the dispatchers, or the field officers was found, the lack of variation in seriousness may have contributed to the absence of effect. More than two-thirds of the Part II injury cases involved only minor injuries.

## CHAPTER SIX CITIZEN SATISFACTION

As public service agencies, police departments must be concerned not only with the control of crime but also with the satisfaction of their citizens. It is a widely held assumption among police administrators that rapid police response helps sustain a high degree of citizen satisfaction. The relationship between response time and citizen satisfaction with response time is examined in this chapter.

### Citizen Satisfaction Sample

In order to measure satisfaction with response time, 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?" Responses were obtained for 75 percent of the Part II crimes (Appendix E, Table E-1).

In general, citizens were very satisfied with police response time. Approximately 87.9 percent indicated some degree of satisfaction. Of those, 72.3 percent were very satisfied; 12.4 percent were moderately satisfied; and 3.2 percent were slightly satisfied. Only 4.4 percent were very dissatisfied; 3.2 percent were moderately dissatisfied, and 4.4 percent were slightly dissatisfied. Because citizens are generally satisfied with response time, police administrators' prime focus could be on those factors which decrease satisfaction with response time for those few cases.

### A Causal Model

In addition to police dispatch and travel times, several factors were con-

sidered possible determinants of citizen satisfaction. For example, if citizens think response time took longer than expected, they may be less satisfied. They may also be less satisfied when they think faster response time could have benefitted the outcome. If citizens delay reporting the incident until immediate police response could not affect the outcome, they may be more tolerant of slower police response time. Finally, if citizens can accurately discriminate incidents in which response time could alter the outcome, they may remain satisfied with slower response time to some types of crimes than to others. Social characteristics were included in the preliminary analysis, but none of the variables were significantly related. Other variables which could have potentially affected citizen satisfaction were not analyzed (Appendix E, Section E-2 and Table E-3).

These factors were organized in a causal model illustrated in Figure 6-1. The model is recursive and can be formally stated as a series of equations (Appendix E, Section E-4). The model was analyzed through successive least squares multiple regression analysis of each equation. The equations were then modified to exclude the nonsignificant variables and obtain the final path coefficients. By examining the path coefficients, it was possible to obtain the total effect that an independent variable had on citizen satisfaction, including both its direct and indirect effects through other variables.\* The results of the final individual equations are as follows.

Response Time. In order to assess the relationship of type of crime and response time to citizen satisfaction, it was necessary to examine the relationship of the type of crime to response time. Assuming that response time affected

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\* See Appendix A for an elaboration on path analysis.

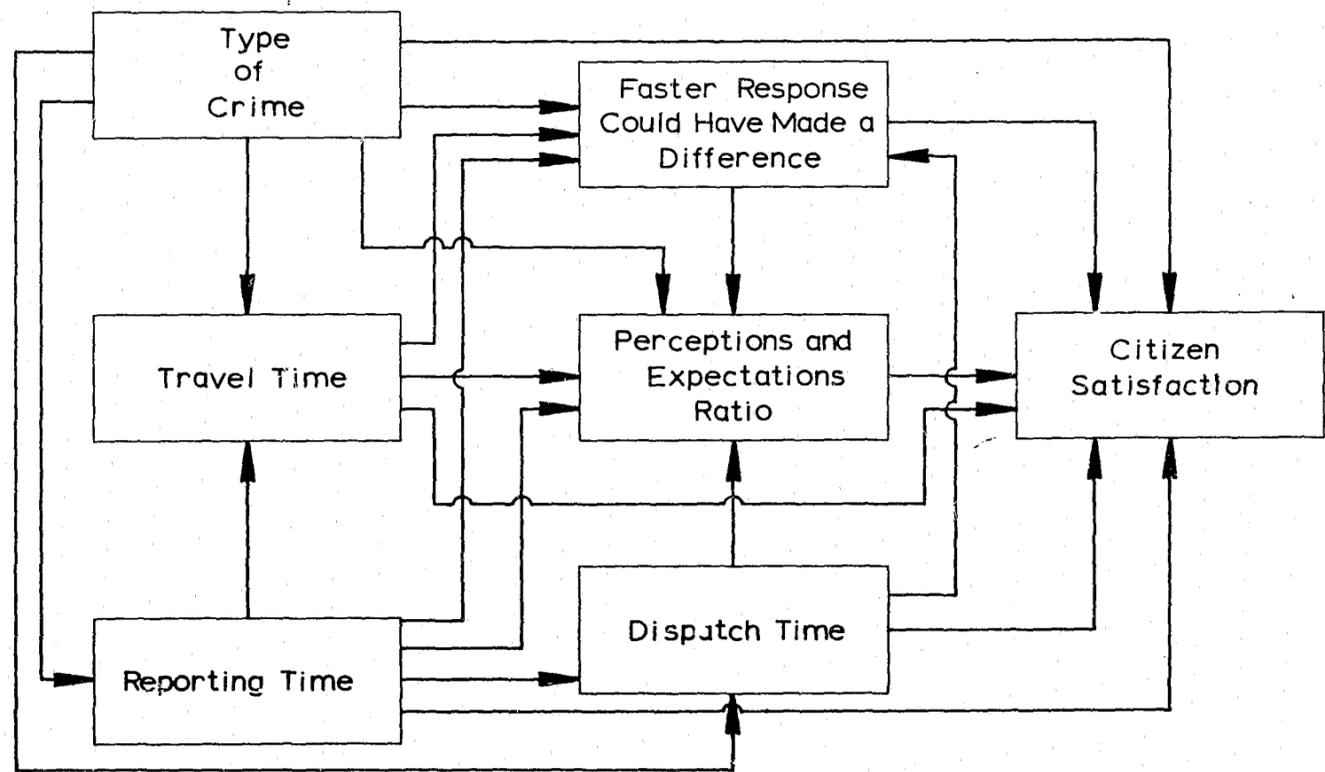


Figure 6 - 1. -- Causal model for citizen satisfaction.

citizen satisfaction, the total impact of the type of crime on citizen satisfaction could only be completely determined by also examining the indirect effect of type of crime on response time. The indirect effect of reporting time on citizen satisfaction through dispatch and travel times was also examined (Appendix E, Tables E-5, E-6, and E-7).

Reporting and travel times were both slightly affected by type of crime. Reporting time was significantly shorter for involvement forgery, fraud, and embezzlement than for other types of crimes (Appendix E, Table E-5). Travel time was significantly longer for both involvement and discovery vandalism cases (Appendix E, Table E-6). Dispatch time did not vary by type of crime (Appendix E, Table E-7). Both dispatch and travel times were shorter when reporting time was shorter.

Importance of Response Time. It is reasonable to assume that citizens who think faster response time might have made a difference in the outcome of their call are likely to be less satisfied with response time than citizens who think it could have made no difference. Also, if citizens are able to discriminate the types of calls in which rapid police response can affect such outcomes as arrest, witness availability, or citizen injury, police administrators can be assured that rapid response to these types of calls will also sustain a high level of citizen satisfaction.

Citizens' opinions on the importance of response time were obtained from the question, "If the police had arrived more quickly, do you think it would have made a difference in the outcome of the incident?" Of the 329 Part II crimes included in this analysis, responses were obtained for 248 cases (Appendix E, Table E-8). Of these, 19.0 percent thought faster response time could have made

a difference. The primary reasons included the following: 1) the suspect may have been apprehended (68.1 percent); 2) there was potential for injury (12.8 percent); and 3) the suspects were still at the scene (8.5 percent) (Appendix E, Table E-9). The remaining respondents (81.0 percent) did not think faster response time could have made a difference. The major reasons included the following: 1) the incident was already committed and the suspects were gone (35.5 percent); 2) the incident was not a rush situation (21.3 percent); 3) the suspects were still at the scene when police arrived (10.2 percent); and 4) the incident occurred earlier and was undetected for a period of time (8.6 percent).

The only factor analyzed which significantly affected whether citizens said faster response time could have made a difference to the crime outcomes was the type of crime. Reporting, dispatch, and travel times were not significantly related (Appendix E, Table E-10). With the exceptions of drunkenness and disturbing the peace incidents, citizens who were involved in the incidents were more likely to think faster response time could have made a difference to the outcome. Most citizens thought faster response time would not have made a difference for cases of discovery vandalism; discovery forgery, fraud, and embezzlement; drunkenness; and disturbing the peace.

Perceptions and Expectations of Response Time. If citizens thought police response time took longer than they expected it to take, they may have been less satisfied. To test this assumption, it was necessary to find out how long citizens had expected police response to take, and how long they thought it took.

To measure their perceptions of police response time, citizens were asked, "About how long did it take the police to arrive after the call was made?" On the average, citizens thought police response time took about 12 minutes. Fifty percent said it took less than 8 minutes (Appendix E, Table E-11).

Citizens' expectation of how long response time would be was measured by asking, "About how long did you expect it to take the police to arrive after the call was made?" Citizens expected police response to take about 12 minutes, on the average. Fifty percent expected it to take less than 8 minutes.

Whether response time was faster or slower than citizens expected could be measured by calculating the difference in the perceived minus the expected time. In addition, the index was weighed by dividing by the expected time. The weighing was based upon the assumption that the affect of a perceived delay would be determined by what proportion that delay made up of the citizens' expected time. If a citizen expected police to arrive in 40 minutes and perceived that they took 45 minutes, the citizen might be dissatisfied with the response. This dissatisfaction would probably be greater, however, if the citizen expected police to arrive in 10 minutes and perceived that they took 15 minutes. In both cases there is a 5 minute perceived delay, but in the first case, the delay made up about 13 percent of the expected time while in the second, the delay made up 50 percent of the expected time.

The mean of the index was .318, indicating that on the average the perceived response time was 1.318 times longer than the expected response time. However, the median of 0 indicates that in 50 percent of the cases, perceived response time was less than or equal to the expected time.

The perceptions-expectations ratio was affected by several factors (Appendix E, Table E-12). Citizens' perceptions of response times were not accurate but generally followed actual response times; the length of perceived response times increased as actual response times increased (Appendix E, Table E-13). Therefore, as dispatch or travel time increased, citizens were more likely to

perceive response time to be longer than they expected it to be. Citizens also perceived response time to be longer than expected when they thought faster response time could have made a difference to the outcome of the crime.

Citizens expected police response time to be faster for involvement than for discovery crimes (Appendix E, Table E-14). Citizens who reported Part II crimes quickly also expected faster response times than citizens who delayed before reporting. When expected response time is short, police can meet those expectations only if actual response time is quick enough to make perceived response time less than expected response time.

Citizen Satisfaction. Citizen satisfaction with police response time was affected by several factors. The three directly related factors were the perceptions and expectations index, the importance of response time, and reporting time (Appendix E, Table E-15). The effects of police response time and type of crime were indirectly related to citizen satisfaction. The total effects of those variables on citizen satisfaction are presented in Table 6-2.\*

The perceptions and expectations index was the most important factor affecting citizen satisfaction. Citizens were satisfied when they thought the officer arrived as soon or sooner than expected. When citizens perceived that the officer arrived later than expected, satisfaction with response time began to wane. If a citizen expected response time to take a long time and thought that the officer arrived a little late, the citizen was not too annoyed, but if the citizen expected quick response, slight delays seemed more serious, and satisfaction dropped.

\*To compute the effect coefficients, the regression equations were rerun, calculating only the significant path coefficients. For reporting and travel times the equations did not change. Coefficients for the remaining equations which were used in Table 6-2 are in Appendix E, Tables E-16 through E-21.

TABLE 6-2

Effects of Significant Variables  
on Citizen Satisfaction

Independent Variables	Simple r	Causal		
		Direct	Indirect	Total
Perceptions and Expectations Ratio	.518	.454	0	.454
Faster Response Time Could Have Made a Difference	.375	.259	.104	.363
Travel Time	.051	0	.107	.107
Dispatch Time	.100	0	.069	.069
Reporting Time (reciprocal transformation)	.203	.144	-.032	.112
Involvement Vandalism	.082	0	.019	.019
Involvement Forgery, Fraud, and Embezzlement	-.062	0	.021	.021
Weapon Possession	-.074	0	0	0
Drunkenness	-.015	0	-.057	-.057
Disturbing the Peace	-.112	0	-.091	-.091
Disorderly Conduct	.150	0	0	0
Discovery Vandalism	.017	0	-.064	-.064
Discovery Forgery, Fraud, and Embezzlement	-.106	0	-.061	-.061
Nonaggravated Assault	*	*	*	*

\*Reference group

Perceptions and expectations had the greatest impact on citizen satisfaction of all of the variables.

The second factor affecting satisfaction with response time was whether citizens thought faster response time could have made a difference to the outcome of the incident. The effect was both direct and indirect. Citizens who thought faster response time could have made a difference to the outcome of the crime were less satisfied than those who thought it did not matter. In addition, citizens who thought response time was important also thought the police took longer than expected to arrive, which further contributed to dissatisfaction.

The final factor directly affecting citizen satisfaction was reporting time. Citizens who took longer to report the crime were more satisfied with police response time. The longer citizens took to report the crime, the longer they expected police to take to arrive; the longer the expected time was, the easier it was for police to arrive when expected. This advantage was slightly reduced because dispatch and travel times tended to be longer when reporting time was long. However, the direct effect was substantially stronger. Citizens seemed to recognize the consequences of their own delays, and they tended to be more tolerant of police response time when their own actions rendered it ineffective.

Dispatch and travel time affected citizen satisfaction indirectly through their effects upon citizens' perceptions and expectations. When police response was short, citizens' perceptions of response time were short, and it was more likely citizens' perceived times would be shorter than expected times. As police response time increased, citizens perceived the delay, their expectations were not met, and their satisfaction decreased. This relationship was identical for both dispatch and travel time.

Citizen satisfaction also varied indirectly by type of crime. Police response time was less satisfactory for involvement forgery, fraud, and embezzlement cases than for other categories of Part II crimes. Reporting time was shorter for involvement forgery, fraud, and embezzlement cases, which increased dissatisfaction for them. Travel time was longer for vandalism incidents, thereby increasing the discrepancy in perceptions and expectations which decreased citizen satisfaction. Incidents such as discovered crimes and drunkenness or disturbing the peace incidents had more citizen satisfaction with police response time. Citizens thought that faster response time could not affect the outcome of those incidents. Consequently, even though the police tended to take longer to arrive, citizens were more satisfied.

#### Summary

The final model of factors affecting citizen satisfaction with police response time is displayed in Figure 6-3. The findings indicate that citizen satisfaction was not strongly dependent on police response time. Rather, citizens were most satisfied when they thought response time was appropriate to the situation. When they thought police arrived as soon or sooner than expected, citizens were most satisfied. When they did not think response time was important to the outcome, they expected the police to take longer and were just as satisfied with slower response. Citizens thought response time was less important for discovery crimes than involvement crimes, and therefore were not dissatisfied with slower response to those types of calls. When citizens delayed reporting until the police could do nothing, they recognized the consequences of their inaction and were more tolerant of slower police response.

In general, citizens thought rapid response was important to the same types

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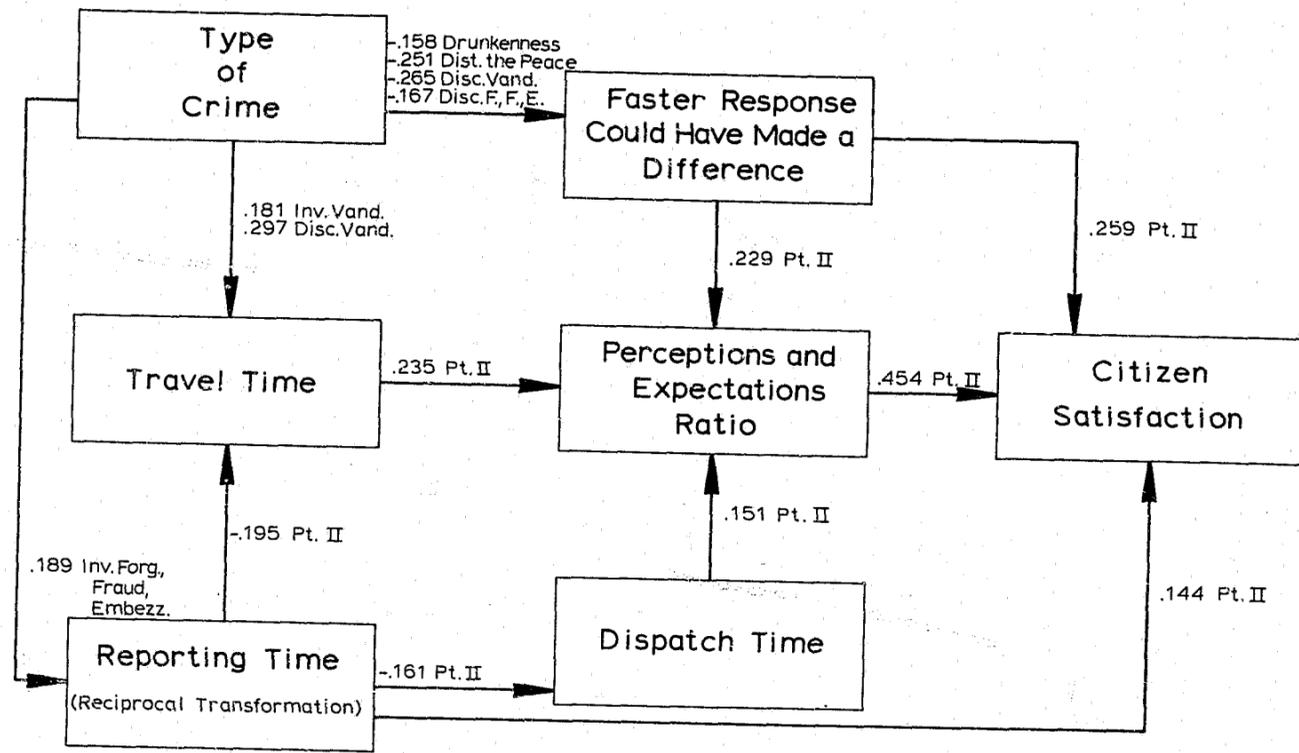


Figure 6 - 3. -- Summary model of factors affecting citizen satisfaction.

of crime which analysis had indicated response time could make a difference. Therefore, if police administrators consider the type of crime which has occurred, the delay in reporting, and any other factors affecting the potential effectiveness of rapid response, they can respond appropriately while maintaining good relations with the citizens they serve.

## CHAPTER SEVEN

### PROBLEMS AND PATTERNS IN REPORTING

Delays by citizens reporting Part II crimes were found to be substantial. On the average, it took citizens about as much time to report an incident as it did for police to both dispatch the information and travel to the call. Over one-half of the cases were not reported within 7 minutes of the time the citizen knew of the incident and was free to call. Several Part II crimes were not reported within hours of their occurrence or discovery.

The act of telephoning police and relaying information about an incident could not account for the length of the reporting interval. Actually, this time component was found to be insignificant compared to the time which elapsed before a citizen was able or had decided to call the police. A number of factors were identified which contributed to this delay by citizens before calling the police and were divided into two categories. They were problems, uncontrollable hindrances that an individual encounters in reporting an incident, and patterns, voluntary actions taken prior to reporting or the attitudes which affect the decision to report. The problems and patterns which were found to result in significant reporting delays for the cases in this sample are discussed in this chapter.

#### The Problem and Pattern Sample

Eight patterns and five problems in reporting were identified as contributors to reporting delay in Part II crime incidents. The patterns, in order of their frequency, were as follows:

1. Delay due to talking to another person. This pattern was reported in 39.5 percent of the Part II incidents. In more than one-half of the

cases with this pattern (56.5 percent), citizens indicated that they had talked to others prior to calling the police in order to get advice, assistance, or additional information concerning the incident. An additional 22.9 percent reported talking to other persons to get them to call the police or to ask to use their phone.

2. Delay due to apathy. With 10.9 percent of the cases, apathy was the second most frequently cited pattern that might have influenced the delay in reporting an incident. Responses indicative of this pattern included feeling that the incident was not personally important (19.5 percent); feeling that the responsibility of reporting the crime was too great (24.4 percent); or being unsure that the situation warranted contacting the police (56.1 percent).
3. Delay due to telephoning another person or receiving a call. This pattern was identified in 9.1 percent of the cases. As with talking to another person, the most common reasons given for taking this action was to obtain advice, assistance, or additional information (61.5 percent).
4. Delay due to chasing the suspect. Citizens reported chasing the suspect of a Part II crime in 8.2 percent of the incidents. In the vast majority of cases (83.3 percent), the suspect was not caught by the citizen.
5. Delay due to being unsure about police assistance. In 7.9 percent of the cases, respondents expressed some uncertainty as to the need for police assistance. Three explanations for this pattern

were given in 92 percent of the cases: first, that the incident was a private, not a police matter (41.2 percent); second, that there was no proof or evidence of the crime, so the police could not help (29.4 percent); and third, that the police might think the matter was unimportant and would not want to help (20.6 percent).

6. Delay due to investigating the incident scene. This pattern generally occurred when citizens assessed property loss or damage prior to contacting the police. Respondents recalled this action in 6.1 percent of the incidents.
7. Delay due to waiting or observing the situation. Typically, citizens reported waiting or observing the situation in an attempt to gain additional information as to the seriousness of the incident and the need for the police. This type of uncertainty occurred in only 3.3 percent of the Part II crimes.
8. Delay due to contacting security. This was the least frequently identified pattern in the Part II crime sample, occurring in 2.7 percent of the incidents. In nearly one-half of these cases (45.5 percent), respondents indicated that it was company policy to contact a supervisor or security guard before calling the police.

The five problems that delayed reporting, in order of their frequency, were as follows:

1. Delay due to public communications problems. This problem, which was reported in 18.2 percent of all Part II incidents, largely stemmed from a single difficulty. In 90.5 percent of the cases, the problem with public communications was due to not having a

telephone immediately available to report the crime. The only other difficulties mentioned were not having the correct change for a pay phone, not having a telephone directory, having trouble dialing the number, and not knowing the correct procedures or agency to call. None of these problems were reported by more than 5 percent of the respondents.

2. Delay due to fear or emotional upset. The problem of fear of suspect reprisal or emotional upset was noted in 13.4 percent of all Part II crimes. Delay due to emotional upset was somewhat more prevalent, being cited in slightly more than one-half of the cases with this problem (56.7 percent).
3. Delay due to not being informed or being misinformed about the incident. This problem was reported in 9.4 percent of the calls. Respondents who noted that delay occurred because they had not been immediately informed of the incident predominated (96.9 percent). In only an additional 3.1 percent of the cases was the problem due to mistakenly believing the police had been called (i.e., being misinformed about the incident).
4. Delay due to police communications problems. Police communications problems were reported in slightly fewer than 1 in 20 cases (4.9 percent). The most common complaint was that the police did not respond to the initial call for assistance (45.0 percent). Other difficulties cited as part of this problem were the department's telephone was not answered promptly (20.0 percent); the line was busy (10.0 percent); and the respondent had difficulty communicating with the dispatcher (10.0 percent).

5. Delay due to injury. This problem was considered to have occurred when an injury or the necessity of administering first aid or transporting an individual to the hospital precluded immediate reporting of the incident. Injury-related delays occurred in only 2.2 percent of the Part II crimes.

#### The Effects Identified

The primary purpose of this analysis was to identify the problems and patterns which contributed to citizen reporting delay and to assess the effects of those problems and patterns on the reporting interval. However, the identified problems and patterns could not be considered the only factors which could contribute to reporting delays by citizens. The type of Part II crime, a factor already found to influence reporting time, may have affected the type of problem encountered or the type of pattern followed. The social characteristics of the respondent may have had a direct effect upon reporting time or indirectly affected it by affecting the problems and patterns involved.

To assess the possible effects of all of these factors, several analyses were performed. First, the covariation of the type of crime and the respondent's social characteristics was investigated to determine if citizens with certain socioeconomic traits were more likely to be involved in or to discover certain types of crime. Secondly, the type of crime and the respondent's social characteristics were assessed to determine if systematic variations in problems or patterns occurred along these dimensions. Finally, an exploration was made of the possible direct effects each of these factors (problems and patterns, type of Part II crime, social characteristics) had on the time taken to report a Part II crime.

Social characteristics and the type of crime. Analysis of variance was

employed to determine if systematic variation in the respondents' social characteristics occurred among the types of Part II crime. Ten of the 12 socioeconomic indicators varied according to the type of incident (Appendix F, Tables F-1 through F-10). T-tests of the mean or proportional differences in these social characteristics between types of Part II crime were performed (Appendix F, Tables F-11 through F-20). The results presented subsequently are based upon the number of times the mean or proportion of a socioeconomic variable for a particular type of crime was statistically different from the other types of crime. Differences in the same direction between a type of crime and at least four of the other eight categories is reported as a trend for a socioeconomic measure.

Respondents who had discovered or reported cases of forgery, fraud, and embezzlement differed from respondents in other types of crime on a greater number of socioeconomic measures than any other category. These persons were more often married and male, had higher incomes, and held jobs with higher ratings on the Duncan socioeconomic index than other respondents. They also were more likely to own their home than to rent or board.

Respondents in cases of nonaggravated assault were more often younger, black, and not married. Respondents in cases of discovery vandalism had, on the average, lived longer at their present addresses and were more likely to own their homes than to rent or board. Also, they more often worked at jobs with higher ratings on the Duncan socioeconomic index and had higher incomes.

Respondents in cases of involvement forgery, fraud, and embezzlement were more often married and male, but did not show the same trends in income, type of work, or home ownership as persons discovering these types of crimes. Finally, the average level of education attained by respondents in cases of disorderly

conduct was lower than that of other groups.

Statistically significant differences between respondents in cases of discovery and involvement vandalism and between discovery and involvement forgery, fraud, and embezzlement occurred on several socioeconomic measures. Respondents in cases of discovery forgery, fraud, and embezzlement were more likely to own their homes and to have higher average incomes than citizens involved in these types of incidents. Respondents to incidents of discovery vandalism had higher average incomes, worked at jobs rated higher on the Duncan index, and tended to be disproportionately male compared to the respondents to cases of involvement vandalism.

Type of crime and problems and patterns. Analysis of variance indicated that the probability of encountering four problems and of following three patterns was influenced by the type of Part II crime (Appendix F, Tables F-21 through F-27). To specify the differences between each crime category, t-tests of the proportion of cases with each of these problems or patterns were performed (Appendix F, Tables F-28 through F-34).

The pattern of telephoning another person or receiving a call prior to calling the police occurred more frequently in incidents of discovery forgery, fraud, and embezzlement than any other type of Part II crime. In nearly 60 percent of these cases, respondents indicated they had telephoned or received calls concerning the incident prior to contacting the police.

The delay due to talking to another person was identified in a greater proportion of the incidents of nonaggravated assault, and involvement and discovery vandalism, than cases of weapon possession, drunkenness, disturbing the peace, or disorderly conduct. This pattern also occurred more frequently in involvement and discovery forgeries, frauds, and embezzlements, and cases of disturbing

the peace than incidents of weapon possession. Talking to another person prior to calling the police was a pattern followed in a smaller proportion of incidents of weapon possession than in six of the other crime categories.

Cases of vandalism and forgery, fraud, and embezzlement generally resulted in more instances of delay due to investigating the incident scene than other types of crime. This pattern was more frequent in involvement vandalism incidents than the nonaggravated assault, drunkenness, disturbing the peace, and disorderly conduct categories. In addition, the proportion of disturbing the peace cases with this action was smaller than for incidents of discovery vandalism and involvement and discovery forgery, fraud, and embezzlement. Reporting delays due to citizen investigations were also more common for discovered forgeries, frauds, and embezzlements than weapon possession or disorderly conduct.

The problem or delay due to injury was limited solely to cases of nonaggravated assault. Fear of suspect reprisal or emotional upset as a problem contributing to reporting delay was also largely limited to incidents of nonaggravated assault. This type of crime resulted in this problem in a greater proportion of cases than any of the other crime categories. The delay due to fear or emotional upset was also more prevalent for incidents of involvement vandalism, disturbing the peace, and disorderly conduct than cases of discovery vandalism.

Incidents of nonaggravated assault and involvement vandalism resulted in a greater proportion of cases with public communications problems than incidents of weapon possession, drunkenness, or involvement or discovery forgery, fraud, and embezzlement. This problem in reporting was also identified in a larger proportion of the discovery vandalism incidents than cases of weapon possession or involvement forgery, fraud, and embezzlement, and in more cases of disturbing the peace than involvement forgery, fraud, and embezzlement.

Finally, the problem of being misinformed or not being informed about the incident was reported more frequently in the categories of nonaggravated assault, drunkenness, involvement and discovery vandalism, and involvement and discovery forgery, fraud, and embezzlement than in the crime category of disturbing the peace. Additionally, this problem occurred in nonaggravated assaults and discovery forgeries, frauds, and embezzlements more often than in incidents of disorderly conduct.

Social characteristics and problems and patterns. Multiple regression analysis was utilized to assess the possible influence of the respondents' social characteristics upon the types of problems they encountered and patterns they followed. The probabilities of occurrence of three of the patterns and one of the problems were influenced by the socioeconomic characteristics of the respondents (Appendix F, Tables F-35 through F-38). However, in no case could the relationship between the social characteristics of a citizen and the likelihood of a problem or pattern occurring be considered to be strong since the variance explained was rather small.

The patterns found to be influenced by socioeconomic characteristics were the delays due to apathy, due to chasing the suspect, and due to investigating the incident scene. The probability that a citizen chased the suspect of a Part II crime was found to decrease with increasing ratings of the respondents' type of work on the Duncan socioeconomic index. The reported occurrence of apathy was influenced by whether the respondent owned, rented, or boarded. Citizens who owned their home were less likely to report delay due to apathy than those who rented, and renters less frequently noted this pattern than boarders. Finally, respondents who considered themselves the head of the household also

reported investigating the incident scene prior to contacting the police more frequently than nonheads of households.

The single problem affected by the respondent's social characteristics was delay due to public communications problems. Blacks who were not married (including those who were single, divorced, widowed, and separated) more often reported public communications problems than married blacks, or whites who were either married or not married.

The determinants of reporting time. The possible effects of type of crime, the problems or patterns involved, and the respondent's social characteristics on the delay in reporting a Part II crime were assessed by multiple regression analysis. Significant variation among the types of crime and the effect of a single problem and a single pattern were identified (Appendix F, Table F-39). No socioeconomic indicator proved to be a significant determinant of the time taken to report an incident.

The pattern found to significantly delay initial contact with the police was apathy. Respondents expressing this attitude incurred delays disproportionately long compared to citizens reporting similar types of crimes but not expressing apathy toward the incident. The problem of not being informed or being misinformed about the incident also resulted in significant reporting delays across the types of crime. Additionally, forgeries, frauds, and embezzlements that were discovered were not reported as promptly as other types of Part II crimes. Though the problems and patterns of these cases may have explained some of the delay involved, discovery forgery, fraud, and embezzlement incidents resulted in lengthy reporting intervals inconsistent with the difficulties, alternative actions, or attitudes identified in them.

### Summary

This section identified some of the important determinants of citizen reporting delays from the problems and patterns in reporting, the social characteristics of respondents, and the type of crime. Eight patterns in reporting were identified including six types of voluntary actions typically taken by respondents prior to contacting the police, and two attitudes concerning the need for assistance. Five problems or uncontrollable hindrances to reporting were also identified. Analysis assessed relationships among these possible determinants, as well as their effect on reporting delay.

Respondents to cases of nonaggravated assault tended to be younger, black, and not married; respondents to cases of discovery vandalism had lived longer at their present addresses, owned their homes, and had more prestigious and higher paying jobs; disorderly conduct respondents had less formal education; and respondents to incidents of forgery, fraud, and embezzlement were more often male and married, while the respondents of these types of crime when discovered tended to own their homes and have more prestigious and higher paying jobs compared to respondents in other crime categories.

The problems and patterns in reporting were more strongly influenced by situational factors (the type of crime) than by the type of individual involved in or discovering the incident. The pattern of telephoning another person prior to contacting the police was largely limited to cases of discovery forgery, fraud, and embezzlement, and the delays due to injury and due to fear or emotional upset were found primarily in incidents of nonaggravated assault. Public communications problems, which were largely limited to the difficulty of finding a telephone to contact the police, were prominent in cases of nonaggravated assault and involvement vandalism, but largely absent from incidents of involvement

forgery, fraud, and embezzlement. Forgeries, frauds, and embezzlements and cases of vandalism tended to produce delay due to investigating the incident scene, since respondents often assessed loss or property damage. Talking to another person prior to calling the police, a delay usually stemming from a need to obtain information concerning the incident, was identified more regularly in nonaggravated assault and vandalism incidents and was largely absent from cases of weapon possession. Finally, the problem of not being informed or being misinformed about the incident was more prevalent for crime categories other than disturbing the peace.

The social characteristics found to relate to the frequency of problems and patterns in reporting included findings that respondents with more prestigious jobs were less likely to chase the suspect of a Part II crime; homeowners less frequently reported delay due to apathy; heads of households were more likely to investigate the incident scene; and public communications problems were more prevalent for unmarried blacks. The latter result is not unexpected since public communications problems were more frequent in cases of nonaggravated assault, a crime category which disproportionately involved black, unmarried individuals.

The time taken to report a Part II crime was unaffected by the individual's socioeconomic standing but was influenced by the type of incident and the type of problems or patterns involved in reporting the incident. Citizens reporting apathy concerning the incident and those noting the problem of not being informed or being misinformed about the incident spent more time in contacting the police than individuals not experiencing these factors for the same types of crime. Respondents to incidents of discovery forgery, fraud, and embezzlement also took disproportionately longer to report the crime for the types of patterns involved and problems encountered.

## CHAPTER EIGHT

### THE PROCESS OF REPORTING

In addition to the patterns citizens followed and the problems they encountered before or during the process of reporting Part II crimes to the police, there are certain processes which are constant to each incident reported to the police. Variables in these processes are the relation of the citizen who called to the incident, the telephone used, the telephone number used, and how the citizen knew the number.

The socioeconomic traits of the citizen calling police and the urgency of the situation were considered factors which might influence the process utilized by citizens when contacting police. This chapter will discuss the processes used in calling the police and the effects these two factors had on the processes used.

#### The Factors Examined

The following four processes in reporting variables were identified for analysis:

1. Who called the police?
2. Whose telephone was used?
3. What telephone number was used?
4. How did the citizen-caller know the number used?

Who called the police? Citizens interviewed because they had reported Part II crimes were classified as victim-callers, witness-callers, or callers. For the purpose of clarity, the term "citizen-caller" will be used for all citizens interviewed who had called police. The term "caller" applies to citizen-callers who were not victims or witnesses to crimes but who reported the crimes to police after being informed of them by a victim or a witness.

The citizen-caller was interviewed in 234 of the 359 Part II crimes observed (65.2 percent). As illustrated in Table 8-1, more than one-half of the incidents (58.1 percent) were reported by the victim. An additional 23.1 percent of the Part II crimes were reported by witnesses, and in 18.8 percent of the cases, a victim or witness to the crime notified a second party who called the police.

TABLE 8-1  
Type of Citizen-Caller Interviewed

Type of Citizen-Caller	Frequency	Relative Percentage
Victim-caller	136	58.1%
Witness-caller	54	23.1%
Caller	44	18.8%
No citizen-caller interviewed	125	Missing

Whose telephone was used? Each of the 234 citizen-callers interviewed indicated using a pay telephone, a personal telephone, or a business telephone. Personal telephones used were either the citizen-caller's own telephone or a phone belonging to someone else. Table 8-2 illustrates the distribution of the types of telephones used to report Part II crimes.

TABLE 8-2  
Type of Telephone Used

Type of Telephone	Frequency	Relative Percentage
Citizen-caller's telephone	98	41.9%
Business telephone	85	36.3%
Someone else's telephone	31	13.2%
Pay telephone	20	8.5%
No citizen-caller interviewed	125	Missing

What telephone number was used? Of the 234 citizen-callers, 210 reported

using one of three telephone numbers to contact the police. First, a citizen-caller may have used the "Crime Alert" number. This number is a direct line to the police dispatchers which the public has been urged through advertising to use to report a need for emergency assistance. Second, a citizen-caller may have dialed the police department administrative number and had the call transferred to a dispatcher. The third option was to dial "0" for the telephone system operator who then routed the call through the Crime Alert number. The relative use of each of these numbers to report Part II crimes is depicted in Table 8-3. The Crime Alert number was the most frequently used, followed by the police administrative number, and then the telephone system operator.

TABLE 8-3  
Telephone Number Used

Telephone Number	Frequency	Relative Percentage
Crime Alert	99	47.1%
Police administrative	65	31.0%
Telephone system operator	46	21.9%
Not recalled	24	Missing
No citizen-caller interviewed	125	Missing

How did the citizen-caller know the number used? Citizen-callers who used the Crime Alert or police administrative numbers were asked how they knew the number they had used to contact the police. Four sources of the number were given by the 188 citizen-callers asked this question, and the frequency of their responses are given in Table 8-4. Recalling the number from memory was the most common source of the telephone number used. In nearly one-half of the cases, citizen-callers or someone with them knew the number from memory. Having the

number written down by the telephone, on a piece of paper carried by the citizen-caller, or on a Crime Alert decal printed by the department was the second most common response. The two remaining sources from which the telephone number was obtained were the telephone directory and directory assistance.

TABLE 8-4  
Sources of the Telephone Number Used

<u>Source</u>	<u>Frequency</u>	<u>Relative Percentage</u>
Memory	92	48.9%
Number written down	41	21.8%
Directory assistance	28	14.9%
Telephone directory	27	14.4%
Does not apply (dialed "0")	46	Missing
No citizen-caller interviewed	125	Missing

The Effects Identified

Social characteristics. T-tests of the mean or proportional differences in the socioeconomic traits of citizen-callers revealed significant variation between groups using different types of telephones, dialing different telephone numbers, and having different sources of the telephone number they used. However, the three types of citizen-callers, victim-callers, witness-callers, and callers differed for only a single socioeconomic measure.

Income was the only social characteristic to differ among the types of citizen-callers. Victim-callers and callers had higher average incomes than witness-callers. No difference in average income between victim-callers and callers was found (Appendix G; Table G-1).

Citizen-callers using differing types of telephones to report Part II crimes

differed in a number of socioeconomic measures (Appendix G, Tables G-2 and G-3). Those using business telephones were more likely to be married, to have higher paying and more prestigious jobs than citizen-callers using a pay telephone. They were more likely to be married and male, and have higher levels of education and income compared to citizen-callers using a personal telephone, either their own or someone else's. They were also more likely to own their home and to have lived in their residence longer, to have more prestigious jobs, and to be older than citizen-callers using someone else's personal telephone. Citizen-callers using their own personal telephone had more prestigious jobs than those using a pay telephone, while citizens using someone else's personal telephone were younger, more often not married, and more often female compared to citizen-callers using a pay telephone. Moreover, citizen-callers who used their own personal telephone were more often married and older, owned their own homes and lived there longer, had more education, and had more prestigious and higher paying jobs than citizen-callers using someone else's personal telephone.

Two socioeconomic traits of citizen-callers differed according to the telephone number they had used to contact the police (Appendix G, Table G-4). Citizen-callers using the Crime Alert number had higher incomes and were more often males than those dialing either the telephone system operator or the department's administrative number. Also, those using the administrative number were more frequently male than citizen-callers relying on the telephone system operator to place the call. No difference in family income between those using the administrative number and the telephone system operator was noted.

The sources of the telephone number that a citizen-caller had used to contact the police also varied with the respondent's social characteristics

(Appendix G, Table G-5). Citizen-callers obtaining the number from a telephone directory or having the number written down had more prestigious jobs and higher levels of education than those obtaining the number from directory assistance. They also had more highly rated jobs compared to citizen-callers who knew the number from memory.

Finally, citizens recalling from memory the number they had used were more frequently male and had attained higher levels of education than those using directory assistance.

Urgency of the incident. Analysis of variance was used to determine if the nature of the incident affected the process by which it was reported. Specifically, an examination was made of the possible effect of the urgency of the incident on the telephone number the citizen-caller used to contact the police and how this number was obtained. An urgency index was operationalized according to the following criteria:

1. (Most urgent) All Part II crimes reported in progress or involving citizen injury (53.0 percent).
2. All Part II crimes involving a victim (complainant) or witness during crime occurrence but not reported in progress and not involving injury (34.4 percent).
3. (Least urgent) All Part II crimes discovered after occurrence (12.6 percent).

Additionally, a second urgency index was based on the response of the field officer to the call:

1. (Most urgent) The field officer utilized lights and sirens in response to the call and proceeded directly to the dispatched location (0.6 percent of the Part II incidents).

2. The field officer utilized lights and sirens in response to the call but did not respond directly to the dispatched location (0.0 percent).
3. The field officer saw the incident as urgent and proceeded directly to the dispatched location (19.2 percent).
4. The field officer saw the incident as urgent but did not respond directly to the dispatched location (1.1 percent).
5. The field officer saw the incident as routine and proceeded directly to the dispatched location (74.1 percent).
6. The field officer saw the incident as routine but did not respond directly to the dispatched location (5.0 percent).

The urgency of a Part II crime, as reflected by either the nature of the incident or the field officer's response to the call, did not affect how the crime was reported. Neither the number used by the citizen-caller to report the crime nor the source of that number was affected by the urgency of the incident. It should be noted that indices based upon either the incident's nature or the necessity of rapid field response do not necessarily correspond to the citizen's perception of urgency. From the callers' perspective, they may have chosen the most appropriate means of reporting the crime. Regardless, the process of selecting and obtaining a number to call the police was based less on the urgency of the call and more on socioeconomic factors which may or may not have affected the citizen's perception of urgency.

Process of reporting and reporting time. The type of citizen-caller was entered into analysis of variance to determine if this factor affected the time taken to report Part II crimes. The remaining three process variables were not assessed. The difference in reporting time attributable to the telephone number

used was fully examined in the Test Call Experiment, reported in Volume II, Part I crime analysis. The type of telephone and the source of the telephone number were not further analyzed as the difficulty in locating a telephone or obtaining a number was addressed in Chapter Seven of this volume, "Problems and Patterns in Reporting." That witness-callers might be in a more favorable position to report a crime quickly, or that the process of passing information concerning an incident on to a caller might significantly delay crime reporting, however, has not been previously assessed.

Witness-callers were found to report Part II crime incidents more quickly than either victim-callers or callers (Appendix G, Table G-6). However, when the difference in time due to the type of incident being reported was considered, victim-callers, witness-callers, and callers took approximately the same amount of time to report similar types of incidents (Appendix G, Table G-7).

#### Summary

This section identified four processes in reporting variables, including 1) who called the police; 2) whose telephone was used; 3) what telephone number was used; and 4) how the citizen-caller knew the telephone number used. Some of the possible determinants of these alternative elements of the reporting process were assessed along with their effect on response time.

The process followed in reporting a Part II crime was largely determined by the types of citizens (their socioeconomic characteristics), rather than the types of incidents (their urgency). The urgency of an incident based either on the type of crime or the officer's response to the call did not predict what telephone number a citizen used or how this number was obtained. The social characteristics of the reporting party did vary with these factors, however.

Citizens using the "Crime Alert" number generally had higher incomes and were more frequently male compared to those using either the administrative number or the telephone system operator. Citizen-callers obtaining the number they had used to call the police from a telephone directory, recalling it from memory, or having it written down had more formal education than those using directory assistance.

Furthermore, citizens using different types of telephones to report the incident differed on a number of socioeconomic traits. Those citizens reporting a Part II crime on a business telephone generally exhibited what might be considered to be more stable social characteristics. For example, these individuals were more often married, had more education, and had higher paying jobs than citizens using either a pay or a personal telephone. The social characteristics of citizen-callers also differed according to the type of personal telephone used. Citizens using their own telephone were more frequently married and male, were older, had better paying and more prestigious jobs, had more education, more frequently owned their home, and had lived in their homes longer than those who used someone else's personal telephone.

Finally, for citizen-callers reporting similar types of Part II crime, victim-callers, witness-callers, and callers did not differ in the time they took to initially contact the police dispatcher.

## CHAPTER NINE

### DISPATCHING AND PATROL DETERMINANTS OF TRAVEL TIME

The time taken by an officer to travel to the scene of a Part II involvement crime influenced the probability of making an on-scene arrest, and travel time was one of the most significant factors affecting the probability of making a response-related arrest. The effect of travel time on arrest was particularly great for involvement forgery, fraud, and embezzlement cases where a delay of just minutes increased the chance a suspect would become suspicious of being detected and flee. This pivotal influence of travel time on the probability of arrest emphasized the importance of identifying some of the dispatching and patrol determinants of travel time.

#### The Factors Examined

Obviously, the distance which must be traveled to the scene of a crime could be expected to affect the time taken to get there. Therefore, any dispatching or patrol procedures affecting distance could be expected to exert an influence over travel time. Systematic differences in the distance traveled were first sought among the categories of Part II crime. Then the following three factors were examined for possible effects on distance:

1. Whether the officer was in the assigned beat at the time of dispatch. Officers accompanied by observers were in their assigned beats when dispatched in nearly one-half of the incidents (49.2 percent).
2. Whether the incident to which the accompanied officer was dispatched was in the assigned beat. Accompanied officers were dispatched to incidents in their assigned beats in 38.9 percent

of the cases.

3. Whether the officer was located in the beat of the incident at the time of dispatch. This factor would include cases in which the incident and the accompanied officer were both in the same beat at the time of dispatch, whether it was the assigned beat or not. When dispatched, accompanied officers were located in the beat of the incident in 30.6 percent of the calls.

In addition to distance and the possible predictors of distance, five other dispatching and patrol variables were assessed as determinants of travel time.

1. Whether the officer was in the vehicle at the time of dispatch. Accompanied officers were in their vehicles when dispatched in 89.1 percent of the Part II incidents. Officers not located in their vehicles were dispatched via walkie-talkies.
2. Whether the vehicle was stationary or mobile at the time of dispatch. Of the cases in which the accompanied officer was in the vehicle at the time of dispatch, the vehicle was stationary in 37.2 percent of the calls.
3. Whether the accompanied vehicle was manned by one or two officers. Approximately 89.4 percent of the accompanied vehicles were manned by a single officer. Two one-officer vehicles are dispatched to calls which may involve risk to officers. Such a procedure may involve longer travel times if the officer nearer the incident scene delays his arrival in order for the cars to arrive simultaneously, as prescribed by departmental procedures.
4. If two one-officer vehicles were dispatched, whether the officer

arriving first waited for the back-up unit. If the officer arriving first did not wait for the assisting car, in Kansas City, Missouri, Police Department vernacular, the call was "busted." Busted calls occurred in 21.7 percent of the Part II incidents.

5. Whether the incident occurred in patrol view. While this factor was not expected to directly affect travel time, it could affect whether the call was busted. Therefore, this variable was assessed in interaction with whether the call was busted. Nearly one-half (47.3 percent) of the Part II incidents occurred in patrol view.

#### The Effects Identified

Distance Traveled. Multiple regression analysis was employed to assess the impact of the predictors of distance traveled (Appendix H, Table H-1). Whether the officer was in the assigned beat and whether the officer was in the beat of the incident both affected the distance traveled. In general, officers who were not in their assigned beats at the time of dispatch traveled greater distances to Part II incidents than officers located within the assigned beat. Also, officers not located in the beat where the incident occurred, not surprisingly, had to travel greater distances than officers within the incident beat at the time of dispatch. No systematic variation among the types of Part II crimes was found for the distance traveled.

Travel Time. The results of the multiple regression analysis of the predictors of travel time are presented in Appendix H, Table H-2. Only distance and type of crime affected travel time. As was expected, the distance that had to be traveled to reach the incident scene strongly affected travel time, with

greater distances producing longer delays in arriving. Additionally, incidents of discovery vandalism resulted in longer field response times than other types of Part II crime. This finding is especially interesting since the relatively longer travel times for this type of crime cannot be attributed to differences in the average distance traveled.

It is noteworthy to consider the factors which did not significantly affect travel times. The potential or real delays imposed by an officer being out of his vehicle at the time of dispatch, dispatching one-officer vehicles, or waiting for an assisting vehicle did not significantly lengthen travel time.

#### Summary

This section identified some of the important dispatching and patrol determinants of travel time. As the distance to be traveled was expected to affect field response times, several variables were assessed as predictors of distance, as well as travel time. It was found that officers located in their assigned beats (compared to those not in their assigned beats) and officers located in the beats of the incidents (compared to those not in the beats of the incidents) generally were required to travel less distance. Furthermore, distance was the primary determinant of travel time, with only incidents of discovery vandalism resulting in field response times disproportionately longer for the distance traveled.

TABLE A-1: Citizen Interview Completion rates

	VICTIM-CALLER N = 156 COMPLETE = 136 COMPLETION RATE = 87.2%		VICTIM N = 125 COMPLETE = 75 COMPLETION RATE = 60%		WITNESS-CALLER OR CALLER N = 202 COMPLETE = 98 COMPLETION RATE = 48.5%	
No On-Scene Contact	-	-	18	36%	72	69.2%
Unable to Locate	13	65%	8	16%	14	13.5%
Citizen Unable to Remember Incident	4	20%	-	-	3	2.9%
Ineligible	2	10%	10	20%	13	12.5%
Refused to be Interviewed	1	5%	-	-	1	1.0%
No Citizen Information from Observer	-	-	11	22%	-	-
Interview Voided	-	-	-	-	1	1.0%
Interviewer Error	-	-	3	6%	-	-
TOTAL	20 Incomplete		50 Incomplete		104 Incomplete	

## SECTION A-2

The following is to provide additional detailed information concerning some of the specific statistical and analytical techniques used in this volume.

Multiple Regression. Multiple regression was used to assess the effects of many of the predictors of the outcomes addressed in this volume. Some special variations on multiple regression, including analysis of variance, analysis of covariance, and path analysis that were used in the evaluation of some outcomes are discussed in more detail in the sections that follow.

Several of the dependent variables examined in this report, e.g., arrest, witness availability, each of the problems and patterns, etc., were dichotomous, coded "1" if they were present, "0" if they were not. Using the incident as the unit of analysis, regression involving this type of dependent variable would indicate the effect of each of the predictors on the probability of the dependent variable being present. This is a discriminant function analysis technique. This analysis yields similar information to what would be obtained by grouping cases by the independent variable without the resulting loss of precision in the independent variable or the severe limitations on the number of predictors that could be assessed. On the other hand, grouping cases would have helped to remove extraneous variation and to increase the variance explained. However, due to the number of factors that were considered relevant, the incident was chosen as the unit of analysis.

Because of the large number of factors that were considered possible determinants of many of the outcomes examined, an analysis paradigm was established to systematically assess their effects. When a large group of independent variables, such as the 12 social characteristics or the 13 problems and patterns in

reporting were to be evaluated, four steps were taken: 1) each independent variable was entered separately into regression; 2) all two-way interactions of the factors that were found to be significant predictors in Step 1 were entered into regression with the factors involved; 3) all polynomial forms of continuous independent variables were entered separately into regression to test for possible nonlinearity; and 4) all significant predictors from Steps 1, 2, or 3 were entered concurrently into multiple regression. The results of these Step 4 multiple regressions are cited in the text and their summary statistics are found in the appendices that follow.

Regressions involving such a potentially large number of variables are vulnerable to the problems of high multicollinearity, especially when intercorrelated variables typical of social characteristics are involved. To assess possible difficulties, a correlation matrix of the socioeconomic measures was computed. Only the correlations between length of residence in Kansas City, Mo., and age ( $r = .549$ ) and between marital status and income ( $r = -.521$ ) exceeded the .5 level. Further, only the interaction of marital status and income was ever found to be a significant predictor of any outcome examined. This interaction correlated .709 with marital status and .661 with income. In no case did the interaction, which was always entered in a later step, appear to obscure the effect of the separate factors.

Analysis of Variance. When possible systematic differences in an outcome were to be assessed according to group membership, e.g., type of crime, dummy variable regression analysis was used. All categories except one, the reference group, were represented by a dummy variable coded "1" if the case was a member of the category, "0" if not. The F's given in the appendix tables of summary statistics indicate if the mean or the proportion of the category differed significantly

from that of the reference group. To assess differences between groups other than the reference group, *a posteriori* contrasts utilizing t-tests were performed.

Analysis of Covariance. The analysis of variance technique above was chosen as it lended itself well to obtaining predictive equations from analysis of covariance. A continuous variable, the covariate was entered into multiple regression with the group factors as above, and factor-covariate interactions were computed and entered into the equation. This analysis was employed to indicate the relationship between a dependent variable and a continuous independent variable (e.g., probability of arrest by travel time), and whether this relationship differed among groups (e.g., types of crime).

Path Analysis. Analysis of citizen satisfaction with police response time had two major objectives: 1) to identify the factors significantly affecting satisfaction, and 2) to assess the total impact of potential policy variables on citizen satisfaction. Path analysis provides a way to achieve both of these objectives.

Path analysis is a technique to determine the total effect of a given independent variable on a selected dependent variable. It is more thorough than other analysis techniques for identifying significant relationships in that it considers indirect as well as direct relationships. A direct relationship refers to the effect a change in a single independent variable has on a dependent variable. An indirect relationship refers to the effect on a dependent variable resulting from changes in intervening variables which were also results of the change in the given independent variable. By considering the indirect as well as direct effects, path analysis may reveal relationships which would otherwise appear insignificant.

In addition, when the indirect relationships are identified, they may be

added to the direct effects to give the total effect of a change in the independent variable on the dependent variable. Thus, it permits the identification of complex causal processes and the assessment of effects that a change in any variable within the system would have on other variables in the system.

Path analysis requires several steps. First, the causal order of the variables must be established *a priori* and the potential relationships identified. Second, the regression F-tests can be used to identify the significant relationships. Third, to compute the effect coefficients, which include the direct and indirect effects, the regression coefficients were recomputed with only the significant variables included in each equation. Standardized regression coefficients seemed most appropriate for citizen satisfaction because they permit the comparison of the effects of variables with different measurement scales. However, to avoid unnecessary controversy, the unstandardized regression coefficients were also included in the statistical tables for those who wish to use them.

T-tests. T-tests were used to assess the significance of the difference between two categories in the group proportions (for dichotomous dependent variables) or the group means (for continuous dependent variables). Because of the experiment's rather high Type I error rate of the t-test, significant variation among categories was generally established by analysis of variance before this test was applied. The assumption of equal group variances was assessed by an F-test in all cases, and where the variances were found to differ significantly, a separate-variance estimate was employed rather than the pooled variance normally used. Two-tailed tests were applied in all cases.

## APPENDIX B

### Operational Definitions and Summary Statistics for Response Times Analysis

Section B-1: Operationalization of the Seven Response Time Components.

The seven time components used in this study were operationalized as follows:

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 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."

Table B - 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 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 II Crimes	Md	1:57	6:01	0:14	1:54	0:19	0:03	3:44	0:17	15:55
	$\bar{X}$	3:09	5:37:35	0:20	3:33	0:21	0:23	4:32	0:22	5:48:43
	SD	5:56	37:24:04	0:19	5:01	0:13	1:24	3:21	0:46	37:28:42
	Min.	1:00	1:00	0:04	0:10	0:06	- 1:21	0:11	- 5:45	4:05
	Max.	45:00	456:00:00	3:28	37:13	2:48	15:58	29:45	5:10	456:06:15
	N	57	286	352	334	337	353	359	359	285
%	—	49.6	2.1	17.0	2.5	1.5	25.2	2.1	100.0	
Part II Involvement Crimes	Md	1:57	5:01	0:14	1:51	0:19	0:03	3:35	0:15	14:37
	$\bar{X}$	3:09	1:01:13	0:19	3:08	0:22	0:21	4:13	0:20	1:10:34
	SD	5:56	8:23:56	0:19	4:10	0:13	1:16	2:52	0:48	8:25:34
	Min.	1:00	1:00	0:04	0:10	0:06	- 1:21	0:11	- 5:45	4:05
	Max.	45:00	106:53:00	3:28	37:13	2:48	15:58	29:45	5:10	107:11:37
	N	57	224	286	268	271	288	292	292	223
%	—	46.3	2.3	17.8	2.8	1.4	27.1	2.2	99.9	
Part II Discovery Crimes	Md	—	19:50	0:15	2:25	0:18	0:03	4:28	0:21	35:01
	$\bar{X}$	—	22:16:06	0:20	5:15	0:20	0:33	5:54	0:31	22:29:13
	SD	—	76:55:49	0:15	7:20	0:10	1:53	4:42	0:37	76:56:30
	Min.	—	1:00	0:05	0:16	0:10	- 0:34	1:08	0:00	5:31
	Max.	—	456:00:00	1:31	35:41	1:10	13:55	23:45	3:42	456:06:15
	N	—	62	66	66	66	65	67	67	62
%	—	61.5	1.3	14.2	1.5	1.6	18.3	1.6	100.0	

\* Data are for nonaggravated assault only.  
 \*\* Occurrence time estimates were not included in total response times.

Table B - 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
Non-aggravated Assault	Md	1:57	8:06	0:15	2:05	0:18	0:04	3:31	0:16	16:06
	$\bar{X}$	3:09	22:14	0:21	3:27	0:20	0:19	4:12	0:23	31:14
	SD	5:56	56:57	0:28	3:58	0:10	0:45	2:34	0:39	57:41
	Min.	1:00	1:00	0:06	0:38	0:06	- 0:28	0:11	- 2:00	4:41
	Max.	45:00	6:00:22	3:28	20:24	1:06	4:24	11:23	2:46	6:14:00
	N	57	54	59	54	54	59	59	59	54
%	—	49.4	1.9	17.7	2.3	1.5	25.3	1.6	99.7	
Involvement Vandalism	Md	—	4:59	0:15	2:15	0:17	0:02	3:55	0:11	14:02
	$\bar{X}$	—	11:24	0:21	5:06	0:20	0:41	4:47	0:22	23:27
	SD	—	22:42	0:20	7:17	0:08	2:25	2:42	0:27	27:31
	Min.	—	1:00	0:06	0:28	0:08	- 0:45	1:07	- 0:25	6:04
	Max.	—	2:27:00	1:58	37:13	0:44	15:58	14:38	1:52	2:52:49
	N	—	52	54	50	50	53	54	54	52
%	—	37.1	2.6	22.7	2.4	2.6	30.1	2.2	99.7	
Involvement Forgery, Fraud, Embezzlement	Md	—	3:20	0:15	2:19	0:24	0:00	3:03	0:22	11:20
	$\bar{X}$	—	5:10:37	0:16	3:06	0:25	0:11	4:10	0:39	5:19:24
	SD	—	23:18:15	0:09	2:55	0:13	0:43	2:41	0:48	23:20:31
	Min.	—	1:00	0:05	0:10	0:11	- 0:42	1:14	- 0:14	4:26
	Max.	—	106:53:00	0:38	11:11	1:09	2:58	11:56	2:19	107:11:37
	N	—	21	21	21	21	21	21	21	21
%	—	38.0	2.6	18.7	4.1	1.1	31.2	4.3	100.0	

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

Table B-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
Weapon Possession	Md	—	6:30	0:18	1:53	0:25	- 0:05	2:49	0:00	12:47
	$\bar{X}$	—	13:40	0:21	1:59	0:27	0:01	2:43	0:10	19:16
Weapon Possession	SD	—	11:42	0:11	1:01	0:13	0:29	1:21	0:32	11:38
	Min.	—	2:00	0:07	0:43	0:14	- 0:36	0:26	- 1:22	8:29
Weapon Possession	Max.	—	30:00	0:44	5:18	1:03	1:12	4:58	1:11	34:08
	N	—	6	17	15	15	17	17	17	6
Weapon Possession	%	—	60.7	2.0	16.4	2.5	0.6	18.7	2.0	102.9
Drunkenness	Md	—	4:36	0:14	1:42	0:17	0:11	3:13	0:16	11:33
	$\bar{X}$	—	7:32	0:21	2:21	0:19	0:17	4:17	0:05	15:57
Drunkenness	SD	—	8:49	0:20	1:35	0:09	0:35	4:42	1:09	13:21
	Min.	—	1:00	0:09	0:18	0:09	- 0:23	0:46	- 5:45	5:43
Drunkenness	Max.	—	30:00	1:58	6:11	0:54	2:17	29:45	1:05	1:03:19
	N	—	19	34	33	34	35	37	37	19
Drunkenness	%	—	40.4	3.1	22.0	2.9	2.0	25.6	3.9	99.9
Disturbing the Peace	Md	—	5:00	0:14	1:32	0:20	0:01	3:01	0:26	12:18
	$\bar{X}$	—	11:26	0:19	1:59	0:23	0:10	3:38	0:27	18:08
Disturbing the Peace	SD	—	14:41	0:18	1:24	0:10	0:36	2:22	0:57	15:50
	Min.	—	1:00	0:05	0:20	0:07	- 1:21	0:33	- 1:54	4:05
Disturbing the Peace	Max.	—	1:05:00	1:39	7:17	0:53	1:56	14:30	5:10	1:18:26
	N	—	44	58	54	54	58	58	58	44
Disturbing the Peace	%	—	50.2	2.4	14.3	3.4	0.4	26.3	2.6	99.6

Table B - 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
Disorderly Conduct	Md	---	6:30	0:10	1:31	0:17	- 0:01	4:12	0:23	10:30
	$\bar{X}$	---	24:42	0:13	2:53	0:19	0:10	4:20	0:17	30:48
	SD	---	54:47	0:09	3:24	0:08	0:50	2:08	0:51	55:35
	Min.	---	2:00	0:04	0:40	0:10	- 0:43	1:14	- 2:42	6:14
	Max.	---	3:00:00	0:40	14:07	0:38	3:00	10:00	1:27	3:07:51
N	---	10	18	16	17	19	20	20	10	
%	---	56.7	1.4	13.6	2.7	0.1	27.2	0.7	102.4	
Discovery Vandalism	Md	---	14:38	0:16	1:55	0:18	0:05	4:06	0:17	25:05
	$\bar{X}$	---	3:48:59	0:20	5:17	0:21	0:40	5:39	0:24	4:01:51
	SD	---	12:46:36	0:15	8:03	0:11	2:08	4:19	0:28	12:46:41
	Min.	---	1:00	0:05	0:16	0:10	0:34	1:11	0:00	5:31
	Max.	---	69:25:00	1:31	35:41	1:10	13:55	21:56	2:33	69:35:17
N	---	49	50	50	50	49	50	50	49	
%	---	54.4	1.6	16.8	1.8	1.9	21.8	1.7	100.0	
Discovery Forgery, Fraud, Embezzlement	Md	---	26:45:00	0:12	3:46	0:16	0:03	4:33	0:45	26:53:31
	$\bar{X}$	---	105:41:33	0:17	5:21	0:17	0:11	5:59	1:04	105:53:46
	SD	---	161:11:27	0:14	5:05	0:04	0:27	4:15	0:56	161:13:51
	Min.	---	5:00	0:08	0:22	0:10	- 0:12	1:08	0:17	15:00
	Max.	---	456:00:00	0:59	19:02	0:25	1:23	13:27	3:42	456:06:15
N	---	11	12	12	12	12	12	12	11	
%	---	86.4	0.3	5.2	0.4	0.8	5.5	1.5	100.1	

Table B - 6.-- Time statistics for response time intervals.

Crime Category		Reporting	Dispatch	Travel	Total
All Part II Crimes	Md	7:03	2:13	4:20	15:55
	$\bar{X}$	5:39:06	3:50	5:22	5:48:43
	SD	37:27:56	4:59	3:44	37:28:42
	Min.	1:05	0:21	0:20	4:05
	Max.	456:00:11	37:33	29:58	456:06:15
	N	285	352	359	285
%	51.7	19.0	29.4	100.1	
Part II Involvement Crimes	Md	5:39	2:07	4:09	14:37
	$\bar{X}$	1:01:49	3:27	4:59	1:10:34
	SD	8:25:04	4:11	3:16	8:25:34
	Min.	1:05	0:21	0:20	4:05
	Max.	106:53:27	37:33	29:58	107:11:37
	N	223	286	292	223
%	48.5	19.9	31.5	99.9	
Part II Discovery Crimes	Md	20:16	2:40	5:25	35:01
	$\bar{X}$	22:16:27	5:31	7:01	22:29:13
	SD	76:55:50	7:19	5:00	76:56:30
	Min.	1:05	0:21	1:45	5:31
	Max.	456:00:11	35:20	24:31	456:06:15
	N	62	66	67	62
%	62.9	15.4	21.7	100.0	

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

Crime Category		Reporting	Dispatch	Travel	Total
Non-aggravated Assault	Md	8:10	2:24	4:16	16:06
	$\bar{X}$	22:36	3:38	4:58	31:14
	SD	57:05	3:49	2:50	57:41
	Min.	1:08	0:40	0:20	4:41
	Max.	6:00:31	20:32	12:37	6:14:00
	N	54	59	59	54
	%	51.4	19.8	28.9	100.1
Involvement Vandalism	Md	5:24	2:30	4:42	14:02
	$\bar{X}$	11:46	5:31	5:54	23:27
	SD	22:39	7:23	3:35	27:31
	Min.	1:06	0:47	1:07	6:04
	Max.	2:27:12	37:33	20:38	2:52:49
	N	52	54	54	52
	%	39.7	24.7	35.6	100.0
Involvement Forgery, Fraud, Embezzlement	Md	3:38	2:51	3:45	11:20
	$\bar{X}$	5:10:53	3:26	5:05	5:19:24
	SD	23:18:17	2:53	3:19	23:20:31
	Min.	1:05	0:21	1:20	4:26
	Max.	106:53:27	11:25	14:15	107:11:37
	N	21	21	21	21
	%	40.6	21.9	37.4	99.9

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

Crime Category		Reporting	Dispatch	Travel	Total
Weapon Possession	Md	5:21	2:18	2:49	12:47
	$\bar{X}$	13:58	2:26	3:03	19:16
	SD	11:42	1:10	1:26	11:38
	Min.	2:14	1:10	0:45	8:29
	Max.	30:12	5:49	5:09	34:08
	N	6	17	17	6
	%	62.7	16.5	20.8	100.0
Drunkenness	Md	5:09	2:01	3:25	11:33
	$\bar{X}$	7:54	2:34	4:41	15:57
	SD	8:44	1:37	4:34	13:21
	Min.	1:10	0:25	1:16	5:43
	Max.	30:19	6:25	29:58	1:03:19
	N	19	34	37	19
	%	43.5	24.4	32.1	100.0
Disturbing the Peace	Md	5:17	1:53	3:54	12:18
	$\bar{X}$	11:45	2:18	4:23	18:08
	SD	14:46	1:23	2:31	15:50
	Min.	1:07	0:29	0:48	4:05
	Max.	1:05:54	7:34	14:30	1:18:26
	N	44	58	58	44
	%	52.6	16.5	30.9	100.0

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

Crime Category		Reporting	Dispatch	Travel	Total
Disorderly Conduct	Md	6:13	1:58	4:59	10:30
	$\bar{X}$	24:53	3:10	4:54	30:48
	SD	54:46	3:17	2:44	55:35
	Min.	2:08	0:36	1:05	6:14
	Max.	3:00:07	14:30	11:35	3:07:51
	N %	10 58.1	18 14.3	20 27.6	10 100.0
Discovery Vandalism	Md	15:10	2:16	5:08	25:05
	$\bar{X}$	3:49:20	5:33	6:47	4:01:51
	SD	12:46:39	8:01	4:46	12:46:41
	Min.	1:05	0:21	1:45	5:31
	Max.	69:25:14	35:20	22:34	69:35:17
	N %	49 56.1	50 18.3	50 25.7	49 100.1
Discovery Forgery, Fraud, Embezzlement	Md	26:45:10	4:01	5:28	26:53:31
	$\bar{X}$	105:41:51	5:35	7:17	105:53:46
	SD	161:11:30	5:07	4:08	161:13:51
	Min.	5:13	0:40	1:51	15:00
	Max.	456:00:11	19:18	14:23	456:06:15
	N %	11 86.7	12 5.5	12 7.9	11 100.1

TABLE B-10 -- Multiple regression analysis of the effect of type of crime on reporting time.

Dependent Variable: Reporting Time, logarithm

Independent Variables	B	Beta	F	Simple r
Involvement Vandalism	-0.18387	-0.09524	2.105	-0.15088
Involvement Forgery, Fraud, and Embezzlement	-0.18058	-0.06360	1.159	-0.08835
Weapon Possession	0.04942	0.00959	0.031	-0.00021
Drunkenness	-0.21179	-0.07124	1.481	-0.09501
Disturbing the Peace	-0.11378	-0.05522	0.738	-0.09551
Disorderly Conduct	-0.00290	-0.00072	0.000	-0.01378
Discovery Vandalism	0.30351	0.15367	5.561	0.15705
Discovery Forgery, Fraud, and Embezzlement	1.87903	0.48865	75.817	0.49604
Constant	1.14977			

Multiple R: 0.54641  
R Square: 0.29856  
F: 13.67393

Sample: All Part II Crime  
N: 266  
Reference Group: Nonaggravated Assault

TABLE B-11 -- Multiple regression analysis of the effect of type of crime on dispatch time.

Dependent Variable: Dispatch Time, logarithm

Independent Variables	B	Beta	F	Simple r
Involvement Vandalism	0.09032	0.09501	1.899	0.12366
Involvement Forgery, Fraud, and Embezzlement	-0.01782	-0.01238	0.040	-0.00756
Weapon Possession	-0.06846	-0.04309	0.509	-0.04040
Drunkenness	-0.09061	-0.07839	1.460	-0.08019
Disturbing the Peace	-0.11915	-0.12894	3.430	-0.14698
Disorderly Conduct	-0.05106	-0.03301	0.296	-0.02972
Discovery Vandalism	0.05952	0.06069	0.791	0.08099
Discovery Forgery, Fraud, and Embezzlement	0.17659	0.09414	2.554	0.10199
Constant	0.63770			

Multiple R: 0.23306  
R Square: 0.05432  
F: 2.26154

Sample: All Part II Crime  
N: 324  
Reference Group: Nonaggravated Assault

TABLE B-12 -- Multiple regression analysis of the effect of type of crime on travel time.

Dependent Variable: Travel Time, logarithm

Independent Variables	B	Beta	F	Simple r
Involvement Vandalism	0.08865	0.11871	3.115	0.11101
Involvement Forgery, Fraud, and Embezzlement	0.00536	0.00474	0.006	-0.01321
Weapon Possession	-0.19026	-0.15225	6.686	-0.17688
Drunkenness	-0.02736	-0.03125	0.239	-0.06011
Disturbing the Peace	-0.04545	-0.06261	0.850	-0.10838
Disorderly Conduct	-0.00096	-0.00083	0.000	-0.01868
Discovery Vandalism	0.12388	0.16078	5.837	0.15997
Discovery Forgery, Fraud, and Embezzlement	0.18129	0.12286	4.583	0.11390
Constant	0.83759			

Multiple R: 0.29739  
R Square: 0.08844  
F: 3.88085

Sample: All Part II Crime  
N: 329  
Reference Group: Nonaggravated Assault

TABLE B-13 -- T-test of the mean difference in reporting time (logarithm) between types of Part II crime.

Type of Crime	Nonaggravated Assault	Involvement Vandalism	Involvement Forgery, Fraud, Embezzlement	Weapon Possession	Drunkenness	Disturbing the Peace	Disorderly Conduct	Discovery Vandalism	Discovery Forgery, Fraud, Embezzlement
Nonaggravated Assault		1.91 p < .059	0.97 p < .339	-0.23 p < .818	1.67 p < .099	1.14 p < .256	0.02 p < .987	-2.12 p < .037	-4.61 p < .001
Involvement Vandalism			-0.02 p < .986	-1.12 p < .269	0.22 p < .823	-0.71 p < .481	-1.05 p < .299	-3.41 p < .001	-5.07 p < .001
Involvement Forgery, Fraud, Embezzlement				-0.68 p < .505	0.16 p < .873	-0.36 p < .723	-0.64 p < .530	-2.17 p < .034	-4.71 p < .001
Weapon Possession					1.39 p < .179	0.79 p < .433	0.19 p < .850	-0.69 p < .493	-4.14 p < .001
Drunkenness						-0.79 p < .433	-1.17 p < .250	-3.34 p < .001	-5.08 p < .001
Disturbing the Peace							-0.64 p < .524	-2.88 p < .005	-4.89 p < .001
Disorderly Conduct								-1.05 p < .297	-4.28 p < .001
Discovery Vandalism									-4.85 p < .001
Discovery Forgery, Fraud, Embezzlement									

TABLE B-14 -- T-test of the mean difference in dispatch time (logarithm) between types of Part II crime.

Type of Crime	Nonaggravated Assault	Involvement Vandalism	Involvement Forgery, Fraud, Embezzlement	Weapon Possession	Drunkenness	Disturbing the Peace	Disorderly Conduct	Discovery Vandalism	Discovery Forgery, Fraud, Embezzlement
Nonaggravated Assault		1.91 p < .059	0.19 p < .849	1.09 p < .280	1.31 p < .193	2.21 p < .029	0.56 p < .578	-0.78 p < .435	-1.63 p < .107
Involvement Vandalism			1.04 p < .301	2.22 p < .030	2.42 p < .018	3.24 p < .002	1.31 p < .194	0.36 p < .719	-5.07 p < .001
Involvement Forgery, Fraud, Embezzlement				0.55 p < .585	0.82 p < .417	1.17 p < .252	0.29 p < .770	-0.69 p < .493	-1.41 p < .167
Weapon Possession					0.29 p < .773	0.81 p < .420	-0.20 p < .847	-1.65 p < .105	-2.00 p < .066
Drunkenness						0.51 p < .608	-0.45 p < .655	-1.86 p < .067	-2.50 p < .016
Disturbing the Peace							-0.96 p < .338	-2.50 p < .015	-2.49 p < .027
Disorderly Conduct								-0.95 p < .348	-1.71 p < .099
Discovery Vandalism									-0.82 p < .416
Discovery Forgery, Fraud, Embezzlement									

TABLE B-15 -- T-test of the mean difference in travel interval (logarithm) between types of Part II crime.

Type of Crime	Nonaggravated Assault	Involvement Vandalism	Involvement Forgery, Fraud, Embezzlement	Weapon Possession	Drunkenness	Disturbing the Peace	Disorderly Conduct	Discovery Vandalism	Discovery Forgery, Fraud, Embezzlement
Nonaggravated Assault		-1.76 p < .081	-0.09 p < .931	2.41 p < .019	0.46 p < .647	0.86 p < .392	0.00 p < .999	-2.25 p < .026	-2.00 p < .049
Involvement Vandalism			1.27 p < .208	4.06 p < .001	2.26 p < .026	2.78 p < .006	1.34 p < .183	-0.68 p < .497	-1.18 p < .243
Involvement Forgery, Fraud, Embezzlement				2.21 p < .033	0.47 p < .638	0.74 p < .461	0.07 p < .943	-1.61 p < .112	-1.78 p < .085
Weapon Possession					-2.30 p < .026	-2.00 p < .049	-2.12 p < .041	-4.04 p < .001	-3.84 p < .001
Drunkenness						0.34 p < .736	-0.38 p < .708	-2.64 p < .010	-2.61 p < .012
Disturbing the Peace							-0.64 p < .526	-3.21 p < .002	-2.71 p < .008
Disorderly Conduct								-1.67 p < .100	-1.83 p < .078
Discovery Vandalism									-0.64 p < .524
Discovery Forgery, Fraud, Embezzlement									

APPENDIX C

Summary Statistics for  
Arrest Analysis

TABLE C-1 -- Multiple regression analysis of the effect of type of crime on arrests.

Dependent Variable: Arrests

Independent Variables	B	Beta	F	Simple r
Involvement Vandalism	-0.44193	-0.42645	36.258	-0.16787
Involvement Forgery, Fraud, and Embezzlement	-0.05569	-0.03720	0.316	0.19468
Discovery Vandalism	-0.58712	-0.55278	61.428	-0.34282
Discovery Forgery, Fraud, and Embezzlement	-0.62712	-0.32473	25.822	-0.17166
Constant	0.62712			

Multiple R: 0.55641      Sample: Nonaggravated Assault, Vandalism,  
R Square: 0.30959      Forgery, Fraud, and Embezzlement  
F: 21.41221      N: 196  
Reference Group: Nonaggravated Assault

TABLE C-2 -- Multiple regression analysis of the effect of type of crime on response-related arrests.

Dependent Variable: Response-Related Arrests

Independent Variables	B	Beta	F	Simple r
Involvement Vandalism	-0.04928	-0.09566	1.454	-0.10075
Involvement Forgery, Fraud, and Embezzlement	0.21792	0.29285	15.615	0.34556
Discovery Vandalism	-0.06780	-0.12841	2.641	-0.14270
Discovery Forgery, Fraud, and Embezzlement	-0.06780	-0.07062	0.973	-0.06227
Constant	0.06780			

Multiple R: 0.36545      Sample: Nonaggravated Assault, Vandalism,  
R Square: 0.13355      Forgery, Fraud, and Embezzlement  
F: 7.36018      N: 196  
Reference Group: Nonaggravated Assault

TABLE C-3 -- T-tests of the proportional differences in arrest.

Type of Crime	Nonaggravated Assault	Involvement Vandalism	Involvement Forgery, Fraud, Embezzlement	Discovery Vandalism	Discovery Forgery, Fraud, Embezzlement
Nonaggravated Assault		5.28 p < .001	0.44 p < .658	8.46 p < .001	4.43 p < .001
Involvement Vandalism			-3.52 p < .001	2.41 p < .018	3.47 p < .001
Involvement Forgery, Fraud, Embezzlement				4.66 p < .001	3.88 p < .001
Discovery Vandalism					0.70 p < .489
Discovery Forgery, Fraud, Embezzlement					

TABLE C-4 -- T-tests of the proportional differences in response-related arrest.

Type of Crime	Nonaggravated Assault	Involvement Vandalism	Involvement Forgery, Fraud, Embezzlement	Discovery Vandalism	Discovery Forgery, Fraud, Embezzlement
Nonaggravated Assault		1.30 p < .196	-2.05 p < .051	2.05 p < .045	0.92 p < .360
Involvement Vandalism			-2.60 p < .017	1.00 p < .322	1.00 p < .322
Involvement Forgery, Fraud, Embezzlement				4.41 p < .001	2.12 p < .042
Discovery Vandalism					0.00 p < .500
Discovery Forgery, Fraud, Embezzlement					

TABLE C-5 -- Multiple regression analysis of the effect of involvement-discovery on arrests.

Dependent Variable: Arrests

Independent Variable	B	Beta	F	Simple r
Involvement-Discovery	0.40804	0.40985	39.165	0.40985
Constant	0.03226			
Multiple R:	0.40985	Sample: Nonaggravated Assault, Vandalism, Forgery, Fraud, and Embezzlement		
R Square:	0.16797	N: 196		
F:	39.16549	Reference Group: Discovery		

TABLE C-6 -- Multiple regression analysis of the effect of involvement-discovery on response-related arrests.

Dependent Variable: Response-Related Arrests

Independent Variable	B	Beta	F	Simple r
Involvement-Discovery	0.08209	0.16586	5.488	0.16586
Constant	0.00000			
Multiple R:	0.16586	Sample: Nonaggravated Assault, Vandalism, Forgery, Fraud, and Embezzlement		
R Square:	0.02751	N: 196		
F:	5.48814	Reference Group: Discovery		

TABLE C-7 -- Multiple regression analysis of the effect of reporting, dispatch, and travel time on response-related arrests.

Dependent Variable: Response-Related Arrests

Independent Variables	B	Beta	F	Simple r
(1) Reporting Time, logarithm	-0.45311	-0.93226	7.385	-0.15771
(2) Dispatch Time, logarithm	-0.28683	-0.39429	1.716	-0.18514
(3) Travel Time, logarithm	-0.89258	-0.90701	12.986	-0.34506
Interaction of Variables 1 and 2	0.02625	0.07159	0.056	-0.17660
Interaction of Variables 1 and 3	0.41403	1.00817	5.171	-0.24219
Interaction of Variables 2 and 3	0.21078	0.34483	1.008	-0.25295
Constant	0.98773			
Multiple R:	0.43470			
R Square:	0.18896			
F:	4.65975			
Sample:	Nonaggravated Assault, Involvement Vandalism, Involvement Forgery, Fraud, and Embezzlement			
N:	127			

TABLE C-8 -- Multiple regression analysis of the effect of dispatch time and involvement-discovery on arrests.

Dependent Variable: Arrests

Independent Variables	B	Beta	F	Simple r
(1) Dispatch Time, logarithm	0.05219	0.04460	0.191	-0.18214
(2) Involvement-Discovery	0.67336	0.67634	29.174	0.40985
Interaction of Variables 1 and 2	-0.39172	-0.37093	6.550	0.13285
Constant	-0.00531			
Multiple R:	0.46882			
R Square:	0.21979			
F:	18.02926			
Sample:	Nonaggravated Assault, Vandalism, Forgery, Fraud, and Embezzlement			
N:	196			
Reference Group:	Discovery			

TABLE C-9 -- Multiple regression analysis of the effect of dispatch time and type of involvement crime on arrests.

Dependent Variable: Arrests

Independent Variables	B	Beta	F	Simple r
Dispatch Time, logarithm	-0.27372	-0.20544	6.932	-0.25483
Involvement Vandalism	-0.41688	-0.41191	24.455	-0.42221
Involvement Forgery, Fraud, and Embezzlement	-0.06024	-0.04411	0.284	0.11387
Constant	0.80134			
Multiple R:	0.47037			
R Square:	0.22124			
F:	12.31099			
Sample:	Nonaggravated Assault, Involvement Vandalism, Involvement Forgery, Fraud, and Embezzlement			
N:	134			
Reference Group:	Nonaggravated Assault			

TABLE C-10 -- Multiple regression analysis of the effect of travel time and involvement-discovery on arrests.

Dependent Variable: Arrests

Independent Variables	B	Beta	F	Simple r
(1) Travel Time, logarithm	0.00672	0.09144	0.955	-0.18139
(2) Involvement-Discovery	0.67922	0.68223	33.380	0.40985
Interaction of Variables 1 and 2	-0.02844	-0.37371	8.826	0.12758
Constant	-0.04488			
Multiple R:	0.46405			
R Square:	0.21534			
F:	17.56441			
Sample:	Nonaggravated Assault, Vandalism, Forgery, Fraud, and Embezzlement			
N:	196			
Reference Group:	Discovery			

TABLE C-11 -- Multiple regression analysis of the effect of travel time and involvement-discovery on response-related arrests.

Dependent Variable: Response-Related Arrests

Independent Variables	B	Beta	F	Simple r
(1) Travel Time, logarithm	0.00000	0.00000	0.000	-0.32444
(2) Involvement-Discovery	0.40728	0.82292	12.102	0.16586
Interaction of Variables 1 and 2	-0.37221	-0.75162	9.732	-0.03223
Constant	0.00000			

Multiple R: 0.40090  
R Square: 0.16072  
F: 12.25566

Sample: Nonaggravated Assault, Vandalism, Forgery, Fraud, and Embezzlement  
N: 196  
Reference Group: Discovery

TABLE C-13 -- Multiple regression analysis of the effect of travel time and type of involvement crime on response-related arrests.

Dependent Variable: Response-Related Arrests

Independent Variables	B	Beta	F	Simple r
(1) Travel Time, logarithm	-0.31227	-0.31050	8.956	-0.37010
(2) Involvement Vandalism	-0.21714	-0.38800	1.939	-0.19027
(3) Involvement Forgery, Fraud, and Embezzlement	0.78233	1.03608	17.318	0.31978
Interaction of Variables 1 and 2	-0.66720	-0.79057	9.899	0.17087
Interaction of Variables 1 and 3	0.21147	0.36941	1.591	-0.19829
Constant	0.32902			

Multiple R: 0.55833  
R Square: 0.31173  
F: 11.59476

Sample: Nonaggravated Assault, Involvement Vandalism, Involvement Forgery, Fraud, and Embezzlement  
N: 134  
Reference Group: Nonaggravated Assault

TABLE C-12 -- Multiple regression analysis of the effect of travel time and type of involvement crime on arrests.

Dependent Variable: Arrests

Independent Variables	B	Beta	F	Simple r
Travel Time, logarithm	-0.40935	-0.22507	8.328	-0.28652
Involvement Vandalism	-0.40521	-0.40038	23.103	-0.42221
Involvement Forgery, Fraud, and Embezzlement	-0.05306	-0.03886	0.223	0.11387
Constant	0.96955			

Multiple R: 0.47865  
R Square: 0.22911  
F: 12.87852

Sample: Nonaggravated Assault, Involvement Vandalism, Involvement Forgery, Fraud, and Embezzlement  
N: 134  
Reference Group: Nonaggravated Assault

APPENDIX D

Summary Statistics for  
Witness Availability Analysis

TABLE D-1 -- Multiple regression analysis of the effect of type of crime on witness availability.

Dependent Variable: Witness Availability

Independent Variables	B	Beta	F	Simple r
Involvement Vandalism	-0.07972	-0.07293	1.169	0.05688
Involvement Forgery, Fraud, and Embezzlement	0.13721	0.08285	1.902	0.17347
Weapon Possession	-0.16251	-0.08887	2.273	-0.01779
Drunkenness	-0.20385	-0.15908	6.163	-0.06349
Disturbing the Peace	-0.20105	-0.18922	7.711	-0.07933
Disorderly Conduct	-0.23898	-0.14106	5.564	-0.06746
Discovery Vandalism	-0.29898	-0.26510	15.780	-0.17504
Discovery Forgery, Fraud, and Embezzlement	-0.00565	-0.00262	0.002	0.06058
Constant	0.33898			

Multiple R: 0.30443      Sample: All Part II Crime  
R Square: 0.09268      N: 328  
F: 4.07295      Reference Group: Nonaggravated Assault

TABLE D-2 -- T-test of the proportional difference between types of Part II crime for witness availability.

Type of Crime	Nonaggravated Assault	Involvement Vandalism	Involvement Forgery, Fraud, Embezzlement	Weapon Possession	Drunkenness	Disturbing the Peace	Disorderly Conduct	Discovery Vandalism	Discovery Forgery, Fraud, Embezzlement
Nonaggravated Assault		0.92 p < .360	-1.11 p < .270	1.28 p < .204	2.42 p < .018	2.61 p < .010	2.58 p < .013	4.39 p < .001	0.04 p < .970
Involvement Vandalism			-1.82 p < .072	0.69 p < .492	1.43 p < .156	1.62 p < .108	1.48 p < .143	3.30 p < .001	-0.51 p < .609
Involvement Forgery, Fraud, Embezzlement				1.99 p < .055	2.72 p < .011	2.80 p < .009	2.87 p < .007	3.79 p < .001	0.78 p < .440
Weapon Possession					0.39 p < .698	0.39 p < .698	0.66 p < .511	1.37 p < .185	-0.95 p < .349
Drunkenness						-0.04 p < .970	0.38 p < .706	1.50 p < .140	-1.55 p < .129
Disturbing the Peace							0.43 p < .667	1.83 p < .071	-1.64 p < .105
Disorderly Conduct								0.81 p < .427	-1.66 p < .108
Discovery Vandalism									-2.02 p < .066
Discovery Forgery, Fraud, Embezzlement									

TABLE D-3 -- Multiple regression analysis of the effect of reporting time and involvement-discovery on witness availability.

Dependent Variable: Witness Availability

Independent Variables	B	Beta	F	Simple r
(1) Reporting Time, logarithm	0.12090	0.22279	6.809	0.01669
(2) Involvement-Discovery	0.42060	0.42312	13.284	0.15823
Interaction of Variables 1 and 2	-0.17145	-0.26092	5.742	0.06862
Constant	-0.11062			

Multiple R: 0.22970  
R Square: 0.05276  
F: 4.86443

Sample: All Part II Crime  
N: 266  
Reference Group: Discovery

## APPENDIX E

### Explanation of Variables and Summary Statistics for Citizen Satisfaction Analysis

TABLE E-1

Levels of Citizen Satisfaction

	FREQUENCY	PERCENT	ADJUSTED PERCENT
Very Satisfied	180	54.7	72.3
Moderately Satisfied	31	9.4	12.4
Slightly Satisfied	8	2.4	3.2
Slightly Dissatisfied	11	3.3	4.4
Moderately Dissatisfied	8	2.4	3.2
Very Dissatisfied	11	3.3	4.4
Missing Cases	<u>80</u>	<u>24.3</u>	<u>-</u>
Total	329	100.0	100.0

## Section E-2: Effects of Social Characteristics and Potential Error on Citizen Satisfaction.

Although they were not included in the final model, the possible effects of socioeconomic characteristics of the respondents on their satisfaction with police response time were rigorously examined. Variables bivariately related were initially identified. Where multicollinearity was absent, interaction effects among the significant bivariately related variables were tested. Significant bivariate and interaction effects were examined with other variables in the citizen satisfaction model controlled. Because of substantial missing data, nonsignificant variables were excluded from analysis to permit testing of significant relationships with a larger sample. In addition to citizen satisfaction, the same analysis was conducted for whether citizens thought faster response time could make a difference in the outcome or not, for the perceptions and expectations index, and for perceptions and expectations separately. None of the variables in the model were significantly affected by any of the social characteristics.

Preliminary correlation analysis of citizen satisfaction indicated that the Duncan socioeconomic status, education, whether or not the respondent was the head of the household, race, and sex affected citizen satisfaction with response time. Age also was significantly related when the Duncan index was controlled, and whether the citizens owned, rented, or boarded their living quarters was related when the type of crime was controlled. The interaction effects were calculated and the variables were organized into uncorrelated groups. Analysis of these groups indicated that only age and type of living quarters were related to citizen satisfaction. When these two factors were included in the model and tested on a larger sample, the relationship disappeared. Thus, no socioeconomic characteristics directly affected citizen satisfaction with response time.

Initial analysis of the perceptions and expectations index indicated that the population of the city where the respondents lived most of their lives, education, whether the respondent was the head of the household, and income all were significantly related. When the groups of uncorrelated variables were examined, income and whether or not the respondent was the head of the household were related. However, when both variables were examined together, both relationships disappeared. Only by entering a nonsignificant interaction term was their relationship significant. However, since the interaction term was not significant, this difference had to be attributed to chance. Therefore, no indirect effect on citizen satisfaction through the perceptions and expectations index could be definitively identified.

The components of the perceptions and expectations index were also analyzed separately. No significant bivariate or suppressor effects could be identified for perceptions, and therefore further analysis was unnecessary. Expected police response time initially seemed to be affected by marital status, Duncan socioeconomic status, education, and income. Of these, only marital status and education remained related after controlling for other uncorrelated socioeconomic characteristics. However, upon controlling for type of crime, these relationships also disappeared.

The socioeconomic characteristics of respondents also did not appear to affect whether they thought faster response time could have made a difference to the outcome of the incident or not. Marital status, education, and race initially appeared related. However, upon controlling for each other and testing for interactions, the relationship disappeared. The interaction of marital status and race was bivariately significant, but this relationship proved spurious when tested with the full model.

The conclusion of this analysis is clearly that socioeconomic characteristics do not affect citizen satisfaction with response time, directly or indirectly. Although bivariate correlations were identified, they were all spurious. Other variables which have been identified by the model are much more important determinants of citizen satisfaction.

It is possible other variables which were not included in the original research design affected citizen satisfaction. Although a respectable amount of the variance was explained, a substantial amount remains unexplained. Some of the additional variance may be explained by citizens' prior experience with police, such as receipt of a traffic ticket shortly before occurrence of the Part II incident included in the sample. In addition to their own experiences, citizens' general attitudes toward police may be acquired through friends, neighbors, or media, and these attitudes may affect how they interpret police performance for a particular call. Additionally, citizens' levels of satisfaction with officers' over-all performances on-scene could partially affect their satisfaction with the response times to their calls. Data for these variables were not collected.

Part of the unexplained variance may also be due to error in the measurement of variables in the model. Variables depending on citizen recall for values are especially susceptible to distortion. Citizens may think differently during the commission of a crime or immediately following it than they did when they were interviewed weeks later. A citizen's recall of how long the police were expected to take to arrive may be distorted by the time the police actually took to arrive. Also, faster response time might have seemed more important during the event than after it. The extent of the measurement error cannot be determined, but the potential biases should be considered when interpreting the results.

TABLE E-3 -- Preliminary multiple regression analysis of citizen satisfaction.

Dependent Variable: Citizen Satisfaction

Independent Variables	B	Beta	F	Simple r
Perceptions and Expectations Ratio	0.41425	0.45622	46.737	0.50722
Faster Response Time Could Make a Difference	0.84168	0.25617	14.342	0.38557
Involvement Vandalism	-0.11401	-0.03188	0.164	0.10038
Involvement Forgery, Fraud, and Embezzlement	-0.29058	-0.06137	0.764	-0.06117
Weapon Possession	-0.43609	-0.03919	0.395	-0.06454
Drunkness	0.01090	0.00230	0.001	-0.02231
Disturbing the Peace	-0.25135	-0.06520	0.736	-0.14234
Disorderly Conduct	0.68659	0.10516	2.572	0.15428
Discovery Vandalism	-0.10388	-0.02872	0.120	0.01948
Discovery Forgery, Fraud, and Embezzlement	-0.47740	-0.06913	1.037	-0.10682
Own-Rent-Board	-0.20809	-0.09902	2.133	0.02703
Age	-0.00567	-0.05717	0.778	-0.11026
Travel Time	-1.80112	-0.08324	1.481	0.05247
Dispatch Time	0.56745	0.03664	0.298	0.10317
Constant	1.32066			

Multiple R: 0.60710  
R Square: 0.36857  
F: 7.33817

Sample: All Part II Crime  
N: 191  
Reference Group: Nonaggravated Assault

Section E-4: Citizen Satisfaction Path Analysis Equations.

The following equations were used in path analysis to analyze the effects of certain variables on citizen satisfaction with police response time:

1.  $RT = a + b_1 TOC + e$
2.  $TT = a + b_2 TOC + b_3 RT + e$
3.  $DT = a + b_4 TOC + b_5 RT + e$
4.  $IRT = a + b_6 TOC + b_7 RT + b_8 TT + b_9 DT + e$
5.  $(P-E)/E = a + b_{10} TOC + b_{11} RT + b_{12} TT + b_{13} DT + b_{14} IRT + e$
6.  $CS = a + b_{15} TOC + b_{16} RT + b_{17} TT + b_{18} DT + b_{19} IRT + b_{20} (P-E)/E + e$

where: TOC = Type of Crime  
RT = Reporting Time (reciprocal transformation)  
TT = Travel Time  
DT = Dispatch Time  
IRT = Importance of Response Time to a positive crime outcome  
P = Citizens perceived time of police arrival  
E = Citizens expected time of police arrival

The b's represent the regression coefficients, the a's represent the constants, and the e's represent the residual variation. The path coefficients are represented in the tables by the betas, and can be calculated by the formula:

$$\text{Beta}_{yx} = b_{yx} \frac{S_x}{S_y}$$

where:  $S_x$  = the standard deviation of the independent variable  
 $S_y$  = the standard deviation of the dependent variable

After the model was analyzed and the significant relationships were distinguished, the equations could be modified by calculating the coefficients of only the significant variables. Those equations were as follows:

1.  $RT = a + b_1 TOC + e$
2.  $TT = a + b_2 TOC + b_3 RT + e$
3.  $DT = a + b_4 RT + e$
4.  $IRT = a + b_5 TOC + e$
5.  $(P-E)/E = a + b_6 TT + b_7 DT + b_8 IRT + e$
6.  $CS = a + b_9 RT + b_{10} (P-E)/E + b_{11} IRT + e$

The standardized  $b$ 's (betas) from these equations were used to compute the effect coefficients for Table 6-2 (p. 60).

TABLE E-5 -- Multiple regression analysis of the effect of type of crime on reporting time (equation 1).

Dependent Variable: Reporting Time (reciprocal transformation)

Independent Variables	B	Beta	F	Simple r
Involvement Vandalism	5.10594	0.14449	2.603	0.09740
Involvement Forgery, Fraud, and Embezzlement	9.13774	0.18890	5.385	0.15493
Weapon Possession	1.61097	0.01630	0.050	-0.00744
Drunkenness	2.58941	0.05217	0.416	0.00569
Disturbing the Peace	4.75835	0.12429	2.034	0.07530
Disorderly Conduct	1.09300	0.01638	0.046	-0.01945
Discovery Vandalism	-0.78957	-0.02140	0.059	-0.10235
Discovery Forgery, Fraud, and Embezzlement	-10.31373	-0.14608	3.726	-0.18672
Constant	11.32302			
Multiple R:	0.28640			
R Square:	0.08202			
F:	2.08861			
Sample:				All Part II Crime
N:				196
Reference Group:				Nonaggravated Assault

TABLE E-6 -- Multiple regression analysis of the effects of type of crime and reporting time on travel time (equation 2).

Dependent Variable: Travel Time

Independent Variables	B	Beta	F	Simple r
Involvement Vandalism	0.02901	0.18099	4.217	0.06520
Involvement Forgery, Fraud, and Embezzlement	0.02461	0.11214	1.931	0.00230
Weapon Possession	-0.01822	-0.04064	0.324	-0.08134
Drunkness	0.01478	0.06565	0.688	-0.01742
Disturbing the Peace	0.00007	0.00039	0.000	-0.13824
Disorderly Conduct	0.00138	0.00455	0.004	-0.05423
Discovery Vandalism	0.04978	0.29743	11.893	0.24868
Discovery Forgery, Fraud, and Embezzlement	0.01547	0.04830	0.418	0.02769
Reporting Time (reciprocal transformation)	-0.00088	-0.19474	7.425	-0.19859
Constant	0.08377			

Multiple R: 0.35763  
R Square: 0.12790  
F: 3.03088

Sample: All Part II Crime  
N: 196  
Reference Group: Nonaggravated Assault

TABLE E-7 -- Multiple regression analysis of the effects of type of crime and reporting time on dispatch time (equation 3).

Dependent Variable: Dispatch Time

Independent Variables	B	Beta	F	Simple r
Involvement Vandalism	0.03539	0.15713	3.078	0.12026
Involvement Forgery, Fraud, and Embezzlement	0.01229	0.03986	0.236	-0.01783
Weapon Possession	-0.02418	-0.03839	0.280	-0.05593
Drunkness	-0.00569	-0.01798	0.050	-0.05856
Disturbing the Peace	-0.01988	-0.08144	0.876	-0.16117
Disorderly Conduct	-0.02872	-0.06749	0.793	-0.09501
Discovery Vandalism	0.03977	0.16909	3.722	0.16286
Discovery Forgery, Fraud, and Embezzlement	0.03806	0.08457	1.242	0.08977
Reporting Time (reciprocal transformation)	-0.00092	-0.14499	3.986	-0.16124
Constant	0.07006			

Multiple R: 0.31533  
R Square: 0.09943  
F: 2.28187

Sample: All Part II Crime  
N: 196  
Reference Group: Nonaggravated Assault

**CONTINUED**

**2 OF 3**

TABLE E-8

Frequencies for Faster Response Time  
Could Make a Difference

	FREQUENCY	PERCENT	ADJUSTED PERCENT
No	201	61.1	81.0
Yes	47	14.3	19.0
Missing Cases	81	24.6	Missing
Total	329	100.0	100.0

TABLE E-9

Reasons for Thinking Faster Response Time  
Could Have Made a Difference

	NO		YES	
	FREQUENCY	PERCENT	FREQUENCY	PERCENT
Incident already committed - person gone	70	35.5	1	2.1
Incident occurred earlier - undetected for some time	17	8.6	0	0.0
Not a rush situation	42	21.3	0	0.0
Faster response would make no difference	5	2.5	0	0.0
Situation had quieted	4	2.0	0	0.0
Suspects still on scene	20	10.2	4	8.5
Officers arrived quickly	15	7.6	1	2.1
Suspects were apprehended on scene	15	7.6	0	0.0
Incident was in progress upon their arrival	4	2.0	1	2.1
Persons may have been apprehended	2	1.0	32	68.1
Could have made more arrests	0	0.0	1	2.1
There was potential for injury	2	1.0	6	12.8
Victim would have been reassured	1	.5	1	2.1
Total	197	100.0	47	100.0

Missing Cases: 85

TABLE E-10 -- Multiple regression analysis of the effects of type of crime and response time on faster response time could make a difference (equation 4).

Dependent Variable: Faster Response Time Could Make a Difference

Independent Variables	B	Beta	F	Simple r
Involvement Vandalism	0.05802	0.05497	0.387	0.23103
Involvement Forgery, Fraud, and Embezzlement	-0.09847	-0.06816	0.723	0.04061
Weapon Possession	-0.35822	-0.12139	2.958	-0.07766
Drunkenness	-0.24084	-0.16245	4.294	-0.07891
Disturbing the Peace	-0.30179	-0.26392	9.679	-0.16619
Disorderly Conduct	0.08849	0.04439	0.361	0.11565
Discovery Vandalism	-0.28568	-0.25926	8.663	-0.18190
Discovery Forgery, Fraud, and Embezzlement	-0.31842	-0.15100	4.156	-0.11099
Reporting Time (reciprocal transformation)	0.00284	0.09499	1.727	0.12703
Dispatch Time	-0.05139	-0.01097	0.021	-0.02246
Travel Time	-0.05006	-0.00760	0.010	-0.04902
Constant	1.32598			

Multiple R: 0.39721  
R Square: 0.15777  
F: 3.13352

Sample: All Part II Crime (Excluding Miscellaneous)  
N: 196  
Reference Group: Nonaggravated Assault

TABLE E-11  
Frequencies for Citizen Satisfaction

INDEPENDENT VARIABLES	MEAN	MED.	MIN.	MAX.	STAND. DEVIATION
Travel Time	5:17	4:16	:22	29:56	3:36
Dispatch Time	3:50	2:13	:22	37:34	5:06
Perceived Time	12:11	7:59	1:12	2:00:00	13:19
Expected Time	12:11	7:55	1:12	1:30:00	12:43
Perceptions/Expectations	0.318	-0.000	-0.940	13.286	1.520

TABLE E-12 -- Multiple regression analysis of the effects of type of crime, response time, and faster response time could make a difference on perceptions and expectations index (equation 5).

Dependent Variable: Perceptions and Expectations Index

Independent Variables	B	Beta	F	Simple r
Involvement Vandalism	-0.13401	-0.03480	0.159	0.06075
Involvement Forgery, Fraud, and Embezzlement	-0.38463	-0.07297	0.849	-0.05244
Weapon Possession	-0.24305	-0.02258	0.103	-0.06820
Drunkenness	-0.02191	-0.00405	0.003	-0.03255
Disturbing the Peace	-0.04819	-0.01155	0.018	-0.09716
Disorderly Conduct	0.12506	0.01720	0.056	0.01712
Discovery Vandalism	0.42330	0.10529	1.402	0.16104
Discovery Forgery, Fraud, and Embezzlement	-0.44542	-0.05790	0.614	-0.08474
Reporting Time (reciprocal transformation)	0.01246	0.11432	2.546	0.05669
Dispatch Time	2.74746	0.16072	4.727	0.23379
Travel Time	5.50851	0.22933	9.321	0.28017
Faster Response Time Could Make a Difference	0.84854	0.23258	10.228	0.21450
Constant	-1.56116			

Multiple R: 0.42996  
R Square: 0.18486  
F: 3.45848

Sample: All Part II Crime (Excluding Miscellaneous)  
N: 196  
Reference Group: Nonaggravated Assault

TABLE E-13 -- Multiple regression analysis of the effects of type of crime, response time, and faster response time could make a difference on perceived response time.

Dependent Variable: Perceived Response Time

Independent Variables	B	Beta	F	Simple r
Involvement Vandalism	0.01066	0.02310	0.085	0.05765
Involvement Forgery, Fraud, and Embezzlement	-0.04296	-0.06799	0.896	-0.10631
Weapon Possession	-0.05195	-0.04025	0.400	-0.10032
Drunkenness	0.00473	0.00729	0.011	-0.04408
Disturbing the Peace	-0.01152	-0.02305	0.088	-0.16508
Disorderly Conduct	0.02398	0.02750	0.173	-0.01323
Discovery Vandalism	0.07343	0.15237	3.572	0.25050
Discovery Forgery, Fraud, and Embezzlement	0.12720	0.13793	4.239	0.15195
Reporting Time (reciprocal transformation)	-0.00063	-0.04807	0.548	-0.18653
Dispatch Time	0.42903	0.20937	9.756	0.38579
Travel Time	0.97648	0.33913	24.790	0.46954
Faster Response Time Could Make a Difference	0.04893	0.11188	2.878	0.05355
Constant	0.01123			

Multiple R: 0.57429  
R Square: 0.32981  
F: 7.50470

Sample: All Part II Crime (Excluding Miscellaneous)  
N: 196  
Reference Group: Nonaggravated Assault

TABLE E-14 -- Multiple regression analysis of the effects of type of crime, response time, and faster response time could make a difference on expected response time.

Dependent Variable: Expected Response Time				
Independent Variables	B	Beta	F	Simple r
Involvement Vandalism	0.01815	0.03349	0.150	-0.06446
Involvement Forgery, Fraud, and Embezzlement	-0.02466	-0.03324	0.179	-0.12370
Weapon Possession	-0.01967	-0.01299	0.035	-0.04211
Drunkenness	-0.01641	-0.02156	0.077	-0.08081
Disturbing the Peace	0.02812	0.04790	0.317	-0.04275
Disorderly Conduct	0.03895	0.03806	0.277	-0.00398
Discovery Vandalism	0.11691	0.20664	5.497	0.20756
Discovery Forgery, Fraud, and Embezzlement	0.31609	0.29195	15.891	0.30693
Reporting Time (reciprocal transformation)	-0.00280	-0.18264	6.615	-0.27501
Dispatch Time	0.04447	0.01848	0.064	0.12574
Travel Time	0.19979	0.05910	0.630	0.15776
Faster Response Time Could Make a Difference	-0.01191	-0.02319	0.104	-0.11416
Constant	0.19799			

Multiple R: 0.44617  
R Square: 0.19907  
F: 3.79031

Sample: All Part II Crime (Excluding Miscellaneous)  
N: 196  
Reference Group: Nonaggravated Assault

TABLE E-15 -- Multiple regression analysis of the effects of type of crime, response time, faster response time could make a difference, and perceptions and expectations index on citizen satisfaction (equation 6).

Dependent Variable: Citizen Satisfaction				
Independent Variables	B	Beta	F	Simple r
Involvement Vandalism	-0.16809	-0.04785	0.396	0.08231
Involvement Forgery, Fraud, and Embezzlement	-0.42953	-0.08932	1.671	-0.06179
Weapon Possession	-0.35209	-0.03585	0.344	-0.07424
Drunkenness	-0.02423	-0.00491	0.005	-0.01492
Disturbing the Peace	-0.23941	-0.06290	0.709	-0.11219
Disorderly Conduct	0.65116	0.09814	2.389	0.15045
Discovery Vandalism	-0.08990	-0.02451	0.100	0.01663
Discovery Forgery, Fraud, and Embezzlement	-0.21178	-0.03017	0.219	-0.10610
Reporting Time (reciprocal transformation)	0.01625	0.16347	6.779	0.20310
Dispatch Time	0.81313	0.05214	0.640	0.09995
Travel Time	-1.00399	-0.04582	0.467	0.05084
Faster Response Time Could Make a Difference	0.79567	0.23906	13.509	0.37485
Perceptions and Expectations Index	0.40762	0.44681	48.225	0.51750
Constant	0.53734			

Multiple R: 0.62117  
R Square: 0.38585  
F: 8.79571

Sample: All Part II Crime (Excluding Miscellaneous)  
N: 196  
Reference Group: Nonaggravated Assault

TABLE E-16 -- Multiple regression analysis of the effect of reporting time (reciprocal transformation) on dispatch time.

Dependent Variable: Dispatch Time

Independent Variable	B	Beta	F	Simple r
Reporting Time (reciprocal transformation)	-0.00103	-0.16124	5.178	-0.16124
Constant	0.08247			

Multiple R: 0.16124  
R Square: 0.02600  
F: 5.17850

Sample: All Part II Crime  
N: 196

TABLE E-18 -- Multiple regression analysis of the effect of citizen satisfaction model on perceptions and expectations.

Dependent Variable: Perceptions and Expectations

Independent Variables	B	Beta	F	Simple r
Travel Time	5.64117	0.23485	10.693	0.28017
Dispatch Time	2.58027	0.15094	4.425	0.23379
Faster Response Time Could Make a Difference	0.83695	0.22941	11.863	0.21450
Constant	-1.39215			

Multiple R: 0.38768  
R Square: 0.15030  
F: 11.32045

Sample: All Part II Crime  
N: 196

TABLE E-17 -- Multiple regression analysis of the effect of type of crime on faster response time could make a difference.

Dependent Variable: Faster Response Time Could Make a Difference

Independent Variables	B	Beta	F	Simple r
Involvement Vandalism	0.06970	0.06604	0.586	0.23103
Involvement Forgery, Fraud, and Embezzlement	-0.07357	-0.05092	0.422	0.04061
Weapon Possession	-0.35135	-0.11906	2.869	-0.07766
Drunkenness	-0.23370	-0.15764	4.096	-0.07891
Disturbing the Peace	-0.28684	-0.25085	8.934	-0.16619
Disorderly Conduct	0.09309	0.04670	0.404	0.11565
Discovery Vandalism	-0.29253	-0.26547	9.761	-0.18190
Discovery Forgery, Fraud, and Embezzlement	0.35135	-0.16662	5.228	-0.11099
Constant	1.35135			

Multiple R: 0.28567  
R Square: 0.14874  
F: 4.08441

Sample: All Part II Crime  
N: 196  
Reference Group: Nonaggravated Assault

TABLE E-19 -- Multiple regression analysis of the effect of significant independent variables on perceptions.

Dependent Variable: Perceptions

Independent Variables	B	Beta	F	Simple r
Travel Time	1.08860	0.37806	32.559	0.46954
Dispatch Time	0.50026	0.24413	13.576	0.38579
Constant	0.06230			

Multiple R: 0.52125  
R Square: 0.27170  
F: 36.00025

Sample: All Part II Crime  
N: 196

TABLE E-20 -- Multiple regression analysis of the effect of significant independent variables on expectations.

Dependent Variable: Expectations

Independent Variables	B	Beta	F	Simple r
Reporting Time (reciprocal transformation)	-0.00305	-0.19910	8.404	-0.27501
Involvement Vandalism	0.02486	0.04588	0.293	-0.06446
Involvement Forgery, Fraud, and Embezzlement	-0.01800	-0.02427	0.098	-0.12370
Weapon Possession	-0.02015	-0.01330	0.038	-0.04211
Drunkness	-0.01084	-0.01424	0.035	-0.08081
Disturbing the Peace	0.03083	0.05252	0.407	-0.04275
Disorderly Conduct	0.03688	0.03603	0.253	-0.00398
Discovery Vandalism	0.13208	0.23346	7.934	0.20756
Discovery Forgery, Fraud, and Embezzlement	0.32469	0.29990	17.457	0.30693
Constant	0.20214			

Multiple R: 0.44117      Sample: All Part II Crime  
R Square: 0.19463      N: 196  
F: 4.99433      Reference Group: Nonaggravated Assault

TABLE E-21 -- Multiple regression analysis of the effect of significant independent variables on citizen satisfaction.

Dependent Variable: Citizen Satisfaction

Independent Variables	B	Beta	F	Simple r
Reporting Time (reciprocal transformation)	0.01436	0.14446	6.166	0.20310
Perceptions and Expectations	0.41392	0.45371	58.979	0.51750
Faster Response Time Could Make a Difference	0.86261	0.25917	18.995	0.37485
Constant	0.33112			

Multiple R: 0.60107      Sample: All Part II Crime  
R Square: 0.36128      N: 196  
F: 36.20082

## APPENDIX F

### Summary Statistics for Problems and Patterns Analysis

TABLE F-1 -- Multiple regression analysis of the effect of type of crime on length of residence at present address.

Dependent Variable: Length of Residence at Present Address

Independent Variables	B	Beta	F	Simple r
Involvement Vandalism	1.69234	0.09778	1.586	0.05076
Involvement Forgery, Fraud, and Embezzlement	-0.71797	-0.02770	0.157	-0.07121
Weapon Possession	-1.98113	-0.04039	0.390	-0.06174
Drunkness	-0.03669	-0.00138	0.000	-0.04152
Disturbing the Peace	0.07015	0.00371	0.002	-0.05740
Disorderly Conduct	-0.98113	-0.02930	0.191	-0.06148
Discovery Vandalism	4.29160	0.23789	9.628	0.22251
Discovery Forgery, Fraud, and Embezzlement	0.56432	0.01685	0.063	-0.01320
Constant	4.98113			

Multiple R: 0.25256      Sample: All Part II Crime  
R Square: 0.06378      N: 249  
F: 2.04391      Reference Group: Nonaggravated Assault

TABLE F-2 -- Multiple regression analysis of the effect of type of crime on whether the citizen owned, rented, or boarded.

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

Independent Variables	B	Beta	F	Simple r
Involvement Vandalism	-0.47093	-0.28655	14.889	-0.12766
Involvement Forgery, Fraud, and Embezzlement	-0.24429	-0.09926	2.201	0.02557
Weapon Possession	-0.38113	-0.08183	1.750	-0.01725
Drunkness	-0.03669	-0.01454	0.048	0.11353
Disturbing the Peace	-0.26318	-0.14640	4.103	0.02588
Disorderly Conduct	0.01887	0.00593	0.009	0.10572
Discovery Vandalism	-0.59477	-0.34721	22.425	-0.20730
Discovery Forgery, Fraud, and Embezzlement	-0.79931	-0.25139	15.346	-0.16350
Constant	1.98113			

Multiple R: 0.37910      Sample: All Part II Crime  
R Square: 0.14372      N: 249  
F: 5.03521      Reference Group: Nonaggravated Assault

TABLE F-3 -- Multiple regression analysis of the effect of type of crime on marital status.

Dependent Variable: Marital Status

Independent Variables	B	Beta	F	Simple r
Involvement Vandalism	-0.23335	-0.18837	6.357	-0.00552
Involvement Forgery, Fraud, and Embezzlement	-0.48361	-0.26070	15.000	-0.14926
Weapon Possession	-0.44151	-0.12575	4.084	-0.06210
Drunkness	-0.14151	-0.07441	1.234	0.04894
Disturbing the Peace	-0.17997	-0.13282	3.337	0.04190
Disorderly Conduct	-0.00515	-0.00215	0.001	0.09722
Discovery Vandalism	-0.39151	-0.30321	16.898	-0.15395
Discovery Forgery, Fraud, and Embezzlement	-0.64151	-0.26767	17.190	-0.18057
Constant	0.64151			

Multiple R: 0.36518      Sample: All Part II Crime  
R Square: 0.13336      N: 249  
F: 4.61645      Reference Group: Nonaggravated Assault

TABLE F-4 -- Multiple regression analysis of the effect of type of crime on type of work.

Dependent Variable: Type of Work

Independent Variables	B	Beta	F	Simple r
Involvement Vandalism	-0.83333	-0.01522	0.024	-0.12613
Involvement Forgery, Fraud, and Embezzlement	3.20000	0.04829	0.279	-0.02820
Weapon Possession	-3.80000	-0.02758	0.126	-0.06437
Drunkness	6.14118	0.08824	0.964	0.02043
Disturbing the Peace	-1.75833	-0.02933	0.096	-0.12844
Disorderly Conduct	-5.80000	-0.04693	0.354	-0.08885
Discovery Vandalism	17.11667	0.33510	10.920	0.30392
Discovery Forgery, Fraud, and Embezzlement	14.65455	0.17265	4.144	0.12332
Constant	32.80000			

Multiple R: 0.36771      Sample: All Part II Crime  
R Square: 0.13521      N: 171  
F: 3.16603      Reference Group: Nonaggravated Assault

TABLE F-5 -- Multiple regression analysis of the effect of type of crime on age.

Dependent Variable: Age

Independent Variables	B	Beta	F	Simple r
Involvement Vandalism	10.46768	0.27808	13.420	0.08077
Involvement Forgery, Fraud, and Embezzlement	8.27507	0.14933	4.709	0.00517
Weapon Possession	3.41981	0.02924	0.214	-0.03990
Drunkenness	7.05870	0.12425	3.292	-0.01809
Disturbing the Peace	10.61718	0.25931	12.267	0.07535
Disorderly Conduct	6.98799	0.09763	2.187	-0.01496
Discovery Vandalism	14.26072	0.36932	24.039	0.19729
Discovery Forgery, Fraud, and Embezzlement	5.89708	0.08239	1.558	-0.03092
Constant	28.83019			

Multiple R: 0.32896      Sample: All Part II Crime  
R Square: 0.10821      N: 245  
F: 3.57965      Reference Group: Nonaggravated Assault

TABLE F-6 -- Multiple regression analysis of the effect of type of crime on education.

Dependent Variable: Education

Independent Variables	B	Beta	F	Simple r
Involvement Vandalism	0.07701	0.01406	0.035	-0.13753
Involvement Forgery, Fraud, and Embezzlement	0.95134	0.11600	2.917	0.03562
Weapon Possession	0.65660	0.04231	0.454	-0.00164
Drunkenness	1.11216	0.13227	3.830	0.05522
Disturbing the Peace	0.81976	0.13536	3.427	0.02694
Disorderly Conduct	-0.67067	-0.06330	0.944	-0.13355
Discovery Vandalism	1.69297	0.29648	15.878	0.21532
Discovery Forgery, Fraud, and Embezzlement	2.32933	0.21984	11.389	0.16273
Constant	3.94340			

Multiple R: 0.34806      Sample: All Part II Crime  
R Square: 0.12115      N: 248  
F: 4.11813      Reference Group: Nonaggravated Assault

TABLE F-7 -- Multiple regression analysis of the effect of type of crime on head of household.

Dependent Variable: Head of Household

Independent Variables	B	Beta	F	Simple r
Involvement Vandalism	0.22729	0.20207	6.781	0.08482
Involvement Forgery, Fraud, and Embezzlement	0.37874	0.22507	10.430	0.14674
Weapon Possession	0.23137	0.07268	1.280	0.02581
Drunkenness	0.15359	0.08904	1.649	0.00169
Disturbing the Peace	-0.04231	-0.03404	0.205	-0.18382
Disorderly Conduct	0.24955	0.11481	2.960	0.04752
Discovery Vandalism	0.24955	0.21289	7.727	0.10251
Discovery Forgery, Fraud, and Embezzlement	0.24955	0.11481	2.960	0.04752
Constant	0.56863			

Multiple R: 0.30197      Sample: All Part II Crime  
R Square: 0.09119      N: 246  
F: 2.97240      Reference Group: Nonaggravated Assault

TABLE F-8 -- Multiple regression analysis of the effect of type of crime on income.

Dependent Variable: Income

Independent Variables	B	Beta	F	Simple r
Involvement Vandalism	1.05897	0.11661	1.566	-0.07172
Involvement Forgery, Fraud, and Embezzlement	3.24762	0.23396	8.290	0.13256
Weapon Possession	3.03333	0.10468	2.066	0.05177
Drunkenness	1.18718	0.08268	1.053	-0.02813
Disturbing the Peace	-0.00833	-0.00076	0.000	-0.16676
Disorderly Conduct	-1.46667	-0.07093	0.886	-0.15177
Discovery Vandalism	3.48495	0.35250	15.247	0.23845
Discovery Forgery, Fraud, and Embezzlement	5.92222	0.34755	19.995	0.27040
Constant	5.96667			

Multiple R: 0.46332      Sample: All Part II Crime  
R Square: 0.21467      N: 169  
F: 5.46692      Reference Group: Nonaggravated Assault

TABLE F-9 -- Multiple regression analysis of the effect of type of crime on race.

Dependent Variable: Race

Independent Variables	B	Beta	F	Simple r
Involvement Vandalism	-0.09314	-0.07518	0.979	0.11718
Involvement Forgery, Fraud, and Embezzlement	-0.48613	-0.25335	13.775	-0.15450
Weapon Possession	-0.20377	-0.05910	0.859	0.00194
Drunkenness	-0.38155	-0.20416	8.859	-0.09891
Disturbing the Peace	-0.28798	-0.21376	8.312	-0.06827
Disorderly Conduct	-0.14923	-0.06338	0.919	0.02718
Discovery Vandalism	-0.28559	-0.22476	8.880	-0.07226
Discovery Forgery, Fraud, and Embezzlement	-0.51286	-0.21783	10.851	-0.13456
Constant	0.60377			

Multiple R: 0.32990      Sample: All Part II Crime  
R Square: 0.10884      N: 244  
F: 3.58748      Reference Group: Nonaggravated Assault

TABLE F-10 -- Multiple regression analysis of the effect of type of crime on sex.

Dependent Variable: Sex

Independent Variables	B	Beta	F	Simple r
Involvement Vandalism	-0.07470	-0.05950	0.636	0.04974
Involvement Forgery, Fraud, and Embezzlement	-0.47964	-0.25503	14.401	-0.20413
Weapon Possession	0.01509	0.00424	0.005	0.04013
Drunkenness	0.02621	0.01359	0.041	0.08445
Disturbing the Peace	0.04009	0.02949	0.164	0.14449
Disorderly Conduct	-0.03945	-0.01623	0.063	0.03678
Discovery Vandalism	-0.35763	-0.27326	13.762	-0.21581
Discovery Forgery, Fraud, and Embezzlement	-0.40309	-0.16587	6.624	-0.11974
Constant	0.58491			

Multiple R: 0.36457      Sample: All Part II Crime  
R Square: 0.13291      N: 250  
F: 4.61784      Reference Group: Nonaggravated Assault

TABLE F-11 -- T-test of the mean difference between types of Part II crime for length of residence at present address.

Type of Crime	Nonaggravated Assault	Involvement Vandalism	Involvement Forgery, Fraud, Embezzlement	Weapon Possession	Drunkenness	Disturbing the Peace	Disorderly Conduct	Discovery Vandalism	Discovery Forgery, Fraud, Embezzlement
Nonaggravated Assault		-1.25 p < .215	0.50 p < .616	0.81 p < .420	0.03 p < .980	-0.06 p < .952	0.58 p < .564	-2.69 p < .009	-0.30 p < .762
Involvement Vandalism			1.47 p < .148	2.75 p < .010	1.07 p < .292	1.11 p < .272	1.79 p < .081	-1.45 p < .152	0.44 p < .663
Involvement Forgery, Fraud, Embezzlement				0.53 p < .600	-0.41 p < .684	-0.50 p < .617	0.15 p < .880	-2.72 p < .009	-0.59 p < .558
Weapon Possession					-1.43 p < .167	-1.76 p < .092	-0.65 p < .526	-3.97 p < .001	-1.21 p < .249
Drunkenness						-0.07 p < .946	0.57 p < .577	-2.37 p < .021	-0.26 p < .796
Disturbing the Peace							0.57 p < .568	-2.50 p < .015	-0.24 p < .809
Disorderly Conduct								-3.07 p < .003	-0.70 p < .494
Discovery Vandalism									1.24 p < .221
Discovery Forgery, Fraud, Embezzlement									

TABLE F-12 -- T-test of the mean difference between types of Part II crime for whether the respondent owned, rented, or boarded.

Type of Crime	Nonaggravated Assault	Involvement Vandalism	Involvement Forgery, Fraud, Embezzlement	Weapon Possession	Drunkenness	Disturbing the Peace	Disorderly Conduct	Discovery Vandalism	Discovery Forgery, Fraud, Embezzlement
Nonaggravated Assault		3.61 p < .001	1.38 p < .172	1.19 p < .238	0.19 p < .853	1.95 p < .054	-0.08 p < .934	4.65 p < .001	3.68 p < .001
Involvement Vandalism			-1.39 p < .168	-0.31 p < .756	-2.35 p < .022	-1.64 p < .106	-2.37 p < .021	1.03 p < .307	1.68 p < .098
Involvement Forgery, Fraud, Embezzlement				0.49 p < .631	-0.92 p < .366	0.12 p < .905	-1.18 p < .248	2.34 p < .022	2.87 p < .008
Weapon Possession					-0.90 p < .380	-0.44 p < .659	-1.22 p < .244	0.84 p < .405	1.72 p < .107
Drunkenness						1.23 p < .223	-0.20 p < .847	2.71 p < .012	3.39 p < .002
Disturbing the Peace							-1.44 p < .158	2.75 p < .007	2.96 p < .005
Disorderly Conduct								3.27 p < .002	3.61 p < .002
Discovery Vandalism									1.18 p < .244
Discovery Forgery, Fraud, Embezzlement									

TABLE F-13 -- T-test of the proportional difference between types of Part II crime for marital status.

Type of Crime	Nonaggravated Assault	Involvement vandalism	Involvement Forgery, Fraud, Embezzlement	Weapon Possession	Drunkenness	Disturbing the Peace	Disorderly Conduct	Discovery Vandalism	Discovery Forgery, Fraud, Embezzlement
Nonaggravated Assault		2.40 p < .018	3.94 p < .001	1.96 p < .055	1.05 p < .295	1.73 p < .087	0.03 p < .975	4.14 p < .001	4.37 p < .001
Involvement Vandalism			1.99 p < .051	0.90 p < .373	-0.66 p < .509	-0.50 p < .620	-1.37 p < .175	1.62 p < .109	2.71 p < .009
Involvement Forgery, Fraud, Embezzlement				-0.22 p < .831	-2.32 p < .026	-2.32 p < .024	-2.97 p < .006	-0.80 p < .428	1.39 p < .176
Weapon Possession					-1.18 p < .251	-1.10 p < .277	-1.66 p < .120	-0.24 p < .810	1.55 p < .143
Drunkenness						0.27 p < .791	-0.70 p < .491	1.94 p < .057	3.20 p < .003
Disturbing the Peace							-1.01 p < .316	2.04 p < .044	3.01 p < .004
Disorderly Conduct								2.54 p < .014	4.18 p < .001
Discovery Vandalism									1.88 p < .066
Discovery Forgery, Fraud, Embezzlement									

TABLE F-14 -- T-test of the mean difference between types of Part II crime for type of work.

Type of Crime	Nonaggravated Assault	Involvement Vandalism	Involvement Forgery, Fraud, Embezzlement	Weapon Possession	Drunkenness	Disturbing the Peace	Disorderly Conduct	Discovery Vandalism	Discovery Forgery, Fraud, Embezzlement
Nonaggravated Assault		0.15 p < .881	-0.51 p < .611	0.35 p < .732	-0.95 p < .348	0.33 p < .746	0.62 p < .544	-3.25 p < .002	-2.11 p < .042
Involvement Vandalism			-0.66 p < .512	0.27 p < .792	-1.10 p < .278	0.17 p < .862	0.52 p < .609	-3.55 p < .001	-2.22 p < .032
Involvement Forgery, Fraud, Embezzlement				0.59 p < .559	-0.41 p < .681	0.84 p < .406	0.90 p < .380	-2.38 p < .021	1.53 p < .136
Weapon Possession					-0.82 p < .420	-0.21 p < .838	0.16 p < .876	-1.93 p < .061	-1.70 p < .113
Drunkenness						1.30 p < .203	1.17 p < .256	-1.81 p < .077	-1.11 p < .276
Disturbing the Peace							0.48 p < .634	-3.72 p < .001	-2.59 p < .014
Disorderly Conduct								-2.43 p < .020	-2.37 p < .033
Discovery Vandalism									0.36 p < .717
Discovery Forgery, Fraud, Embezzlement									

TABLE F-15 -- T-test of the mean difference between types of Part II crime for age.

Type of Crime	Nonaggravated Assault	Involvement Vandalism	Involvement Forgery, Fraud, Embezzlement	Weapon Possession	Drunkenness	Disturbing the Peace	Disorderly Conduct	Discovery Vandalism	Discovery Forgery, Fraud, Embezzlement
Nonaggravated Assault		-3.83 p < .001	-2.53 p < .014	-0.54 p < .590	-2.06 p < .043	-3.66 p < .001	-1.17 p < .263	-5.05 p < .001	-1.52 p < .134
Involvement Vandalism			0.56 p < .576	0.91 p < .367	0.84 p < .405	-0.04 p < .964	0.66 p < .515	-1.18 p < .242	0.96 p < .339
Involvement Forgery, Fraud, Embezzlement				0.73 p < .474	0.29 p < .776	-0.58 p < .567	0.23 p < .823	-1.48 p < .143	0.56 p < .577
Weapon Possession					-0.50 p < .621	-0.91 p < .370	-0.35 p < .731	-1.35 p < .183	-0.46 p < .651
Drunkenness						-0.84 p < .405	0.01 p < .991	-1.71 p < .092	0.26 p < .800
Disturbing the Peace							0.65 p < .517	-1.06 p < .292	0.97 p < .338
Disorderly Conduct								-1.32 p < .191	0.17 p < .864
Discovery Vandalism									2.39 p < .023
Discovery Forgery, Fraud, Embezzlement									

TABLE F-16 -- T-test of the mean difference between types of Part II crime for education.

Type of Crime	Nonaggravated Assault	Involvement Vandalism	Involvement Forgery,Fraud, Embezzlement	Weapon Possession	Drunkenness	Disturbing the Peace	Disorderly Conduct	Discovery Vandalism	Discovery Forgery,Fraud, Embezzlement
Nonaggravated Assault		-0.21 p < .833	-1.86 p < .067	-0.75 p < .459	-2.20 p < .031	-1.73 p < .088	1.14 p < .261	-3.96 p < .001	-3.89 p < .001
Involvement Vandalism			-1.67 p < .100	-0.65 p < .521	-2.00 p < .050	-1.60 p < .113	1.24 p < .220	-3.67 p < .001	-3.68 p < .001
Involvement Forgery, Fraud, Embezzlement				0.26 p < .795	-0.24 p < .814	0.20 p < .845	2.18 p < .038	-1.17 p < .249	-1.80 p < .082
Weapon Possession					-0.43 p < .668	-0.14 p < .891	1.31 p < .211	-0.92 p < .364	-1.56 p < .141
Drunkenness						0.44 p < .662	2.56 p < .016	-0.91 p < .364	-1.69 p < .102
Disturbing the Peace							1.88 p < .066	-1.62 p < .108	-1.89 p < .066
Disorderly Conduct								-3.12 p < .003	-4.27 p < .001
Discovery Vandalism									-0.83 p < .410
Discovery Forgery, Fraud, Embezzlement									

TABLE F-17 -- T-test of the proportional difference between types of Part II crime for whether the respondent was the head of the household.

Type of Crime	Nonaggravated Assault	Involvement Vandalism	Involvement Forgery, Fraud, Embezzlement	Weapon Possession	Drunkenness	Disturbing the Peace	Disorderly Conduct	Discovery Vandalism	Discovery Forgery, Fraud, Embezzlement
Nonaggravated Assault		-2.49 p < .015	-4.32 p < .001	-0.99 p < .324	-1.14 p < .257	0.39 p < .695	-1.55 p < .127	-2.68 p < .009	-1.55 p < .127
Involvement Vandalism			-1.93 p < .059	-0.02 p < .983	0.63 p < .528	2.75 p < .007	-0.16 p < .870	-0.27 p < .789	-0.16 p < .870
Involvement Forgery, Fraud, Embezzlement				1.04 p < .309	1.87 p < .074	4.32 p < .001	1.12 p < .271	1.64 p < .107	0.97 p < .347
Weapon Possession					0.34 p < .740	1.15 p < .257	-0.08 p < .937	-0.10 p < .923	-0.08 p < .937
Drunkenness						1.39 p < .170	-0.57 p < .574	-0.83 p < .408	-0.57 p < .574
Disturbing the Peace							-1.75 p < .086	-2.95 p < .004	-1.75 p < .086
Disorderly Conduct								0.00 p < 1.00	0.00 p < 1.00
Discovery Vandalism									0.00 p < 1.00
Discovery Forgery, Fraud, Embezzlement									

TABLE F-18 -- T-test of the mean difference between types of Part II crime for income.

Type of Crime	Nonaggravated Assault	Involvement Vandalism	Involvement Forgery,Fraud, Embezzlement	Weapon Possession	Drunkenness	Disturbing the Peace	Disorderly Conduct	Discovery Vandalism	Discovery Forgery,Fraud, Embezzlement
Nonaggravated Assault		-1.23 p < .222	-2.77 p < .008	-1.40 p < .171	-1.04 p < .305	0.01 p < .994	0.91 p < .369	-3.93 p < .001	-7.44 p < .001
Involvement Vandalism			-1.97 p < .054	-0.94 p < .354	-0.12 p < .907	1.12 p < .269	1.63 p < .111	-2.93 p < .005	-6.72 p < .001
Involvement Forgery, Fraud, Embezzlement				0.09 p < .929	1.55 p < .133	2.50 p < .017	2.59 p < .018	-0.21 p < .833	-2.44 p < .025
Weapon Possession					0.91 p < .380	1.26 p < .218	1.72 p < .129	-0.22 p < .826	-1.36 p < .308
Drunkenness						0.94 p < .353	1.63 p < .122	-2.12 p < .040	-4.86 p < .001
Disturbing the Peace							0.81 p < .422	-3.54 p < .001	-6.39 p < .001
Disorderly Conduct								-3.26 p < .002	-4.65 p < .003
Discovery Vandalism									-3.23 p < .003
Discovery Forgery, Fraud, Embezzlement									

TABLE F-19 -- T-test of the proportional difference between types of Part II crime for race.

Type of Crime	Nonaggravated Assault	Involvement Vandalism	Involvement Forgery, Fraud, Embezzlement	Weapon Possession	Drunkenness	Disturbing the Peace	Disorderly Conduct	Discovery Vandalism	Discovery Forgery, Fraud, Embezzlement
Nonaggravated Assault		0.93 p < .354	3.78 p < .001	0.87 p < .385	2.92 p < .005	2.80 p < .006	0.90 p < .370	2.90 p < .005	3.31 p < .002
Involvement Vandalism			2.97 p < .004	0.46 p < .646	2.14 p < .036	1.82 p < .072	0.33 p < .743	1.88 p < .064	2.64 p < .011
Involvement Forgery, Fraud, Embezzlement				-1.44 p < .165	-0.80 p < .427	-1.57 p < .123	-2.09 p < .046	-1.60 p < .114	0.22 p < .831
Weapon Possession					0.78 p < .446	0.37 p < .714	-0.19 p < .851	0.36 p < .719	1.48 p < .162
Drunkenness						-0.71 p < .478	-1.31 p < .203	-0.75 p < .458	0.89 p < .382
Disturbing the Peace							-0.84 p < .405	-0.02 p < .982	1.49 p < .143
Disorderly Conduct								0.84 p < .404	2.00 p < .059
Discovery Vandalism									1.52 p < .135
Discovery Forgery, Fraud, Embezzlement									

TABLE F-20 -- T-test of the proportional difference between types of Part II crime for sex.

Type of Crime	Nonaggravated Assault	Involvement Vandalism	Involvement Forgery, Fraud, Embezzlement	Weapon Possession	Drunkenness	Disturbing the Peace	Disorderly Conduct	Discovery Vandalism	Discovery Forgery, Fraud, Embezzlement
Nonaggravated Assault		0.75 p < .454	3.92 p < .001	-0.06 p < .949	-0.19 p < .848	-0.39 p < .700	0.24 p < .813	3.77 p < .001	2.52 p < .014
Involvement Vandalism			3.96 p < .001	-0.38 p < .708	-0.73 p < .470	-1.08 p < .283	-0.21 p < .836	2.91 p < .005	2.01 p < .049
Involvement Forgery, Fraud, Embezzlement				-2.67 p < .014	-3.69 p < .001	-4.21 p < .001	-2.89 p < .007	-1.13 p < .265	-0.58 p < .568
Weapon Possession					-0.04 p < .966	-0.11 p < .916	0.19 p < .851	1.81 p < .076	1.72 p < .107
Drunkenness						-0.10 p < .921	0.34 p < .739	3.07 p < .003	2.40 p < .024
Disturbing the Peace							0.47 p < .640	3.99 p < .001	2.75 p < .008
Disorderly Conduct								2.13 p < .038	1.83 p < .083
Discovery Vandalism									0.32 p < .750
Discovery Forgery, Fraud, Embezzlement									

TABLE F-21 -- Multiple regression analysis of the effect of type of crime on delay due to telephoning another person.

Dependent Variable: Delay Due to Telephoning Another Person

Independent Variables	B	Beta	F	Simple r
Involvement Vandalism	0.04175	0.05371	0.660	0.00217
Involvement Forgery, Fraud, and Embezzlement	0.13963	0.11857	4.058	0.09006
Weapon Possession	0.00798	0.00613	0.011	-0.02624
Drunkenness	-0.02453	-0.02724	0.187	-0.08143
Disturbing the Peace	0.01812	0.02398	0.129	-0.03571
Disorderly Conduct	-0.00085	-0.00070	0.000	-0.03640
Discovery Vandalism	0.02915	0.03636	0.309	-0.01645
Discovery Forgery, Fraud, and Embezzlement	0.53249	0.34676	38.003	0.33263
Constant	0.05085			

Multiple R: 0.35604      Sample: All Part II Crime  
R Square: 0.12677      N: 329  
F: 5.80670      Reference Group: Nonaggravated Assault

TABLE F-22 - Multiple regression analysis of the effect of type of crime on delay due to talking to another person.

Dependent Variable: Delay Due to Talking to Another Person

Independent Variables	B	Beta	F	Simple r
Involvement Vandalism	-0.14721	-0.11153	2.809	0.06148
Involvement Forgery, Fraud, and Embezzlement	-0.27684	-0.13842	5.458	-0.03301
Weapon Possession	-0.55135	-0.24965	18.448	-0.16058
Drunkenness	-0.39964	-0.26128	16.975	-0.13646
Disturbing the Peace	-0.33431	-0.26058	15.031	-0.11287
Disorderly Conduct	-0.41017	-0.20047	11.555	-0.10155
Discovery Vandalism	-0.07017	-0.05153	0.613	0.12544
Discovery Forgery, Fraud, and Embezzlement	-0.11017	-0.04225	0.557	0.04173
Constant	0.61017			

Multiple R: 0.33911      Sample: All Part II Crime  
R Square: 0.11500      N: 329  
F: 5.19764      Reference Group: Nonaggravated Assault

TABLE F-23 -- Multiple regression analysis of the effect of type of crime on delay due to investigating incident scene.

Dependent Variable: Delay Due to Investigating Incident Scene

Independent Variables	B	Beta	F	Simple r
Involvement Vandalism	0.15129	0.20416	9.190	0.16649
Involvement Forgery, Fraud, and Embezzlement	0.06134	0.05463	0.830	0.01253
Weapon Possession	-0.03390	-0.02734	0.216	-0.06980
Drunkness	0.01873	0.02182	0.116	-0.03875
Disturbing the Peace	-0.03390	-0.04706	0.479	-0.13833
Disorderly Conduct	-0.03390	-0.02951	0.244	-0.07607
Discovery Vandalism	0.10610	0.13878	4.339	0.08936
Discovery Forgery, Fraud, and Embezzlement	0.29944	0.20452	12.732	0.17812
Constant	0.03390			

Multiple R: 0.30549      Sample: All Part II Crime  
R Square: 0.09332      N: 329  
F: 4.11711      Reference Group: Nonaggravated Assault

TABLE F-24 -- Multiple regression analysis of the effect of type of crime on delay due to injury.

Dependent Variable: Delay Due to Injury

Independent Variables	B	Beta	F	Simple r
Involvement Vandalism	-0.13559	-0.32606	23.988	-0.06996
Involvement Forgery, Fraud, and Embezzlement	-0.13559	-0.21519	13.176	-0.04122
Weapon Possession	-0.13559	-0.19487	11.228	-0.03685
Drunkness	-0.13559	-0.28137	19.664	-0.05705
Disturbing the Peace	-0.13559	-0.33546	24.884	-0.07303
Disorderly Conduct	-0.13559	-0.21035	12.708	-0.04016
Discovery Vandalism	-0.13559	-0.31603	23.026	-0.06683
Discovery Forgery, Fraud, and Embezzlement	-0.13559	-0.16503	8.484	-0.03072
Constant	0.13559			

Multiple R: 0.33771      Sample: All Part II Crime  
R Square: 0.11405      N: 329  
F: 5.14929      Reference Group: Nonaggravated Assault

TABLE F-25 -- Multiple regression analysis of the effect of type of crime on delay due to fear or emotional upset.

Dependent Variable: Delay Due to Fear or Emotional Upset

Independent Variables	B	Beta	F	Simple r
Involvement Vandalism	-0.31419	-0.34190	27.865	-0.05357
Involvement Forgery, Fraud, and Embezzlement	-0.35916	-0.25794	20.002	-0.06607
Weapon Possession	-0.34796	-0.22630	15.998	-0.05138
Drunkness	-0.38046	-0.35728	33.497	-0.11405
Disturbing the Peace	-0.25161	-0.28169	18.538	0.02913
Disorderly Conduct	-0.30678	-0.21536	14.074	-0.02522
Discovery Vandalism	-0.40678	-0.42904	44.837	-0.16634
Discovery Forgery, Fraud, and Embezzlement	-0.32345	-0.17815	10.445	-0.02881
Constant	0.40678			

Multiple R: 0.40181      Sample: All Part II Crime  
R Square: 0.16145      N: 329  
F: 7.70150      Reference Group: Nonaggravated Assault

TABLE F-26 -- Multiple regression analysis of the effect of type of crime on delay due to public communications problems.

Dependent Variable: Delay Due to Public Communications Problems

Independent Variables	B	Beta	F	Simple r
Involvement Vandalism	-0.04583	-0.04396	0.411	0.08823
Involvement Forgery, Fraud, and Embezzlement	-0.25747	-0.16299	7.133	-0.09112
Weapon Possession	-0.30508	-0.17489	8.534	-0.11024
Drunkness	-0.22614	-0.18718	8.212	-0.09679
Disturbing the Peace	-0.11543	-0.11391	2.708	0.00873
Disorderly Conduct	-0.15508	-0.09596	2.496	-0.02133
Discovery Vandalism	-0.10508	-0.09770	2.076	0.01933
Discovery Forgery, Fraud, and Embezzlement	-0.30508	-0.14811	6.449	-0.09189
Constant	0.30508			

Multiple R: 0.24727      Sample: All Part II Crime  
R Square: 0.06114      N: 329  
F: 2.60503      Reference Group: Nonaggravated Assault

TABLE F-27 -- Multiple regression analysis of the effect of type of crime on delay due to not being informed or being misinformed.

Dependent Variable: Delay Due to Not Being Informed or Being Misinformed

Independent Variables	B	Beta	F	Simple r
Involvement Vandalism	-0.11237	-0.14247	4.387	-0.03057
Involvement Forgery, Fraud, and Embezzlement	-0.04358	-0.03647	0.362	0.04347
Weapon Possession	-0.18644	-0.14127	5.653	-0.07529
Drunkenness	-0.08118	-0.08881	1.877	0.01365
Disturbing the Peace	-0.18644	-0.24319	12.527	-0.14921
Disorderly Conduct	-0.18644	-0.15249	6.398	-0.08206
Discovery Vandalism	-0.08644	-0.10622	2.492	0.00837
Discovery Forgery, Fraud, and Embezzlement	0.14689	0.09426	2.651	0.15924
Constant	0.18644			

Multiple R: 0.27407      Sample: All Part II Crime  
R Square: 0.07511      N: 329  
F: 3.24857      Reference Group: Nonaggravated Assault

TABLE F-28 -- T-test of the proportional difference between types of Part II crime for the delay due to telephoning another person or receiving a call.

Type of Crime	Nonaggravated Assault	Involvement Vandalism	Involvement Forgery, Fraud, Embezzlement	Weapon Possession	Drunkenness	Disturbing the Peace	Disorderly Conduct	Discovery Vandalism	Discovery Forgery, Fraud, Embezzlement
Nonaggravated Assault		-0.85 p < .398	-1.51 p < .144	-0.13 p < .898	0.63 p < .531	-0.41 p < .683	0.01 p < .988	-0.61 p < .540	-3.52 p < .004
Involvement Vandalism			-1.17 p < .247	0.43 p < .668	1.39 p < .169	0.46 p < .649	0.59 p < .557	0.23 p < .822	-3.19 p < .007
Involvement Forgery, Fraud, Embezzlement				1.25 p < .221	1.79 p < .086	1.29 p < .208	1.39 p < .174	1.15 p < .259	-2.44 p < .021
Weapon Possession					0.50 p < .619	-0.15 p < .885	0.12 p < .909	-0.28 p < .778	-3.28 p < .005
Drunkenness						-1.00 p < .320	-0.46 p < .645	-1.15 p < .255	-3.69 p < .003
Disturbing the Peace							0.29 p < .769	-0.22 p < .829	-3.38 p < .006
Disorderly Conduct								-0.43 p < .665	-3.40 p < .004
Discovery Vandalism									-3.28 p < .006
Discovery Forgery, Fraud, Embezzlement									

TABLE F-29 -- T-test of the proportional difference between types of Part II crime for the delay due to talking to another person.

Type of Crime	Nonaggravated Assault	Involvement Vandalism	Involvement Forgery, Fraud, Embezzlement	Weapon Possession	Drunkenness	Disturbing the Peace	Disorderly Conduct	Discovery Vandalism	Discovery Forgery, Fraud, Embezzlement
Nonaggravated Assault		1.57 p < .119	2.23 p < .029	6.34 p < .001	4.15 p < .001	3.83 p < .001	3.35 p < .001	0.73 p < .464	0.70 p < .486
Involvement Vandalism			1.01 p < .315	4.48 p < .001	2.55 p < .013	2.07 p < .040	2.09 p < .040	-0.78 p < .437	-0.23 p < .820
Involvement Forgery, Fraud, Embezzlement				2.27 p < .030	1.03 p < .308	0.49 p < .625	0.95 p < .348	-1.60 p < .115	-0.93 p < .362
Weapon Possession					-1.70 p < .095	-2.60 p < .012	-1.30 p < .205	-5.21 p < .001	-2.73 p < .016
Drunkenness						-0.72 p < .475	0.09 p < .927	-3.28 p < .002	-1.98 p < .053
Disturbing the Peace							0.66 p < .509	-2.88 p < .005	-1.53 p < .132
Disorderly Conduct								-2.68 p < .009	-1.81 p < .081
Discovery Vandalism									0.25 p < .807
Discovery Forgery, Fraud, Embezzlement									

TABLE F-30 -- T-test of the proportional difference between types of Part II crime for the delay due to investigating the incident scene.

Type of Crime	Nonaggravated Assault	Involvement Vandalism	Involvement Forgery, Fraud, Embezzlement	Weapon Possession	Drunkenness	Disturbing the Peace	Disorderly Conduct	Discovery Vandalism	Discovery Forgery, Fraud, Embezzlement
Nonaggravated Assault		-2.59 p < .012	-0.88 p < .388	0.76 p < .448	-0.45 p < .655	1.41 p < .160	0.83 p < .411	-1.93 p < .058	-2.08 p < .060
Involvement Vandalism			0.95 p < .347	1.94 p < .057	2.05 p < .044	3.60 p < .001	2.10 p < .039	0.62 p < .538	-1.13 p < .263
Involvement Forgery, Fraud, Embezzlement				1.30 p < .201	0.61 p < .541	2.44 p < .017	1.42 p < .165	-0.51 p < .611	-1.73 p < .093
Weapon Possession					-0.95 p < .344	0.00 p < 1.00	0.00 p < 1.00	-1.64 p < .106	-2.81 p < .009
Drunkenness						1.78 p < .079	1.04 p < .305	-1.42 p < .160	-1.91 p < .080
Disturbing the Peace							0.00 p < 1.00	-3.04 p < .003	-5.31 p < .001
Disorderly Conduct								-1.78 p < .080	-3.06 p < .005
Discovery Vandalism									-1.58 p < .119
Discovery Forgery, Fraud, Embezzlement									

TABLE F-31 -- T-test of the proportional difference between types of Part II crime for the delay due to injury.

Type of Crime	Nonaggravated Assault	Involvement vandalism	Involvement Forgery, Fraud, Embezzlement	Weapon Possession	*Drunkenness	Disturbing the Peace	Disorderly Conduct	Discovery Vandalism	Discovery Forgery, Fraud, Embezzlement
Nonaggravated Assault		2.88 p < .005	1.79 p < .077	1.61 p < .111	2.42 p < .018	2.99 p < .003	1.75 p < .084	2.77 p < .007	1.35 p < .181
Involvement Vandalism			0.00 p < 1.00	0.00 p < 1.00	0.00 p < 1.00	0.00 p < 1.00	0.00 p < 1.00	0.00 p < 1.00	0.00 p < 1.00
Involvement Forgery, Fraud, Embezzlement				0.00 p < 1.00	0.00 p < 1.00	0.00 p < 1.00	0.00 p < 1.00	0.00 p < 1.00	0.00 p < 1.00
Weapon Possession					0.00 p < 1.00	0.00 p < 1.00	0.00 p < 1.00	0.00 p < 1.00	0.00 p < 1.00
Drunkenness						0.00 p < 1.00	0.00 p < 1.00	0.00 p < 1.00	0.00 p < 1.00
Disturbing the Peace							0.00 p < 1.00	0.00 p < 1.00	0.00 p < 1.00
Disorderly Conduct								0.00 p < 1.00	0.00 p < 1.00
Discovery Vandalism									0.00 p < 1.00
Discovery Forgery, Fraud, Embezzlement									

TABLE F-32 -- T-test of the proportional difference between types of Part II crime for the delay due to fear or emotional upset.

Type of Crime	Nonaggravated Assault	Involvement Vandalism	Involvement Forgery, Fraud, Embezzlement	Weapon Possession	Drunkness	Disturbing the Peace	Disorderly Conduct	Discovery Vandalism	Discovery Forgery, Fraud, Embezzlement
Nonaggravated Assault		4.14 p < .001	4.48 p < .001	3.99 p < .001	5.46 p < .001	3.13 p < .002	3.25 p < .002	5.80 p < .001	2.18 p < .033
Involvement Vandalism			0.64 p < .526	0.43 p < .668	1.39 p < .169	-1.00 p < .321	-0.10 p < .924	2.24 p < .027	0.10 p < .921
Involvement Forgery, Fraud, Embezzlement				-0.15 p < .882	0.43 p < .672	-1.59 p < .117	-0.63 p < .532	1.56 p < .124	-0.40 p < .690
Weapon Possession					0.59 p < .560	-1.02 p < .311	-0.45 p < .658	1.74 p < .086	-0.25 p < .806
Drunkness						-2.36 p < .021	-1.00 p < .327	1.15 p < .254	-0.65 p < .525
Disturbing the Peace							0.60 p < .547	3.00 p < .003	0.64 p < .524
Disorderly Conduct								2.32 p < .023	0.15 p < .880
Discovery Vandalism									-2.10 p < .040
Discovery Forgery, Fraud, Embezzlement									

TABLE F-33 -- T-test of the proportional difference between types of Part II crime for the delay due to public communications problems.

Type of Crime	Nonaggravated Assault	Involvement Vandalism	Involvement Forgery, Fraud, Embezzlement	Weapon Possession	Drunkenness	Disturbing the Peace	Disorderly Conduct	Discovery Vandalism	Discovery Forgery, Fraud, Embezzlement
Nonaggravated Assault		0.54 p < .593	2.44 p < .017	2.70 p < .009	2.71 p < .008	1.45 p < .151	1.36 p < .179	1.25 p < .214	2.26 p < .027
Involvement Vandalism			2.76 p < .007	2.40 p < .019	2.41 p < .018	0.88 p < .381	0.99 p < .328	0.71 p < .478	2.02 p < .048
Involvement Forgery, Fraud, Embezzlement				0.90 p < .375	-0.45 p < .654	-2.02 p < .048	-1.09 p < .281	-2.05 p < .045	0.75 p < .458
Weapon Possession					-1.18 p < .241	-1.97 p < .053	-1.68 p < .101	-2.03 p < .046	0.00 p < 1.00
Drunkenness						-1.62 p < .108	-0.84 p < .407	-1.67 p < .098	0.99 p < .325
Disturbing the Peace							0.39 p < .695	-0.13 p < .894	1.65 p < .103
Disorderly Conduct								-0.48 p < .633	1.41 p < .169
Discovery Vandalism									1.70 p < .094
Discovery Forgery, Fraud, Embezzlement									

TABLE F-34 -- T-test of the proportional difference between types of Part II crime for the delay due to being misinformed or not being informed of the incident.

Type of Crime	Nonaggravated Assault	Involvement Vandalism	Involvement Forgery, Fraud, Embezzlement	Weapon Possession	Drunkenness	Disturbing the Peace	Disorderly Conduct	Discovery Vandalism	Discovery Forgery, Fraud, Embezzlement
Nonaggravated Assault		1.80 p < .075	0.45 p < .657	1.95 p < .055	1.07 p < .285	3.61 p < .001	2.11 p < .038	1.27 p < .207	-1.13 p < .262
Involvement Vandalism			-0.91 p < .365	1.15 p < .254	-0.52 p < .606	2.13 p < .035	1.25 p < .216	-0.47 p < .642	-1.77 p < .102
Involvement Forgery, Fraud, Embezzlement				1.64 p < .110	0.42 p < .675	3.07 p < .003	1.78 p < .083	0.51 p < .608	-1.28 p < .210
Weapon Possession					-1.39 p < .171	0.00 p < 1.00	0.00 p < 1.00	-1.35 p < .181	-2.81 p < .009
Drunkenness						2.58 p < .011	1.51 p < .137	0.08 p < .937	-1.91 p < .062
Disturbing the Peace							0.00 p < 1.00	-2.51 p < .013	-5.31 p < .001
Disorderly Conduct								-1.47 p < .146	-3.06 p < .005
Discovery Vandalism									-1.57 p < .140
Discovery Forgery, Fraud, Embezzlement									

TABLE F-35 -- Multiple regression analysis of the effect of social characteristics on delay due to chasing suspect.

Dependent Variable: Delay Due to Chasing Suspect

Independent Variables	B	Beta	F	Simple r
Type of Work	-0.00170	-0.17816	5.530	-0.16955
Head of Household	0.05728	0.11274	2.215	0.09913
Constant	0.05822			
Multiple R:	0.20343			
R Square:	0.04138			
F:	3.62625			
		Sample: All Part II Crime		
		N:	171	

TABLE F-36 -- Multiple regression analysis of the effect of social characteristics on delay due to apathy.

Dependent Variable: Delay Due to Apathy

Independent Variables	B	Beta	F	Simple r
Own-Rent-Board	0.09866	0.18546	7.001	0.21655
Marital Status	0.04740	0.06717	0.918	0.15302
Constant	-0.04466			
Multiple R:	0.22458			
R Square:	0.05044			
F:	6.53338			
		Sample: All Part II Crime		
		N:	249	

TABLE F-37 -- Multiple regression analysis of the effect of social characteristics on delay due to investigating incident scene.

Dependent Variable: Delay Due to Investigating Incident Scene

Independent Variable	B	Beta	F	Simple r
Head of Household	0.10661	0.15578	6.068	0.15578
Constant	0.02899			
Multiple R:	0.15578			
R Square:	0.02427			
F:	6.06823			
		Sample: All Part II Crime		
		N:	246	

TABLE F-38 -- Multiple regression analysis of the effect of social characteristics on delay due to public communications problems.

Dependent Variable: Delay Due to Public Communications Problems

Independent Variables	B	Beta	F	Simple r
(1) Marital Status	-0.64007	-0.70735	3,210	0.15114
(2) Type of Work	-0.00961	-0.46436	0.929	-0.18303
(3) Education	-0.02009	-0.10397	0.052	-0.16521
(4) Income	-0.01206	-0.09714	0.080	-0.14965
(5) Race	0.12107	0.13288	0.140	0.32529
(6) Sex	0.50167	0.57803	1.868	0.18954
Interaction of Variables 1 and 2	0.00135	0.06484	0.066	0.10099
Interaction of Variables 1 and 3	0.08972	0.54795	2.721	0.11586
Interaction of Variables 1 and 4	-0.01266	-0.09715	0.125	0.09332
Interaction of Variables 1 and 5	0.47566	0.39563	4.334	0.31439
Interaction of Variables 1 and 6	0.22660	0.21788	0.955	0.23198
Interaction of Variables 2 and 3	0.00055	0.22766	0.252	-0.18221
Interaction of Variables 2 and 4	0.00036	0.22262	0.209	-0.18723
Interaction of Variables 2 and 5	-0.00557	-0.26350	1.152	0.16399
Interaction of Variables 2 and 6	0.00201	0.10228	0.135	0.06002
Interaction of Variables 3 and 4	0.00074	0.05382	0.009	-0.17858
Interaction of Variables 3 and 5	0.01551	0.08518	0.084	0.25666
Interaction of Variables 3 and 6	-0.09237	-0.59004	3.797	0.08396
Interaction of Variables 4 and 5	0.03399	0.31382	0.843	0.25673
Interaction of Variables 4 and 6	0.00662	0.06419	0.031	0.10559
Interaction of Variables 5 and 6	-0.36562	-0.33563	3.784	0.22812

Constant 0.40341  
 Multiple R: 0.50173  
 R Square: 0.25174  
 F: 1.65009

Sample: All Part II Crime  
 N: 125

TABLE F-39 -- Multiple regression analysis of the effect of type of crime and social characteristics on reporting time.

Dependent Variable: Reporting Time, logarithm

Independent Variables	B	Beta	F	Simple r
Involvement Vandalism	-0.24685	-0.12059	2.223	-0.20197
Involvement Forgery, Fraud, and Embezzlement	-0.28186	-0.09008	1.520	-0.08559
Weapon Possession	-0.16831	-0.02577	0.171	-0.00374
Drunkenness	-0.40506	-0.12515	3.433	-0.08728
Disturbing the Peace	-0.08473	-0.03429	0.203	-0.09677
Disorderly Conduct	-0.03418	-0.00733	0.013	-0.04390
Discovery Vandalism	0.03144	0.01411	0.029	0.08814
Discovery Forgery, Fraud, and Embezzlement	1.60456	0.41774	28.594	0.58364
Telephoning Delay	0.35565	0.12721	3.322	0.41420
Talking Delay	0.11042	0.06401	1.070	0.09768
Apathy Delay	0.38492	0.15018	5.586	0.07315
Not Being Informed/ Being Misinformed	0.59230	0.23548	14.188	0.31782
Own-Rent-Board	0.06723	-0.04672	0.468	-0.20098
Marital Status	0.02029	0.01148	0.024	-0.14321
Education	0.03632	0.09472	1.765	0.25275
Income	0.01593	0.07067	0.732	0.30098
Sex	-0.10018	-0.05785	0.761	-0.20742
Constant	0.91725			

Multiple R: 0.70817  
 R Square: 0.50150  
 F: 8.93594

Sample: All Part II Crime  
 N: 169  
 Reference Group: Nonaggravated Assault

APPENDIX G

Summary Statistics for  
Process of Reporting Analysis

Table G - 1.-- T-test of mean or proportional difference between types of citizen-callers by social characteristics.

Type of Caller	Income		
	Victim Caller	Witness Caller	Caller
Victim Caller		2.97 p<.004	- 0.26 p<.793
Witness Caller			- 2.59 p<.012
Caller			

Table G - 2. -- T-test of mean or proportional difference between types of telephones used by social characteristics.

Type of work

Type of Telephone Used	Pay Telephone	Own Home Telephone	Business Telephone	Other Person's Telephone
Pay Telephone		-2.48 p < .016	-3.25 p < .002	-0.42 p < .677
Own Home Telephone			-1.07 p < .284	2.52 p < .014
Business Telephone				-3.41 p < .001
Other Person's Telephone				

Length of residence at present address

Pay Telephone	Own Home Telephone	Business Telephone	Other Person's Telephone
	-1.38 p < .171	-0.71 p < .477	1.29 p < .208
		0.99 p < .322	4.41 p < .001
			-3.03 p < .003

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Tenure (own-rent-board)

Type of Telephone Used	Pay Telephone	Own Home Telephone	Business Telephone	Other Person's Telephone
Pay Telephone		1.01 p < .314	1.40 p < .165	-1.68 p < .098
Own Home Telephone			0.53 p < .595	-3.28 p < .001
Business Telephone				3.79 p < .001
Other Person's Telephone				

Marital status

Pay Telephone	Own Home Telephone	Business Telephone	Other Person's Telephone
	0.22 p < .824	2.19 p < .031	-2.16 p < .036
		3.04 p < .003	-3.19 p < .002
			5.96 p < .001

Table G - 3.-- T-test of mean or proportional difference between types of telephones used by social characteristics.

Education

Type of Telephone Used	Pay Telephone	Own Home Telephone	Business Telephone	Other Person's Telephone
Pay Telephone		-1.94 p < .055	-3.85 p < .001	0.71 p < .483
Own Home Telephone			-3.08 p < .002	4.41 p < .001
Business Telephone				-7.33 p < .001
Other Person's Telephone				

Income

Type of Telephone Used	Pay Telephone	Own Home Telephone	Business Telephone	Other Person's Telephone
Pay Telephone		-1.04 p < .301	-4.37 p < .001	0.56 p < .577
Own Home Telephone			-4.95 p < .001	2.09 p < .040
Business Telephone				-6.22 p < .001
Other Person's Telephone				

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Age

Type of Telephone Used	Pay Telephone	Own Home Telephone	Business Telephone	Other Person's Telephone
Pay Telephone		-0.09 p < .931	1.14 p < .256	3.39 p < .001
Own Home Telephone			1.85 p < .066	4.90 p < .001
Business Telephone				-3.60 p < .001
Other Person's Telephone				

Sex

Type of Telephone Used	Pay Telephone	Own Home Telephone	Business Telephone	Other Person's Telephone
Pay Telephone		-1.10 p < .271	1.90 p < .060	-2.86 p < .006
Own Home Telephone			5.01 p < .001	-2.38 p < .019
Business Telephone				6.70 p < .001
Other Person's Telephone				

Table G - 4.-- T-test of mean or proportional difference between telephone numbers used by social characteristics.

Telephone Number Used	Income			Sex		
	Crime Alert	Police Switchboard Operator	Telephone Company Operator	Crime Alert	Police Switchboard Operator	Telephone Company Operator
Crime Alert		2.02 p<.046	- 3.97 p<.001		- 2.08 p<.039	4.93 p<.001
Police Switchboard Operator			- 1.85 p<.068			2.65 p<.009
Telephone Company Operator						

Table G -5.-- T-test of mean or proportional difference between ways telephone number known by social characteristics.

How Citizen Knew Number	Type of work			
	Telephone Directory	Number Written Down	Memory	Telephone Company Operator
Telephone Directory		0.39 p<.700	2.09 p<.040	3.35 p<.002
Number Written Down			2.07 p<.041	3.23 p<.002
Memory				1.93 p<.061
Telephone Company Operator				

How Citizen Knew Number	Education			
	Telephone Directory	Number Written Down	Memory	Telephone Company Operator
Telephone Directory		1.03 p<.307	1.88 p<.063	3.45 p<.001
Number Written Down			0.98 p<.328	2.88 p<.005
Memory				2.02 p<.046
Telephone Company Operator				

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How Citizen Knew Number	Sex			
	Telephone Directory	Number Written Down	Memory	Telephone Company Operator
Telephone Directory		0.24 p<.811	1.84 p<.069	- 1.20 p<.235
Number Written Down			1.78 p<.077	- 1.58 p<.120
Memory				- 3.53 p<.001
Telephone Company Operator				

TABLE G-6 -- Multiple regression analysis of the effect of type of caller on reporting time.

Dependent Variable: Reporting Time, logarithm

Independent Variables	B	Beta	F	Simple r
Victim-Callers	0.01433	0.00871	0.010	0.13040
Witness-Callers	-0.35562	-0.18418	4.263	-0.18993
Constant	1.30285			
Multiple R:	0.19004			
R Square:	0.03612			
F:	4.02799			
			Sample: All Part II Crime Cases With Citizen-Caller Interview	
			N: 218	
			Reference Group: Callers	

TABLE G-7 -- Multiple regression analysis of the effect of type of caller and type of crime on reporting time.

Dependent Variable: Reporting Time, logarithm

Independent Variables	B	Beta	F	Simple r
Victim-Callers	-0.11080	-0.06732	0.708	0.13040
Witness-Callers	-0.21847	-0.11315	1.995	-0.18993
Involvement Vandalism	-0.12480	-0.06215	0.681	-0.15969
Involvement Forgery, Fraud, and Embezzlement	-0.05468	-0.01607	0.063	-0.04974
Weapon Possession	0.04705	0.00874	0.021	-0.02235
Drunkenness	-0.14415	-0.04922	0.569	-0.10526
Disturbing the Peace	-0.09207	-0.04242	0.343	-0.13750
Disorderly Conduct	0.10120	0.02627	0.172	-0.02303
Discovery Vandalism	0.44708	0.21260	8.191	0.19838
Discovery Forgery, Fraud, and Embezzlement	1.90877	0.51838	66.887	0.51404
Constant	1.22075			
Multiple R:	0.58506			
R Square:	0.34229			
F:	10.77287			
			Sample: All Part II Crime Cases With Citizen-Caller Interview	
			N: 218	
			Reference Group: Callers, Nonaggravated Assault	

APPENDIX H

Summary Statistics for  
Patrol and Dispatching  
Procedures Analysis

TABLE H-1 -- Multiple regression analysis of the effect of patrol procedures and type of crime on distance traveled.

Dependent Variable: Distance Traveled

Independent Variables	B	Beta	F	Simple r
Officer In or Out of Assigned Beat	0.38347	0.21261	6.730	0.05651
Officer's Location Is In Beat of Incident	0.99079	0.38633	22.296	0.30369
Incident Is In Officer's Assigned Beat	0.66816	0.05977	0.609	0.02620
Involvement Vandalism	-0.17591	-0.06987	0.540	-0.06882
Involvement Forgery, Fraud, and Embezzlement	0.24675	0.08151	0.821	0.07155
Weapon Possession	-0.55569	-0.15253	3.178	-0.12647
Drunkemess	-0.22973	-0.08784	0.876	-0.07818
Disturbing the Peace	-0.26417	-0.10856	1.261	-0.06616
Disorderly Conduct	0.15901	0.03931	0.218	0.07727
Discovery Vandalism	0.23444	0.08590	0.859	0.14442
Discovery Forgery, Fraud, and Embezzlement	0.24152	0.05604	0.458	0.08931
Constant	-0.27426			

Multiple R: 0.44197      Sample: All Part II Crime  
 R Square: 0.19533      N: 155  
 F: 3.15579      Reference Group: Nonaggravated Assault

TABLE H-2 -- Multiple regression analysis of the effect of patrol procedures on travel time.

Dependent Variable: Travel Time, logarithm

Independent Variables	B	Beta	F	Simple r
(1) Busted Call	-0.05140	-0.07883	0.193	-0.40798
(2) Officer Could View Crime on Routine Patrol	0.08778	0.15897	0.672	-0.05233
(3) Officer In or Out of Assigned Beat	0.00503	0.00914	0.020	-0.00489
(4) Officer's Location is in Beat of Incident	0.09961	0.12755	3.564	0.27006
(5) Incident is in Officer's Assigned Beat	0.02280	0.00670	0.014	0.01756
(6) In or Out of Car	0.03904	0.04477	0.488	0.08741
(7) Car Stationery or Mobile	-0.00684	-0.01244	0.038	0.03849
(8) Distance Traveled	0.16820	0.55232	74.057	0.64783
(9) One or Two-Man Car	-0.00186	-0.00159	0.001	0.02346
Interaction of Variables 1 and 2	-0.09987	-0.32075	1.619	-0.33242
Involvement Vandalism	0.08645	0.11275	2.242	0.04776
Involvement Forgery, Fraud, and Embezzlement	-0.00532	-0.00578	0.007	-0.04198
Weapon Possession	-0.06732	-0.06070	0.870	-0.23950
Drunkemess	0.10252	0.12612	3.258	-0.03738
Disturbing the Peace	0.07669	0.10349	2.037	0.01323
Disorderly Conduct	-0.04892	-0.03973	0.403	-0.02412
Discovery Vandalism	0.13539	0.16294	4.837	0.24822
Discovery Forgery, Fraud, and Embezzlement	0.10344	0.07885	1.553	0.12368
Constant	0.59389			

Multiple R: 0.77082      Sample: All Part II Crime  
 R Square: 0.59417      N: 154  
 F: 10.98046      Reference Group: Nonaggravated Assault

## GLOSSARY

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.

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 II CRIME--As categorized in this study, included the crimes of nonaggravated assault; vandalism; weapon possession; drunkenness; disturbing the peace; disorderly conduct; and forgery, fraud, and embezzlement.

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 dis-

covery 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.

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.

**END**