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Research Report

Evaluation of the Differential Police Response Field Test

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PREFACE

One of the primary concerns of the authors was that this report be organized in a manner that is useful to law enforcement decisionmakers and planners, and at the same time include the degree of methodological and analytical detail which is of special interest to the research community. The first ten chapters, therefore, explain in detail many of the practical aspects of planning, implementing and evaluating the field test, while Chapters 11 through 15 include more in-depth explanations of the processes used to analyze the survey data.

The first chapter, or Executive Summary, is intended to stand alone as an overview of the project, and includes a summary of key findings and their implications for police policy and implementation planning.

Chapter 2 provides background information on the field test design and site selection, and includes a review of the literature.

The changes required in communications center operations to implement differential police response (DPR) are emphasized in Chapter 3, which discusses the development of new call classification and intake procedures at the three test sites.

Chapter 4 compares the procedures used to test and implement alternative response systems at all three sites, and discusses the different methods employed for randomly assigning calls for service to experimental and control groups.

Chapters 5, 6, and 7 provide separate, detailed explanations of the test and implementation phases in Garden Grove, Greensboro, and Toledo, respectively. Each chapter includes a discussion of alternatives selected, special considerations, test results and conclusions. Summaries of the results of the citizen surveys at each site are also presented in these chapters.

In Chapter 8, many of the major conclusions of the research and its implications for planning, management and police policymaking are discussed. This chapter will be especially useful to localities as they consider adopting a DPR system, or changing their current use of dispatch alternatives. Chapter 9 takes a closer look at evaluation considerations, and Chapter 10 is devoted to a number of important personnel and policy issues related to changes in the role of the telecommunicator needed for successful DPR implementation.

Chapter 11 presents an analysis of the baseline citizen surveys, including a loglinear analysis of citizen acceptance. Chapters 12, 13, and 14 discuss the test phase citizen surveys in Greensboro, Garden Grove and Toledo, respectively. Finally, Chapter 15 compares the results of the baseline and test phase surveys. The survey instruments used are included in the appendices.

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CHAPTER 1

EXECUTIVE SUMMARY

This document provides a summary of the National Institute of Justice Differential Police Response Field Test. It includes brief descriptions of the test objectives, planning and implementation processes, evaluation approach and results, and major conclusions. The summary also highlights special considerations and future implications of particular interest to police planners and decisionmakers who wish to introduce a comprehensive DPR system, or to improve the effectiveness of existing alternative services.

PROBLEM STATEMENT

Reductions in police department budgets have occurred in many cities at the same time that citizen demand for police service has increased. Police departments have been under pressure to maintain or improve their quality of service, reduce response times to urgent calls, and develop new strategies for crime prevention; yet it is often no longer possible to hire more officers to handle increasing workloads.

Many departments have attempted to cope with these problems by diverting a number of non-emergency calls from immediate mobile response units to alternative responses such as telephone report units and delayed mobile responses. However, most departments did not carefully and systematically plan for a comprehensive system to handle all calls for service -- a system which included call classification, intake processing and alternative service delivery. The optimal use of a wide range of possible alternatives needed to be demonstrated, tested, evaluated, and ultimately accepted by both police personnel and the public. A comprehensive field test was needed to determine the best way to (1) develop and match appropriate alternative responses with various types of calls for service; (2) implement procedures and training that encouraged the effective use of these alternatives; (3) assess the impact of the alternatives on police patrol practices; and (4) offer a model that could be successfully replicated by police departments throughout the country.

THE DIFFERENTIAL POLICE RESPONSE FIELD TEST: OBJECTIVES AND APPROACH

In order to test the utility of a comprehensive police response system for managing calls for service, the National Institute of Justice (NIJ) designed the Differential Police Response (DPR) Field Test Program in October 1980. The test was subsequently implemented in the cities of Garden Grove, California; Greensboro, North Carolina; and Toledo, Ohio under controlled, experimental conditions. The field test was coordinated by NIJ, with program design and implementation directed by the Office of Development, Testing and Dissemination; and the evaluation design and management under the Office of Program Evaluation.

As with other NIJ field tests, the overall purposes of the DPR test were to (1) develop information on the effectiveness of specific criminal justice practices; (2) add to the knowledge base of law enforcement; and (3) contribute to improved policy decisionmaking.

The most outstanding tribute to the success of the DPR project is that the police departments in all three cities have fully institutionalized the changes made during the test, and have gone on to develop new programs to make best use of the time and resources saved as a result of adopting effective alternatives to immediate mobile response.

Evaluation Approach for the DPR Test

Research Management Associates, Inc. (RMA) was selected in June 1981 as the national evaluator for the DPR study. The evaluation grant was awarded prior to the selection of the test sites, which provided positive long-range benefits for the evaluation by enabling RMA to use an approach which was more formative ("hands-on") than summative ("hands-off"). Thus, the evaluators were engaged to participate in the actual design of the project.

Intensive activities by the evaluation team during the planning phase increased the success of subsequent interventions in the project, and assured that a valid and complete evaluation could be conducted during the project's test phase. Involvement in the planning phase of any project, of course, can create the potential for the evaluators to become advocates in program activities. However, the RMA team viewed its primary role as one of providing information to program managers for their consideration as they designed or changed their activities. The evaluation team remained as objective as possible throughout the project, endeavoring to provide information in an unbiased manner so that activities could be evaluated to give results with a high degree of confidence.

A unique characteristic of the DPR Field Test was its design as a two-phase process. The first, or planning phase, lasted eight months and included the development and implementation of new call classification systems. The second, or test phase, took place over a ten-month period and involved the introduction of alternative responses. Because of this two-phase approach, one evaluation was conducted of the changes in the police communications centers, and a separate evaluation was conducted for the implementation of the response alternatives.

Objectives of the DPR Test

The two overall objectives of the DPR test were (1) to increase the efficiency of the management of calls for service; and (2) to maintain or improve citizen satisfaction.

The first objective involved the following underlying expectations, or subobjectives:

- Reduce the number of non-emergency calls for service handled by immediate mobile response;
- Increase the number of non-emergency calls for service handled by a telephone report unit, by delayed mobile responses, or by other alternative responses;
- Decrease the amount of time patrol units spent answering calls for service, and increase the amount of time available for crime prevention or other activities; and
- Increase the availability of patrol units to respond rapidly to emergency calls.

The second objective addressed the need to determine how many and what types of calls could be handled by alternative responses without adversely affecting citizen satisfaction with police service. It was hypothesized that if calls were carefully screened, if citizens were informed of potential delays, and if alternatives were appropriate and timely, citizen satisfaction might not decrease. Thus, the second objective included the following subobjectives:

- Provide satisfactory explanations to citizens at call intake on the nature of the police response to their calls; and
- Provide satisfactory responses to citizens for resolving their calls for service.

Evaluation Objectives

The major objectives of the evaluation were as follows:

- Assess the impact of the differential response system on police practices;
- Assess the impact of the differential response system on citizens; and
- Assess the transferability of the program.

With regard to accomplishment of the evaluation objectives, determining the effect of the differential response system on the role of the telecommunicator was considered to be of particular importance. Call taker and dispatcher understanding and acceptance of the new call classification systems, and of the philosophy behind providing alternative services, would be key to both productive intra-departmental relations and favorable public perception of the services. For this reason, the NIJ test design document

recognized that the greatest emphasis should be placed on the changes in the communications centers.

CHARACTERISTICS OF THE CITIES

Demographic Characteristics

One consideration in the evaluation design was the demographic differences across the three sites. While many of the same alternative responses were implemented in all three cities, the evaluation did not attempt to make extensive comparisons of results across sites, but instead highlighted how a DPR approach can actually operate in three different environments.

The city of Toledo is an older, industrial and "blue collar" city. It has a population of 354,600. Of the three sites, Toledo has the most significant number of older residents who have lived in Toledo most of their lives. Garden Grove is the "newest" of the three site cities, incorporated in 1956 with the police department formed in 1957. With a population of 123,300 in 17.4 square miles, Garden Grove is the most developed and densely populated of the three sites. Greensboro is a blend of urban, rural, and suburban. The second largest city in North Carolina, Greensboro has a population of 155,600. In contrast to Garden Grove which has 3.2 persons per housing unit, Greensboro has only 2.5 persons per housing unit.

Several other factors are of particular interest because of their direct impact on the police departments and the project.

Toledo's economy suffered more than the other two cities during the nation's recent recession. Because of its heavy dependence on the automobile industry, unemployment reached 12 percent during the project. The city layed off 200 employees, including 30 civilian police personnel (two thirds of its civilian staff). Also, sworn personnel in Toledo were 13 percent below authorized strength at the beginning of the project, and none of the police departments had increased staffing in several years. Garden Grove had a policy of rigid fiscal restraint due to the advent of Proposition 13; Greensboro also had a policy of keeping the tax rate low.

Police Department and Communications Center Characteristics

With regard to the ratio of officers to citizens, Garden Grove (156 sworn personnel), with the fewest sworn personnel, had one officer for every 814 residents, while Toledo (634 sworn personnel), with the greatest contingent of sworn personnel, had one officer for every 559 residents. Greensboro (367 sworn personnel), had a rate of one officer for every 423 residents. In terms of crime rate, the three sites were very close, with Garden Grove having a rate of about 83 Part I offenses committed per 1,000 population, Greensboro with a rate of about 81 offenses, and Toledo with a rate of about 87 offenses.

The Garden Grove Police Department differed from the other two sites in that the patrol personnel were deployed according to a team policing

model. All field services were essentially self-contained in the three teams which geographically subdivided the city.

The police personnel in the three sites also had somewhat different characteristics. In Toledo and Greensboro, personnel tended to be older and more tenured. It was not unusual to meet patrol officers having ten or twelve years with the department. By way of contrast, in Garden Grove, many officers had been with the department for less that five years as reflected by the department's turnover rate of more than 40 percent, a figure consistent with other police departments in Southern California due to the favorable job market for experienced officers.

Of particular interest to the DPR evaluation were the following differences among the three sites in communications center staffing and operation:

- Toledo's communications center was staffed entirely by sworn personnel. All dispatch positions were reserved for sergeants; call taker positions were filled by patrol officers.
- The Greensboro and Garden Grove communications centers were staffed entirely by civilians.
- Toledo operated a manual call for service processing system, while both Greensboro and Garden Grove used computer-aided dispatch (CAD) systems.
- Calls for service into all three communications centers were at record levels.
- Annual workloads for calls for service dispatched to the field ranged from 280 calls per officer in Garden Grove to 382 in Greensboro, and 503 in Toledo.
- Prior to DPR, Toledo and Greensboro handled only a limited number of calls for service for minor property offenses over the telephone, and Garden Grove had never taken incident reports over the telephone.

PHASE I: PRE-IMPLEMENTATION PLANNING AND DEVELOPMENT

New Call Classification Systems

Prior to DPR, the three sites, like most police departments, operated with traditional "10 code" call classification systems. When most calls receive an immediate mobile dispatch, these systems are adequate. However, in order to respond to calls for service with appropriate cost-effective alternatives, a new system was needed.

Each department developed its own internal planning committee, and three cluster conferences were held during the course of several months to design a call classification model.

In terms of degree of implementation, the objective of introducing a new call classification system was achieved by all three sites. Together, the three departments designed a generic model that included call event categories; and call descriptors, such as time of occurrence, likelihood of apprehension, and availability of witnesses. The three departments then tailored the model to meet their local needs, requirements, and capabilities. Although the final systems were not identical, the important point is that the principles were the same and the variations were minor.

Call Classification Codes

The next step in the process was to develop call classification codes which summarized the types of calls, descriptive elements, and selected responses. All three sites successfully designed a call classification code, although they differed in their approach to the problem and reached different conclusions on the complexity needed.

The call codes allowed call takers to match call information with the appropriate police response. The codes were numeric characters that aided in rapid designation of characteristics. The numeric codes were also helpful in recordkeeping, further analysis of the classification systems, and monitoring by supervisors. In Garden Grove, for example, a four-digit call code was implemented, which provided the general type of call as the first character, the time of occurrence information as the second character, the injury information as the third character, and the selected response as the fourth character.

Call Intake Procedures

Intake Processing. In order to classify calls appropriately under the DPR system, call intake operators were required to obtain much more information from callers than with the "10 code" system. The departments were expected to take steps to improve the intake and processing of calls to ensure that telecommunicators were adequately trained and prepared.

In line with this objective, each department developed the following products:

- Written guidelines on the new classification systems and procedures;
- A set of standardized questions, tailored to each site, to facilitate the classification of calls;
- Standardized explanations for informing citizens of the appropriate responses; and
- New call intake forms.

In order to assist with the revision of call intake procedures, Greensboro and Garden Grove initiated task forces which consisted of sworn

and civilian personnel representing all key divisions, particularly patrol and communications. These task forces worked effectively in both departments and helped increase the project's acceptability throughout the departments.

Monitoring. One of the most critical methodolgical steps prior to implementation of the alternative response phase was to review actual phone conversations between citizens and call takers. These reviews enabled the departments to assess current information obtained and determine how much additional information was required. Supervisory review of telephone conversations between citizens and call takers was also part of the new telecommunicator evaluation procedures developed by each site.

Training and Testing

Each department devoted an extensive amount of planning time to prepare for training of personnel in the new call classification system and procedures. The degree of implementation for this training component was excellent at all three sites. Among the most successful training methods were the use of easy-to-use manuals and flip charts, and various simulation and role play techniques. All three sites also developed training and orientation programs for other personnel including field officers, members of other departments, and city administrators.

The next major step in the process was to pre-test the call classification systems and review intake procedures. During this four-month period, call takers used the new system to query citizens, and selected appropriate responses, but did not dispatch the alternatives selected. Again, all telecommunicators were closely monitored by communications supervisors, project staff, and the evaluation team.

Telecommunicators were surveyed at the beginning of the project and at the end of the call classification development phase. A third telecommunicator survey was conducted toward the end of the full implementation test. These surveys included questions on call intake policies and procedures, training, job satisfaction, and other DPR changes. Patrol officers were also surveyed on two occasions.

MAJOR CONCLUSIONS FROM PHASE I

The experience of the three sites in regard to call classification and call intake processing can be summarized as follows:

- The DPR Field Test sites successfully developed a generic model for call classification systems which can be modified by any police department to meet local needs.

- The three sites successfully tested and implemented new call classification systems which resulted from this generic model.

- Successful call classification systems may be simple or complex. A more complex system may be desirable when (1) there are more alternatives

available; and (2) the department wants to consider more types of calls and characteristics for matching with alternatives.

- The new call classification systems and intake procedures (1) increased the amount of information obtained from callers; (2) provided callers with more accurate information on what to expect in terms of the response to their calls; and (3) provided patrol officers with more detailed information on calls prior to arrival at the scene.

- The time to develop the new call classification systems was underestimated. More time was required to review the current systems and develop the most appropriate call characteristics.

- Input for the new systems was needed from telecommunicators as well as from field operations personnel and other management personnel in the department.

- The new call classification systems and call intake procedures, well-documented in department manuals, resulted in more standardization, uniformity, and accountability in the way telecommunicators handled citizen calls for service.

- The three sites developed effective procedures for monitoring and assessing the performance of telecommunicators.

THE TEST PHASE: IMPLEMENTATION OF ALTERNATIVE RESPONSES

This phase involved the matching of citizen needs, as defined in the new call classification systems, with appropriate police responses.

Differential Response Alternatives

The NIJ Test Design required that the police departments implement the following differential response alternatives:

- Telephone report unit for taking reports over the telephone;
- Procedures for a delayed mobile response (holding calls for 30 to 60 minutes);
- Procedures for referring calls to other agencies; and
- At least one other alternative response technique from the following possibilities: scheduled appointment, walk-in, or mail-in.

Each of these alternative responses was implemented to some degree, and with some individual variation, at the three test sites. All three sites set priorities for the use of immediate mobile response, delayed mobile response, telephone report units, external referrals, and walk-in

responses. Garden Grove and Greensboro solicited mail-in responses. Greensboro also set appointments and made internal referrals. Toledo used a communications callback procedure, an innovative alternative in which an officer called the offending party with a warning in "barking dog" and "noisy party" situations.

The actual experimental designs by which the alternatives were tested differed at each of the sites, but all were handled so calls were dispatched either to a traditional response or to an experimental alternative. True emergency calls for service were not part of the experiment, but were dispatched in the normal expeditious manner, generally to mobile units in the field.

Evaluation Considerations

Measurement Periods. In all three sites there was at least a three-month lag between implementation of the new call classification systems and the actual field tests for the call alternatives. This allowed a sufficient period for the communications center personnel to become accustomed to the new procedures. The evaluation of the field test could then proceed without having to be concerned about separating the effects of the communications center changes from the effects of the alternatives.

There were occurrences at all three sites during both phases of the project which dictated when each site was able to implement its call classification system and the call alternatives. These included the city personnel layoffs in Toledo and the establishment of a Project Advisory Board in Greensboro. However, because each step in the various project objectives was clearly delineated, the differences in schedules at the three sites produced no adverse effects on the evaluation activities.

Project Objectives. It was believed that stated objectives were necessary in order to assess the worthiness of the changes made in all phases of the project. On the other hand, the research nature of the project made it difficult for the project personnel to quantify their objectives with any precision. For example, one of the aims was to determine how many calls could be diverted to the alternatives, yet there was no reliable information with which to predict what the number of eligible calls would be. Without this information it was not possible to develop other quantitative objectives for the impact on unit utilization, decreases in average travel time, and other related measures. In the evaluation, these values were calculated from the actual experiences of the sites, and in some cases comparisons were made with previous performance. Project objectives were developed to cover all critical areas of the project; however, many of these objectives were, by necessity, process-oriented.

Randomization. All three departments stated in their grant applications that they would conduct a field test with a randomization procedure as part of the evaluation design. Two important results made possible through randomization were that (1) comparisons on control and experimental groups could be made during the same time period, eliminating the possible effects of a number of outside influences; and (2) "before/during" comparisons of citizen satisfaction could be made. The combination of these two

advantages offered the strongest possible evaluation design for the DPR Field Test.

Implementation of Alternatives

Each site used a different method to achieve randomization and implement alternative responses. In Toledo, this was accomplished by having one call taker position designated as experimental. In Garden Grove, the CAD system automatically alternated calls for service between traditional dispatching and experimental alternatives. The design in Greensboro was more elaborate, and involved dividing four shifts of call takers into two groups. The first group of call takers dispatched calls in the traditional, pre-DPR manner for four days in a row to constitute a control group. The second, or experimental group, dispatched calls using the new DPR criteria.

The experiments were monitored by on-site personnel from the evaluation team. Subsequent analysis showed that the design was carried out as planned, and the control and experimental groups proved comparable.

MAJOR CONCLUSIONS FOR POLICE PRACTICES

The first evaluation objective was to assess the impact of the differential response system on police practices. Major conclusions from this assessment are as follows:

- In all three sites there was a sizable reduction in the number of non-emergency calls handled by immediate dispatch of mobile units.

On non-experimental days in Greensboro, for example, only 10.4 percent of dispatched calls were handled by alternative responses. The use of alternatives was almost doubled on experimental days--19.5 percent of all calls were handled by non-patrol responses, primarily the telephone report unit. Larceny reports constituted the major type of calls taken by the telephone report units; however, there were increases in the burglary category, public nuisance, and over thirty other call types not handled by telephone on control days. In addition, 26.9 percent of all calls on experimental days were classified as eligible for the alternative of a delayed mobile response. Thus, a total of 46.4 percent of all calls could have received an alternative response. Similar benefits were experienced in Toledo and Garden Grove.

- The objective to increase the amount of time available for patrol units to devote to crime prevention, directed patrol, and other activities was achieved at all three sites.

For example, in Garden Grove there was a 40 percent increase in the number of field-initiated reports taken as a result of DPR. A special study in Toledo found that patrol units were on calls for service 19.6 percent of the time during the test phase. If these alternatives had not been available in Toledo, patrol units would have handled about 6,325 more calls, increasing unit utilization to 22.8 percent. In a large police department such as Toledo, a three percent reduction in patrol unit utili-

zation is important and would have been difficult to achieve without the DPR project. If the department had desired to respond to all calls without alternatives but reduce unit utilization to 19.6 percent by adding patrol units, about two more units per shift would have been necessary. Staffing two units per shift would have required at least ten additional officers, which is considerably more than the four assigned to the telephone report unit.

• Proper screening under the new call classification systems allowed call takers and patrol officers to respond quickly when needed. However, travel time to emergency calls was not significantly reduced at all three sites.

• Particular attention needs to be given to the impact of the DPR system on telecommunicators. The conclusions from an analysis of the role of the telecommunicators in the DPR project can be summarized as follows:

  - The use of civilian call takers and dispatchers had many more advantages than disadvantages. Civilian call takers were better educated, had higher retention rates, and were hired at lower costs, than sworn personnel.

  - Patrol officer satisfaction with telecommunicators at all three sites improved as a result of the DPR project.

  - Improvements made in environmental working conditions at all three communications centers resulted in positive changes in the job satisfaction and morale of many telecommunicators.

  - A DPR project imposes standards, uniformity and consistency on telecommunicators which may initially be resisted. Such resistance should be anticipated and telecommunicators should be included extensively in the planning and design of the project and in developing and delivering the DPR training.

  - Monitoring was a very useful tool for communications center managers to assess call takers. This procedure called for frequent sampling of the calls and a formal assessment of how well the call takers handled them.

  - The telecommunicators at all three sites lacked a comprehensive career development plan. Call taker and dispatcher positions need to be upgraded; the promotional picture needs to be improved; subsequently, selection standards need to be upgraded.

• The findings show that the alternatives are less costly than the traditional response of sending out a mobile unit to all calls for service. Moreover, the productivity levels are much higher for personnel using the alternatives, such as TRU, in comparison to traditional mobile patrol.

• The use of evidence technicians in Greensboro was highly successful. These technicians, who were non-sworn personnel, were dispatched (as an alternative to using a sworn police unit) to handle the initial calls, write the crime reports, and gather evidence. They were able to handle over 18 percent of non-mobile responses, primarily for burglary, vandalism, and larceny calls.

• Mail-in reports were not found to be successful. The volume at which they were used was very low over the test period, and they were not well distributed throughout the cities.

•Elimination of service was one additional successful alternative. In Greensboro, prior to the test phase, escort services averaged 100 per week. The department made the decision to eliminate these services as much as possible, and reduced them to 20 per week during the DPR test phase.

• The task force approach was successful. The Response Advisory Board in Greensboro achieved good policy and operational procedures for the alternatives and aided the institutionalization of the project within the police department. Disadvantages to this approach were that it delayed test implementation, and reached decisions which made for a more conservative approach to the test.

CITIZEN SATISFACTION WITH THE DPR SYSTEM

Methodology

The second primary evaluation objective was to assess the impact of the differential response system on citizens. To assess this impact, surveys were conducted throughout the project at all three sites of citizens who had received some type of service for a non-emergency incident. During the baseline period, the primary aim of the surveys was to determine the level of citizen satisfaction with the call takers, and to estimate what percentage would have been willing to accept some type of alternative to the immediate dispatch of a patrol unit. In Greensboro and Toledo, where telephone report units were already taking some minor reports over the phone, a sample of citizens was surveyed to determine their satisfaction levels with this telephone service.

During the field tests, the citizen surveys were aimed at determining the levels of satisfaction with the variety of service alternatives that were implemented. Opinions of citizens in the experimental group receiving the alternative services were compared to opinions of citizens in the control group receiving immediate mobile responses. In addition, some comparisons were made with the surveys conducted during the baseline period.

The dispatch records were the source documents for selecting the citizens to be surveyed. In Toledo, the selection process was manual; at the other two sites, daily lists of calls from the CAD system served as the sampling frame. In all, over 11,930 citizens were surveyed at all three sites.

CONCLUSIONS WITH REGARD TO CITIZEN SATISFACTION

Pre-Implementation Surveys

• The most significant findings from the baseline data were that citizens expressed an overall high willingness to accept alternatives other than the immediate dispatch of a patrol unit to non-emergency calls. Citizens were asked whether they would have been willing to accept the alternatives of telephone reports, arranging an appointment, mailing in a report, or coming to the department to file a report in person. In Garden Grove, 61.8 percent reported that at least one alternative was acceptable. In Greensboro, 42.4 percent, and in Toledo 29.2 percent said that at least one alternative was acceptable.

• At all sites, the most acceptable alternative was setting an appointment, and the least acceptable was mailing in a report.

• Many citizens stated they would have been willing to wait longer for a response in a number of situations. Nearly half the respondents in Garden Grove were willing to wait more than an hour longer.

• Citizens were more willing to accept an alternative on a property-related call (burglary, larceny) rather than a call involving a person event or potential threat (assault, domestic).

Citizen Survey During Test Period

• During the test phase, citizen satisfaction with the alternatives remained high. Satisfaction exceeded over 90 percent for all options except for the walk-in response in Garden Grove, which had an 88 percent satisfaction level.

• Satisfaction levels are directly related to whether the caller was informed that a delay might occur.

• Communicator style was an important factor in citizen satisfaction with the telephone report unit alternative. A special study in Greensboro showed that the most important attributes were being precise, friendly, non-argumentative and attentive.

• There was a high citizen satisfaction level with mobile responses by cadets in Garden Grove.

TRANSFERABILITY OF THE DPR PROJECT: MANAGEMENT CONSIDERATIONS AND FUTURE IMPLICATIONS

Key Factors in the Success of the Field Test

The third broad evaluation objective was to assess the transferability of the DPR program. The major evaluation results presented in this summary

clearly support the conclusion that the DPR model can be successfully adapted to meet the needs of police departments in a wide range of environments.

The evaluators have selected the following points as key to the success of DPR at the three sites:

- The original Test Design document was very clear and readable. This is a credit to the NIJ staff who worked on the development of the project.
- The planning, execution, and staffing of the projects at all three sites, and the support and commitment of the chiefs, was excellent.
- There were no other major programs introduced at the three sites during the project which could have diluted the attention of the chiefs and staff from DPR.
- There was no turnover of chiefs or project staff at any of the three sites during the project.
- There were no threats from internal (unions, elected officials) or external (citizens, media) sources at the three sites during the project.

Managing a DPR System

Two important concepts with regard to managing a DPR system should be emphasized: (1) there needs to be a logical, sequential plan for developing and implementing the system; and (2) other police department programs and components must be considered and included simultaneously in the planning effort. One of the most important considerations in this regard is how to make the best use of the patrol time which becomes available when calls are diverted to alternatives.

A plan for implementing a system of alternative responses to calls for service should include the following components as the framework:

- Call classification and alternative response process. This component is the basis for all other components. First, sound policies must be developed for call screening, call classification and call prioritizing in order to select alternatives which meet citizen demand. Second, the full range of alternative responses needs to be developed. This will enable emergency calls to receive rapid attention while non-emergencies are handled in a manner that meets both police department and citizen needs.

- Patrol allocation plan. This plan needs to keep in mind important factors such as minimizing response time to urgent calls; equalizing workload; reducing inter-beat dispatches; and reducing unnecessary backup coverage.

• Criminal investigations support. The degree to which patrol officers are involved in crime scene investigation and reporting needs to be considered. Allowances must be made in the allocation plan for the greater average service time spent on calls requiring patrol officer investigation.

• Crime analysis support of patrol operations. The degree to which this type of support is present is a key component in directing patrol activity.

• Directed patrol activity. It is possible to structure the other components so that as much as 50 to 60 percent of all officers' time can be devoted to directed patrol. Some police chiefs are concerned that city administrators will view this as an opportunity to reduce authorized personnel. However, worthwhile and effective directed patrol programs, when planned and proposed as part of DPR, can counteract this possibility.

• Monitoring. "Monitoring" is used in a broad sense to include review and evaluation. These activities are essential to determine whether communications personnel and patrol resources are being used according to the comprehensive plan.

Future Implications

The greatest implications for police departments resulting from the DPR research are in the area of policy and personnel development. The major trends perceived by the evaluation team are summarized below:

• There is a need to reduce the total volume of calls coming in to emergency call takers. At all three test sites, nearly half the calls to the communications centers were for information only. Departments may need to mount a public education program to help the public distinguish between the various police assistance telephone numbers. Call screening systems and policies could divert all information only calls from telecommunicators to less skilled, lower-cost positions.

• One of the most significant implications of DPR for the future is the control it affords management over the traditionally autonomous telecommunicators. As a result, communications centers will be able to achieve greater uniformity, standardization, and accountability.

• In the event of a city-wide crisis, a DPR system can enable the majority of officers to contain a volatile situation while all but emergency calls are diverted to alternative responses.

• Significant personnel development implications can be derived from the evaluation results, which indicate many advantages to using civilian telecommunicators.

• Better qualified personnel can be attracted to communications center work with the advent of sophisticated computer technology for call taking and dispatching, improvements in pay and career development opportunities, and improved work environments.

• DPR has interesting legal implications. With regard to police negligence, historical caselaw indicates that the police are not negligent for not responding to citizens in general. Thus, diverting calls to alternatives is permissible; in addition, DPR diverts only non-emergency calls. But if a dispatcher promises a unit and one does not respond, this situation, unlike DPR, could result in a negligence finding and in some circumstances, vicarious liability to the department and the city. The DPR model advocates informing all callers of any potential delay whether by a patrol unit or an alternative.

• Because the DPR call classification system can provide more accurate descriptions of situations to patrol officers, the management and control of patrol backups may be improved. Such backups are often used without the dispatcher's knowledge, and clearly have cost implications.

• Another implication for patrol officers is that when a significant number of calls are diverted to alternatives, the officers and their supervisors will have more freedom for self-initiated activities. A new breed of recruit who is more resourceful than regimental may be attracted to police work as a result.

HIGHLIGHTS OF THE EVALUATION

Summary of Key Findings

• Police departments can achieve a sizeable reduction in the number of non-emergency calls for service handled by immediate mobile dispatch, without sacrificing citizen satisfaction. The field test demonstrated that up to 46.4 percent of all calls could have received alternative responses.

• The DPR model can be successfully adapted to meet the needs of police departments in a wide range of environments. All three sites decided to institutionalize the changes made as a result of the field test.

• The generic model for call classification systems developed during the field test can be modified by any police department to meet local needs. The model is comprised of (1) a set of call event categories covering virtually all types of citizen calls, and (2) a list of key call characteristics needed to determine the most appropriate police response.

• A successful call classification system can be simple, as in Garden Grove, or more complex, as in Greensboro. A more complex system may be desirable when (1) there are more alternative responses available; and

(2) there are more types of calls and characteristics which the department wants considered when selecting alternatives.

• The results of the baseline citizen surveys showed an overall high public willingness to accept alternatives to immediate dispatch of a patrol unit for non-emergency calls. When asked about the alternatives of arranging an appointment, having a report taken by telephone, coming to the department to report an incident or mailing in a report, 61.8 percent in Garden Grove, 42.4 percent in Greensboro, and 29.2 percent in Toledo

indicated a willingness to accept at least one alternative. Although the percentage was somewhat lower in Toledo, it represents a significant volume of calls, and the difference may be due to demographic variables. The most acceptable alternatives were appointments and telephone reports.

- The baseline surveys also showed that three out of four callers were willing to accept delays of up to an hour in officer response time to non-emergency calls.

- Citizens indicated a greater willingness to accept alternatives for property-related calls (e.g., burglary, larceny) and assistance calls than for calls involving potential danger or threats to the person, such as assaults or domestic disputes.

- During the test phase, citizen satisfaction with initial conversations with call takers was very high. Satisfaction with call takers among citizens in the experimental groups receiving mobile responses exceeded 95 percent at all three sites; for those receiving delayed mobile responses, satisfaction with call takers was 92.1 percent in Greensboro, 99.0 percent in Garden Grove, and 97.4 percent in Toledo. Citizens receiving telephone report unit (TRU) responses in Greensboro and Toledo expressed satisfaction levels for initial call taker conversations of 95.8 and 96.5 percent, respectively; and 97.3 percent of Garden Grove callers who received an expeditor unit response indicated satisfaction with call takers.

- Citizen satisfaction with the alternative services provided was also very high. An average of 95.4 percent at all three sites were satisfied with mobile responses during the test phase. Satisfaction with the delayed mobile response alternative averaged 94.4 percent; and an average of 94.2 percent expressed satisfaction with telephone report and expeditor unit services received.

- The tradeoffs among various alternative responses in terms of citizen satisfaction appear to be in the intensity of the satisfaction levels. In Greensboro, for example, 69.8 percent of the mobile experimental group said they were "very satisfied" with the services provided, as compared to 60.4 percent for the TRU and 57.1 percent for the delayed mobile response.

- Alternative responses are less costly than traditional mobile responses and productivity levels are much higher for personnel using alternatives. In a city like Toledo, the number of calls that could be handled by a four-person telephone report unit would require ten officers to handle by immediate mobile response.

- The advantages of civilianizing call taker and dispatch positions outweigh the disadvantages. Civilians usually can be hired and trained at lower costs, have higher retention rates, and are better educated.

- Implementing new call classification systems and intake procedures for DPR, including the training of telecommunicators, development of written guidelines, and monitoring by supervisors, can achieve the

following results:

- Increase the amount of useful information obtained from callers.
- Better prepare officers on what to expect at the scene, and reduce unnecessary backups.
- Maintain or improve citizen satisfaction by preparing callers for the type of response to expect.
- Increase uniformity of procedures, and improve the accountability of telecommunications personnel.
- Increase patrol officer satisfaction with call takers and dispatchers.

• The importance of the role of telecommunicator in police operations frequently has been underestimated. The DPR field test confirms similar conclusions supported by previous research (Tien, 1977; Cahn and Tien, 1980; Kansas City Police Department Directed Patrol Project, 1980; McEwen, 1982) that increased attention to call taker training and other needs must be addressed to achieve maximum use of alternative responses.

• In addition to providing thorough training in the use of new call classification systems, upgrading the role of the telecommunicator needs to include involving telecommunicators in project planning and the training of others, improving promotional and career development opportunities, improving the working environment, and upgrading selection standards.

Supplementary Findings

• The use of civilian evidence technicians to handle initial calls for certain property crimes can be a highly successful alternative. Evidence technicians in Greensboro were able to process 18 percent of all non-mobile responses.

• Travel time to emergency calls was not significantly reduced as a result of DPR; however, the new call classification systems did enable patrol officers to respond quickly when needed for true emergency calls.

• The use of mail-in reports did not prove to be a successful alternative response. Communications call-back procedures, where the call taker telephones the offending party with a warning, can be an effective alternative in "barking dog", "noisy party" and similar situations.

Implications for Police Policy

• A comprehensive plan for DPR needs to address how to make the best use of the increased patrol time that becomes available when calls are directed to alternatives. Opportunities to use this time for directed

patrol or increased crime prevention efforts can be created as a result of DPR.

- Formal experimental designs are possible in a police department and should be used more often to test changes prior to full implementation.

- Changes in the role and activities of the patrol officer will occur as a result of DPR. The amount of time patrol officers spend answering trivial calls will be reduced, a higher percentage of calls answered will be true emergencies, and more officer time will become available for other programs such as directed patrol and crime prevention.

- Personnel issues which need to be addressed include:

  - The advantages and cost savings possible by using civilians in positions such as call takers, dispatchers, evidence technicians and other support positions.

  - The need to elevate the status of call takers and dispatchers in the organizational structure.

Suggestions for Implementation Planning

- Gain the commitment of the police chief to DPR as a departmental priority.

- Develop a comprehensive plan that anticipates the impact of DPR on other departments and programs, and its effect on the overall patrol allocation plan.

- Include telecommunicators on the internal planning committee, as well as civilians and officers from all key divisions, especially patrol and communications; and involve project evaluators in the planning phase.

- Allow sufficient time for the development and testing of the new call classification codes and intake procedures, and include a full range of alternative reponses.

- Provide thorough training for telecommunicators in the new system and involve them in the training of others. Clearly written manuals, flipcharts, and simulation and role play exercises are recommended techniques.

- Pre-test the new system for two or three months by having call takers code and select alternatives but not dispatch the alternatives. Monitor call taker/citizen conversations and address areas where communication style needs improvement. Review intake procedures and revise as needed.

- Consider the importance of the length of commitment possible when selecting a DPR project supervisor. At all three sites there was no turnover in key project staff, which greatly aided implementation of the DPR systems.

• Anticipate the need to deal with possible internal (union) and external (media, citizen) pressures. Consider forming a broad-based advisory board, which can foster acceptance of the DPR system within the department and in the community.

CHAPTER 2

THE DIFFERENTIAL POLICE RESPONSE FIELD TEST

OVERVIEW OF FIELD TEST PROGRAM DESIGN AND OBJECTIVES

Introduction

The National Institute of Justice (NIJ) designed the Differential Police Response (DPR) Field Test Program in October 1980 to test the utility of a comprehensive differential police response system for managing the calls for service function in three police departments. The DPR Field Test was subsequently implemented in Garden Grove, California; Greensboro, North Carolina; and Toledo, Ohio under controlled, experimental conditions which ensured the validity of the evaluation results. This report is a detailed examination of the activities of the three sites under the DPR Field Test--an examination which includes an analysis of the planning process for the changes made at the sites, an extensive assessment of citizen satisfaction with the changes, results of interviews with telecommunicators, and the impact of the changes on patrol operations.

As part of its research and development mandate, NIJ has designed and implemented numerous other field tests in such areas as Managing Patrol Operations, Managing Criminal Investigations, and Early Release of Offenders. The purposes of the field test programs are to develop information on the effectiveness of specific criminal justice practices, to add to the knowledge base of law enforcement, and to contribute to improved policy decisionmaking in the areas tested.

Each field test is conducted as a research effort with a comprehensive evaluation component. Selected sites must adhere to the tenets of the program design and the evaluation requirements. This is not an easy undertaking for active operational agencies over an entire project which may last two years. However, as reported in this evaluation, the three DPR sites agreed to the field test requirements, which greatly strengthened the validity of the conclusions of the test.

This field test was coordinated by NIJ with the program design and implementation under the direction of the Office of Development, Testing, and Dissemination, and the evaluation design and management under the direction of the Office of Program Evaluation.

Field Test Objectives

The two overall objectives of the DPR Field Test were (1) to increase the efficiency of the management of the calls for service function; and (2) to maintain or improve citizen satisfaction.

This first objective involved several underlying expectations or subobjectives related to the efficiency of managing calls for service. In essence, it was expected that the police departments would be able to screen calls for service in a more effective manner to determine whether an

alternative service could be provided, thus relieving workload from patrol units. If successful, the project would also meet other expectations:

- Reduce the number of non-emergency calls for service handled by immediate mobile responses;
- Increase the number of non-emergency calls for service handled by a telephone report unit, by delayed mobile responses, or by other alternative responses;
- Decrease the amount of time patrol units spent answering calls for service and increase the amount of time available for crime prevention or other activities;
- Increase the availability of patrol units to respond rapidly to emergency calls.

As these objectives indicate, it was anticipated that through implementation of the differential response systems, calls dispatched to patrol units would be reduced by handling them in an alternate and less expensive fashion.

The new free time would serve to increase the patrol resources available for crime and service-related problems. Rather than just being "report writers," patrol officers could become more involved in other activities such as crime prevention (security surveys, community education), crime deterrence (saturation patrol, field interrogations, stakeouts), criminal investigations, and other areas all coming under the rubric of directed patrol--planned patrol activities based on crime and incident data analysis designed to focus on specific patrol objectives and problem areas.

However, as part of the evaluation design, the three police departments were encouraged not to introduce any formal patrol programs during the course of the experiment in order to avoid the possibility of confounding evaluation results. All three departments complied with this request. At the completion of the DPR test period, Garden Grove initiated a separate experiment to test the utilization of directed patrol. An evaluation of this experiment was conducted and the results are available in a separate report (Connors, et al, forthcoming).

The second objective of the field test program was to maintain or improve citizen satisfaction. Prior to this project, in the three sites, when citizens called the police department, they could generally expect a patrol officer to be dispatched to the incident immediately. Under the DPR program, these expectations would no longer be realized for non-emergency calls. Rather than the immediate dispatch of a patrol unit, a report might be taken over the telephone, the dispatch might be delayed, the citizen might be asked to come to the department to report the incident, or some other alternative might be employed.

Another aim of the field test was to determine the range of types of non-emergency calls which could receive an alternative response. It was recognized that telephone report units were in existence in many police departments and, at the start of this project, both Greensboro and Toledo

were taking some reports in this manner. The topic of interest in the field test was to determine how many more calls could be handled by the telephone report units without adversely affecting citizen satisfaction.

Because of the nature of these potential changes, there was concern that citizen satisfaction with police services might suffer. On the other hand, it was hypothesized that citizen satisfaction might not decrease if the calls were carefully screened and if the alternatives were delivered in an efficient and effective manner. In many police departments, call takers fail to provide sufficient information to citizens on exactly what actions will be taken by the police in response to their calls. A common problem is that citizens are often not informed that their calls will be delayed (even though this observation may have been evident to the call takers), but rather are promised a patrol car immediately.

The second objective was designed to test the changes in the level of satisfaction with the alternative procedures as compared to the immediate dispatch of a patrol unit. More specifically, this second objective included the following subobjectives:

- Provide satisfactory explanations to citizens at call intake on the nature of the police response to their calls;
- Provide satisfactory responses to citizens for resolving their calls for service.

FIELD TEST PROGRAM COMPONENTS

Recognizing the importance of the communications center and the proper screening of citizen calls, the DPR Field Test was divided into two main phases: call classification and differential response. These phases, and the program components, are displayed in Exhibit 2-1.

During the first eight months of the test, the departments were involved in pre-implementation planning and development of new call classification schemes for the communications centers, which also included revising the call intake procedures. Once the new procedures were developed, personnel were trained and the system was pre-tested.

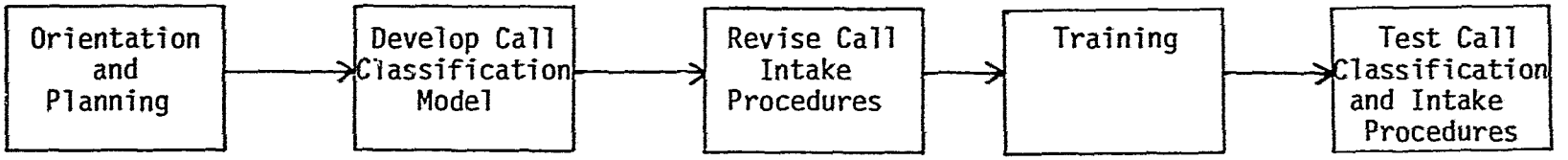
After the call classification phase, and for the next ten months, the differential response system was implemented, and calls were actually handled by non-mobile units and other alternatives. Each of these phases is discussed further in the following subsections.

Call Classification Phase

One of the primary underlying premises of the field test was that a new system was needed to distinguish citizen calls for service by their characteristics or nature in order to respond accordingly with an appropriate, and cost-effective, provision of service. Existing call classification schemes at the three sites, which were based on signal codes and legal

PHASE I

PRE-IMPLEMENTATION: CALL CLASSIFICATION TEST (8 Months)



PHASE II

FULL FIELD IMPLEMENTATION OF DPR SYSTEM (10 Months)

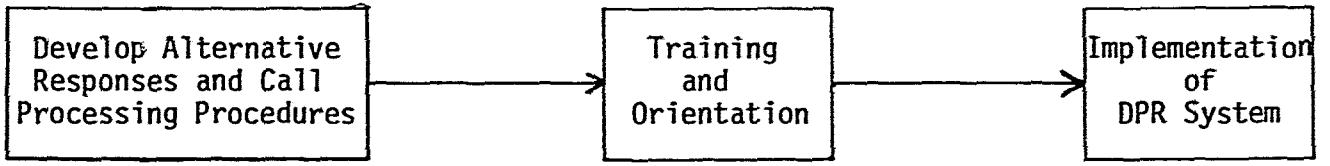


EXHIBIT 2-1

PHASES AND PROGRAM COMPONENTS FOR DIFFERENTIAL POLICE RESPONSE FIELD TEST

offense definitions, did not provide sufficient detail or precision for making fine distinctions among calls for service. For example, a patrol unit might be dispatched to a burglary call regardless of whether the crime was in progress or had occurred several days prior to the call. Under a finer call classification system, a unit would be dispatched immediately in the first instance, while an alternative, such as a telephone report, would be considered in the second instance.

Initial guidance provided in the NIJ Test Design Program document suggested that the new call classification schemes should include, at a minimum, a breakdown of the nature of the incident, and its time of occurrence. Other elements found to be important to these three sites were injury and damage/loss incurred, availability of witnesses, and likelihood of apprehension. Revisions made by the three departments to their call classification systems were based on these characteristics.

The nature of the incident was felt to be important in order to distinguish such factors as whether the incident was life-threatening, whether the call was service-related, whether there was a potential for escalation of damages or consequences, whether the call was being made for insurance purposes only, and other relevant factors.

The time between the occurrence of the incident and when it was actually reported to the police was also felt to be important in determining the appropriate police response. It is well established in the literature that a significant delay in calling the police may negate the value attached to a rapid police response. The NIJ Test Design Program document suggested categorizing calls into time intervals such as in-progress, just occurred (usually meaning that the incident occurred within the last hour), and cold (meaning that the incident occurred more than an hour before the call was made).

Injury and damage factors also played a role in determining the type of response. If there were injuries at the scene or if the amount of damage or loss was extensive, then police presence was almost always required. On the other hand, an alternative procedure was acceptable if there were no injuries or if the loss was minimal. The availability of witnesses and the likelihood of apprehension of the perpetrator were also considered important in determining the most appropriate response to a call.

In addition to the development of new call classification schemes to categorize calls for service along certain dimensions, this part of the project also envisioned the development of new call intake procedures. Each of the participating police departments was expected to take steps to improve the intake and processing of calls to ensure that telecommunicators were adequately trained and prepared to implement the differential response techniques. These steps were as follows:

- Review types of information currently collected by call takers to determine additional information required to classify calls along the new dimensions;
- Develop written guidelines on new call classification procedures;

- Develop a set of standardized questions to facilitate the classification of calls;
- Develop standardized explanations for informing citizens of the appropriate responses; and
- Develop new call intake forms.

Differential Response Phase

The other major phase in the field test was the implementation of the differential response techniques. This involved the matching of citizen needs, as accurately defined in the new call classification schemes, with an appropriate police response.

The NIJ Test Design Program document required that the police departments implement the following differential response alternatives:

- Telephone Report Unit for taking reports over the telephone;
- Procedures for a delayed mobile response (holding calls for 30 to 60 minutes until the beat car is back in service);
- Procedures for referring calls to other agencies; and
- At least one other alternative response technique from the following possibilities: scheduled appointment, walk-in, or mail-in.

Each of these alternative responses was implemented to some degree, and with some individual variation, at the three sites.

Before further discussing the field test activities, it will be helpful to provide the reader with a description and some background information on the three test sites. In addition to the jurisdictional demographics, the following subsections also acquaint the reader with the characteristics of the three police departments and communications centers.

CHARACTERISTICS OF THE CITIES

Demographic Characteristics

As seen in the 1980 U.S. Census data in Exhibit 2-2, the cities of Toledo, Ohio; Garden Grove, California; and Greensboro, North Carolina have diverse physical and demographic characteristics. While they are collectively representative of a large number of cities and police agencies throughout the nation, their differences are of interest in this evaluation to understand what types of alternatives could be implemented in the field

test and to account for some of the differences in citizen satisfaction levels which are presented later in this report.

EXHIBIT 2-2

DEMOGRAPHIC CHARACTERISTICS OF THE CITIES

	Garden Grove	Greensboro	Toledo
Square Miles	17.4	61.2	88.3
Total Population	123,300	155,600	354,600
Population Percentages			
White	78.7%	65.4%	78.7%
Black	.7%	32.9%	17.4%
Other	13.4% (Hispanic) 7.2% (Other)	1.7%	3.9%
Median Age	28.8	28.8	29.6
Percentage of Population More than 50 Years Old	22.3%	24.3%	27.0%
Percentage of Population Born in State	48.9%	70.5%	73.4%
Percentage of Population Living in Different House in 1975	50.8%	47.9%	42.3%
Average Family Earnings	$23,305	$19,970	$21,804

Toledo and Garden Grove have the same percentage of minority population, but differ in that Garden Grove is primarily Spanish and Asian while Toledo has a black minority population. Greensboro has a significantly higher black minority population than the other two sites. Garden Grove residents have the highest average earnings level of the three sites, the lowest percentage of persons born in the state, and the lowest percentage of population greater than fifty years of age. In general, residents in the city of Toledo tend to be older than residents of the other two sites, and have lived in the jurisdiction or state for a longer period of time. (These characteristics were also evident in the sample of citizens surveyed during the evaluation.)

The city of Toledo is a blue collar industrial city in the Northeastern part of the country. With 88 square miles of land and a population of 354,600, it has a population density of 4,030 persons per square mile. The population has decreased 8 percent in the past ten years. Another characteristic of Toledo, true perhaps of many industrial cities, is that it has a significant number of older residents who have lived in the city most of

their lives. As Exhibit 2-3 shows, 73 percent of the Toledo residents responding to the evaluation surveys had lived there more than 20 years, in contrast to 51 percent in Greensboro, and only 14 percent in Garden Grove.

Toledo's economy suffered more than the other two cities during the recent recession in the nation. Unemployment in Toledo, which is heavily dependent on the automobile industry, reached 12 percent during the project. Due to fiscal problems created by general economic conditions, the city was forced to lay off 200 employees, including 30 civilian personnel in the police department.

The Toledo city government, with an annual budget of $78 million, employs 3,600 people, 19 percent of whom work in the police department. The police department's budget of $19 million is about 24 percent of the total city budget. The city operates with a council-manager form of government, as do the cities of Garden Grove and Greensboro.

Garden Grove is the "newest" of the three site cities, incorporated in 1956 with the police department formed in 1957. It is the most developed and densely populated of the three sites, as indicated by the city planner's estimate that the city is 97 percent developed and the population density is 7,300 persons per square mile. The population in Garden Grove has increased 4 percent in the past ten years.

Garden Grove is centrally located in Orange County, which has a population of over 2 million, and is about 12 miles from Los Angeles. Due to the white collar, "high-tech" nature of its economy, the city has had a low unemployment rate of less than 5 percent for the past few years.

The city government, with the advent of Proposition 13, has had a policy of rigid fiscal restraint as reflected by the fact that the police department has not hired any new employees for over three years. During the project period, the police department's 209 employees represented 38 percent of the city's total work force. The city budget for fiscal year 1982 was $32 million and the police department budget of $7.2 million was approximately 22.5 percent of the total city budget.

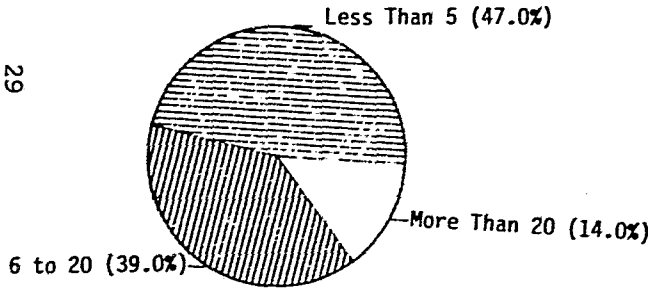
Greensboro, the second largest city in North Carolina, has a population of 155,600 residents. The population has increased 7.7 percent in the past ten years. Through an aggressive annexation program in recent years, Greensboro has increased its land area to 61 square miles, giving a population density of 2,556 persons per square mile, the lowest of the three cities. While reflecting a large professional work force, the city maintains a noticeable rural and agricultural atmosphere. In contrast to Garden Grove, which has 3.2 persons per housing unit, Greensboro has only 2.5 persons per housing unit.

While Greensboro's economy was not affected significantly by the recent recession, the city has had an objective of keeping the tax rate low and, as a result, has not increased its work force in the past five years. The police department has not increased its sworn personnel allotment in eleven years. The city, with a budget of $67 million, employs a work force of 1,929 persons, 23 percent of whom work in the police department. The police department has a budget of $11.4 million, or 17 percent of the total city budget.

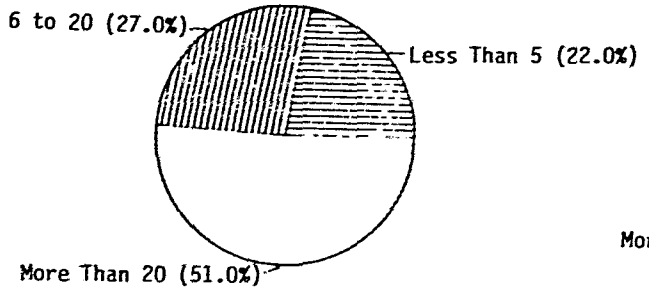
EXHIBIT 2-3

YEARS LIVING IN JURISDICTION OF SURVEY RESPONDENTS

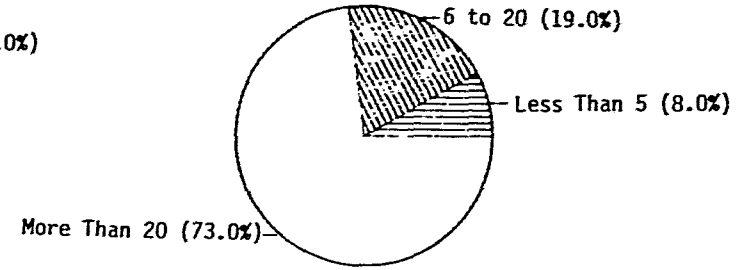
Garden Grove



Greensboro



Toledo



In summary, there are considerable demographic differences among the three cities for the DPR Field Test. The impact of these differences with regard to acceptance of alternatives by residents will be seen in the remainder of this evaluation report.

Police Department Characteristics

Exhibit 2-4 shows the personnel staffing at the three police departments at the start of the project. As mentioned, none of the departments had increased staffing in several years. In fact, at the beginning of the field test, sworn personnel in Toledo were 13 percent below authorized strength and two-thirds of the civilian staff had been laid off.

EXHIBIT 2-4

POLICE DEPARTMENT STAFFING OF FIELD TEST SITES

Personnel	Garden Grove	Greensboro	Toledo
Sworn	156	367	634
Civilian	53	75	45
Total	209	442	679

With regard to the ratio of officers to citizens, Garden Grove, with the fewest sworn personnel, had one officer for every 814 residents, while Toledo, with the greatest contingent of sworn personnel, had one officer for every 559 residents. Greensboro had a ratio of one officer for every 423 residents. In terms of crime rate, the three sites were very close, with Garden Grove having a rate of about 83 Part I offenses committed per 1,000 population, Greensboro with a rate of about 81 offenses, and Toledo with a rate of about 87 offenses.

The Garden Grove Police Department differed from the other two sites in that the patrol personnel were deployed according to a team policing model. All field services were essentially self-contained in the three teams which geographically subdivided the city.

The police personnel in the three sites also had somewhat different characteristics. In Toledo and Greensboro, personnel tended to be older and more tenured. It was not unusual to meet patrol officers having ten or twelve years with the department. By way of contrast, in Garden Grove many officers had been with the department for less than five years, as reflected by the department's turnover rate of more than 40 percent, a figure consistent with other police departments in Southern California due to the favorable job market for experienced officers.

The communications centers represented very interesting contrasts for the field test. The Toledo communications center, which was located across the street from the main police headquarters in the Support Services Bureau, was staffed entirely by sworn personnel. In line with the terms of the union contract, all dispatch positions were reserved for sergeants and all call taker positions were staffed by patrol officers. In terms of supervisory staff, the Toledo communications center also included one captain, three lieutenants, and a sergeant.

In contrast, both the Greensboro and Garden Grove communications centers were staffed entirely by civilians. Also of significance in Greensboro, the communications center, although located in the basement of the police building, was an entirely separate department from the police department. The director of the Communications Department reported directly to the Public Safety Director, as did the Chief of Police. After the field test was completed, however, the Greensboro government reorganized and the communications center was placed under the police department.

In Garden Grove, the communications center, staffed by civilians, was part of the Technical Services Division of the police department. The communications center, which was located on the main floor of the police building, was also staffed by "Watch Commanders." These were patrol sergeants who, on a rotating basis, remained in the communications center to serve as the field commander for the watch. The sergeants also served as field supervisors for the communications center personnel.

Exhibit 2-5 shows the staffing of a typical shift and the total number of personnel in the communications centers of the three sites.

EXHIBIT 2-5

COMMUNICATIONS CENTER STAFFING OF FIELD TEST SITES

Field Test Site	Staffing of Typical Shift			Total Staffing	1980 CFS Dispatched To Field
	Supervisor	Call Takers	Dispatchers		
Garden Grove	1	2	1-2	13	43,726
Greensboro	1	2	3	33	140,100
Toledo	1	4-5	2-3	44	319,125

The workload of calls for service dispatched to the field was also divergent, as noted in the above figure. Toledo had over twice the volume of calls dispatched as Greensboro, and over seven times as many as Garden Grove. Moreover, the calls for service increased five to ten percent in all three sites from 1979 to 1980. The ratio of calls per field officer per year also differed considerably across the three sites in 1980. Using the staffing figures from Exhibit 2-4, Garden Grove had a ratio of 280

calls per officer, Greensboro had 382 calls per officer, and Toledo had 503 calls per officer.

Technological differences were also evident at the sites. Toledo operated a manual call for service processing system. Calls were recorded on color-coded dispatch cards by the call takers and moved on a conveyor belt to the dispatchers. These dispatch cards were eventually batched and sent to data processing, where every third day's cards were entered into the computer for analysis. At the beginning of the project, due to layoffs, no dispatch data was being entered or analyzed. However, midway through the project, the police department acquired the necessary hardware and software to upgrade the entry and analysis of the dispatch data. This improvement is described in more detail in Chapter 7 of this report.

The Greensboro and Garden Grove sites had the benefit of computer-aided dispatch (CAD) systems. In both systems, the call for service information was immediately entered on the computer terminal by the call taker and, at the appropriate time, transmitted to the terminal screen of the dispatcher for dispatching to the field.

With regard to procedures, while each of the three sites displayed some use of alternatives to handle calls for service other than just dispatching the calls to patrol officers in the field, none of the three had ever systematically analyzed the call for service systems or considered developing new call classification schemes. Each of the departments classified the calls in traditional signal codes which reflected legal or statutory categories.

Each of the three departments used some type of priority system to distinguish calls for service in terms of emergencies and non-emergencies. In general, prior to the project, all calls were dispatched immediately with the exception that non-emergency calls were delayed if all units in the area were busy. However, none of the departments had a formal policy on when or how calls were delayed, a void that was filled as a result of the DPR project.

Additionally, prior to the start of the DPR project, Greensboro and Toledo were handling some calls for service on a limited basis over the telephone. These telephone report units generally processed only minor property offense reports such as petit larceny. It was estimated that these units were handling five to seven percent of the calls for service in these two departments. During the project, the volume of calls for the telephone report units was greatly increased and the different types of calls handled was expanded.

Garden Grove had never taken any incident reports over the telephone. However, an alternative used by the department was the taking of walk-in reports at headquarters by cadets.

In summary, these three police departments had factors in common which pointed to a need for the DPR project. First, each of the departments was going through fiscal stress. No hiring had been allowed in Garden Grove and Greensboro, and Toledo had to lay off a sizable number of personnel and was well below authorized strength at the time of the project.

Second, the demands for service were increasing. Calls for information and calls for service into the communications centers were at record levels.

Third, these departments, as with most others in the nation, had never carefully and systematically looked at the whole call for service process: classification, processing, and handling.

Finally, as with most police departments, the staffing of the communications centers was considered a low priority. There was little thought and attention given to selection and training of personnel in the communications centers. Communications was generally considered a pass through operation for getting calls for service to the patrol units.

SITE SELECTION

Selection Process

The three police departments selected by NIJ to participate as sites for the field test had to meet certain criteria established by NIJ and documented in the Test Design Program document. The main criteria were as follows:

- City population of 100,000 to 500,000;
- No organizational, political, or legal obligations that would impede implementation (for example, opposition from the police union, contractual constraints);
- Police departments must not be in the process of implementing any other programs which might interfere with the evaluation of the field test;
- Established commitment from key officials in the city showing support for the police chief's interest in the project;
- Police departments must commit and assign sufficient and qualified personnel to staff the project components;
- Police departments must have sufficient data available for evaluation purposes;
- Police departments must agree to participate and cooperate in a joint planning process with the other sites and to obtain consensus and uniformity on the project components; and
- Police departments must agree to cooperate in the evaluation of the field test.

In addition, NIJ found it preferable, if possible, to have some geographic representation among the three sites, such as East, Midwest or South, and West.

More than 20 police departments submitted letters of interest to NIJ. Of this number, eight passed initial screening and were reviewed more carefully by NIJ consultants who made two to three-day on-site assessments. During these on-site assessments, the consultants attempted to collect and review critical data on workload indicators, performance measures, and pertinent procedures in the communications area. The consultants also attempted to personally meet and interview key personnel such as the mayor or city manager, police chief, patrol commander, communications center commander, prospective project director and staff, and others. At the culmination of their on-site visits, the consultants submitted written reports to NIJ with findings and recommendations.

Thus, after several weeks of review, based on the above criteria and the on-site assessments of the consultants, Garden Grove, California; Greensboro, North Carolina; and Toledo, Ohio were selected to participate as sites in the field test.

Site Objectives

The three police departments involved in the field test had similar reasons for wanting to serve as test sites. First, as stated earlier, each of the departments had been operating under fiscal restraint while calls for service had increased annually. In short, all three departments were looking for ways to do more with less: to answer more calls for service with cheaper, alternative resources.

Second, each department wanted to free up more time for patrol units rather than overload patrol with the calls for service response activities. Garden Grove and Greensboro both suggested in their initial grant applications that they wanted to relieve patrol unit workload in order to participate more in proactive patrol assignments. This approach agreed with Garden Grove's team policing concept. Toledo's grant application indicated an objective to reduce the patrol call for service and report writing burden in order to be better able to "rapidly respond to the increasing number of critical or emergency calls for service."

As a third reason for seeking participation as a field test site, all three police departments had experimented on a limited basis with some alternative responses in the past. As described previously, each of the departments practiced some form of prioritizing the response assignment to calls for service. Garden Grove had been using mail-in reports for larcenies at two self-service gas stations in the city. Greensboro and Toledo had limited procedures for taking incident reports over the telephone. As Greensboro stated in its grant application:

> The Greensboro Police Department has some basic experience in differential response through the Telephone Response Unit. This move away from mobile response to every complaint represented a significant break from the traditional police service delivery method in this jurisdiction. The Differential Police Response to Calls for Service Program offers a very unique opportunity to expand this initial thrust in a controlled experimental environment with extensive evaluation activity.

These limited pilot programs had been successful for the most part, and the departments were ready to expand the differential response concept. The opportunity to expand with the guidance, assistance, and support of NIJ was most welcome. Each of these departments had been heading in the direction of this field test for several years, and the opportunity to participate matched existing policy and direction.

Finally, in each of the grant applications, the three departments presented objectives which matched the objectives of the field test. Rather than separately list each of the project objectives of the individual sites, Exhibit 2-6 shows a composite picture of the program objectives for all three sites.

Grant Administration

The grant periods were anticipated to be 20 months for each site with the first eight months devoted to the overall planning, development and testing of the call classification system including revised intake procedures, the second ten months for the test of the full field implementation of the call classification system and the use of the alternative responses, and the final two months for report writing. The official grant periods of the three sites began on August 1, 1981. The grant funds for the three sites were as follows: Garden Grove--$165,938; Greensboro--$182,000; and Toledo--$157,912.

As seen in Exhibit 2-7, the staffing of the projects varied across the three sites. In Garden Grove, a captain in charge of the Administrative Division, which contained the Communications Section, was the project director. He was assisted by a sergeant who was formerly a detective and a patrol officer. Greensboro created a special unit to administer the project, headed on a full-time basis by a lieutenant who previously had been assigned to field operations for several years and had also been project director for several internal research activities. He was assisted by a senior telecommunicator from the Communications Division and a patrol officer with five years experience in the field. The Toledo project was directed by the captain in charge of the Planning and Research Division, assisted by a sergeant in the division and a sergeant assigned to the Communications Division as an administrative assistant. The chiefs of all three departments were also very supportive of the projects and spent time reviewing the work of the staffs and attending all the working conferences held during the project.

It was necessary for the grant periods of all three sites to be extended in order for the sites to complete their grant requirements for hosting technology transfer conferences. For these conferences, police departments from neighboring localities and states were invited to listen to presentations by representatives of the three sites and the evaluation team on the results of the DPR project. The conferences were well attended with over 75 persons at the Greensboro and Toledo conferences and over 50 persons at the Garden Grove conference. The participation at the Garden Grove conference was restricted, since the conference was jointly funded by NIJ and the State Police Officers Standards and Training Commission.

EXHIBIT 2-6
OBJECTIVES FOR DIFFERENTIAL POLICE RESPONSE PROJECT

Overall Program Objectives

1. Increase the amount of uncommitted time of call-for-service units by diverting calls through differential responses.

2. Maintain or increase the satisfaction of the response to calls for service as measured by citizen reaction.

3. Maintain or decrease the average cost for handling calls for service.

Call Classification Objectives

Uniform Classification

1. Implement a uniform call classification system across all three sites.

2. Implement a training program in each site on the new call classification system.

Information Gathering

3. Correctly identify critical versus non-critical calls.

4. Increase the amount of information obtained by the complaint takers on calls for service.

5. Increase patrol officer satisfaction on call information.

Correct Response

6. Correctly determine the most appropriate alternative response to experimental non-critical calls for service.

7. Minimize over- and under-response to non-critical calls.

Caller Acceptance

8. Have the caller accept the alternative response for non-critical calls.

Test Design Objectives

1. Correctly implement procedures for experimental versus control non-critical calls for service.

2. Process the non-critical calls correctly as specified by the experimental and control conditions.

Differential Response Objectives

Implementation

1. Implement (or expand) a unit for taking reports over the phone.

2. Implement procedures with other agencies in the city for handling calls for service.

3. Implement a delayed mobile response procedure.

4. Implement at least one other alternative demand response from the following possibilities:

   - Scheduled Appointment
   - Walk-In
   - Mail-In
   - No Response

Alternative Response

5. Of the calls which would previously have received an immediate mobile response,

   - Divert XX percent to the Telephone Report Unit;
   - Divert XX percent to another city agency; and
   - Divert XX percent to other differential response.

6. Reduce the rate of non-critical calls handled by immediate mobile response by XX percent.

Unit Utilization

7. Decrease unit utilization of calls for service. That is, reduce the fraction of time a patrol unit is committed to responding to calls for service during its tour.

8. Decrease the average travel time to critical calls.

9. Increase the frequency of long periods of uncommitted time during a unit's tour of duty.

EXHIBIT 2-7

STAFFING OF DPR PROJECT

Site	Staffing	Percent of Time on Project	Assignment of Project Within Police Department
Garden Grove	Captain, Project Director	75 %	Administrative Division (which contained the Communications Section)
	Sergeant, Management Analyst	100	
	Police Officer, Staff Assistant	25	
Greensboro	Lieutenant, Project Director	100	Created Special Project Office reporting to the Chief of Police
	Senior Telecommunicator, Management Analyst	100	
	Police Officer, Staff Assistant	100	
Toledo	Captain, Project Director	40	Planning and Research Division
	Sergeant, Management Analyst	60	
	Sergeant, Staff Assistant	40	

Planning Efforts

The planning which went into the project can be viewed from two perspectives. First, there was a great deal of time devoted to the overall planning for the entire project, particularly during the early stages, but continuing throughout the project. Second, specific planning efforts were made during the initial development and implementation of each component, especially the new call classification systems. The sites were provided assistance in planning from several sources including NIJ; University Research Corporation (URC), the technical assistance contractor for the NIJ field tests; and Research Management Associates staff.

Impetus for many of the eventual ideas and designs generated in the planning phase came from cluster conferences attended by key members from the staffs of the three sites, URC, and the RMA evaluation team. These conferences, hosted by URC, generally involved technical assistance, group discussions, and feedback and suggestions from the evaluator. In total, there were eight cluster conferences, each lasting about two or three days. However, the first three were the most critical for the planning stages for the project.

At the end of each conference, the sites decided on tasks which needed to be performed in preparation for the next conference. A summary of the assignments made and the topics discussed at these cluster conferences is as follows:

- Results of profiles of calls for service at the sites. These profiles generally showed that a large number of calls were being placed into "investigate" or "miscellaneous" categories which were not useful for analysis purposes.

- Results of surveys of patrol officers, which were aimed at determining (1) the type of information which officers felt were important to obtain from complainants, and (2) the types of calls for service which officers felt could be handled by alternatives other than an immediate mobile response.

- Development of several prototypes of new call classification systems. While the final systems differed across the three sites, a general consensus was reached on the structure and categories of the call classification systems.

- Discussion of implementation issues, including the natural resistance to change in police departments, the controls and requirements imposed by the evaluation design, the anticipated media reaction to the project, and the impact of more free time on patrol officers.

In summary, the cluster conferences proved to be a beneficial technique for coordinating the project and developing the changes which were eventually implemented at the sites. The conferences were particularly useful in the development of the new call classification systems which are discussed in the next chapter.

BACKGROUND TO DPR

Historically, police departments have answered citizen calls for service by dispatching a mobile field unit, and often a backup unit, to the location of the caller as soon as possible after the call was received. For years, police have viewed one of their primary responsibilities as responding rapidly to citizen calls. This activity has always provided the police with a measurable performance statistic to use in budget preparation.

A comparison between traditional dispatching, dispatching based on a prioritization scheme (often implemented with the advent of computer-assisted dispatch systems), and the DPR model, as reflected in Exhibit 2-8 (which shows the hypothetical processing of 1000 calls for service), shows that by using alternative means to respond to calls for service, the police can significantly reduce the number of calls to which mobile field units respond.

Myth of the Need for Rapid Response

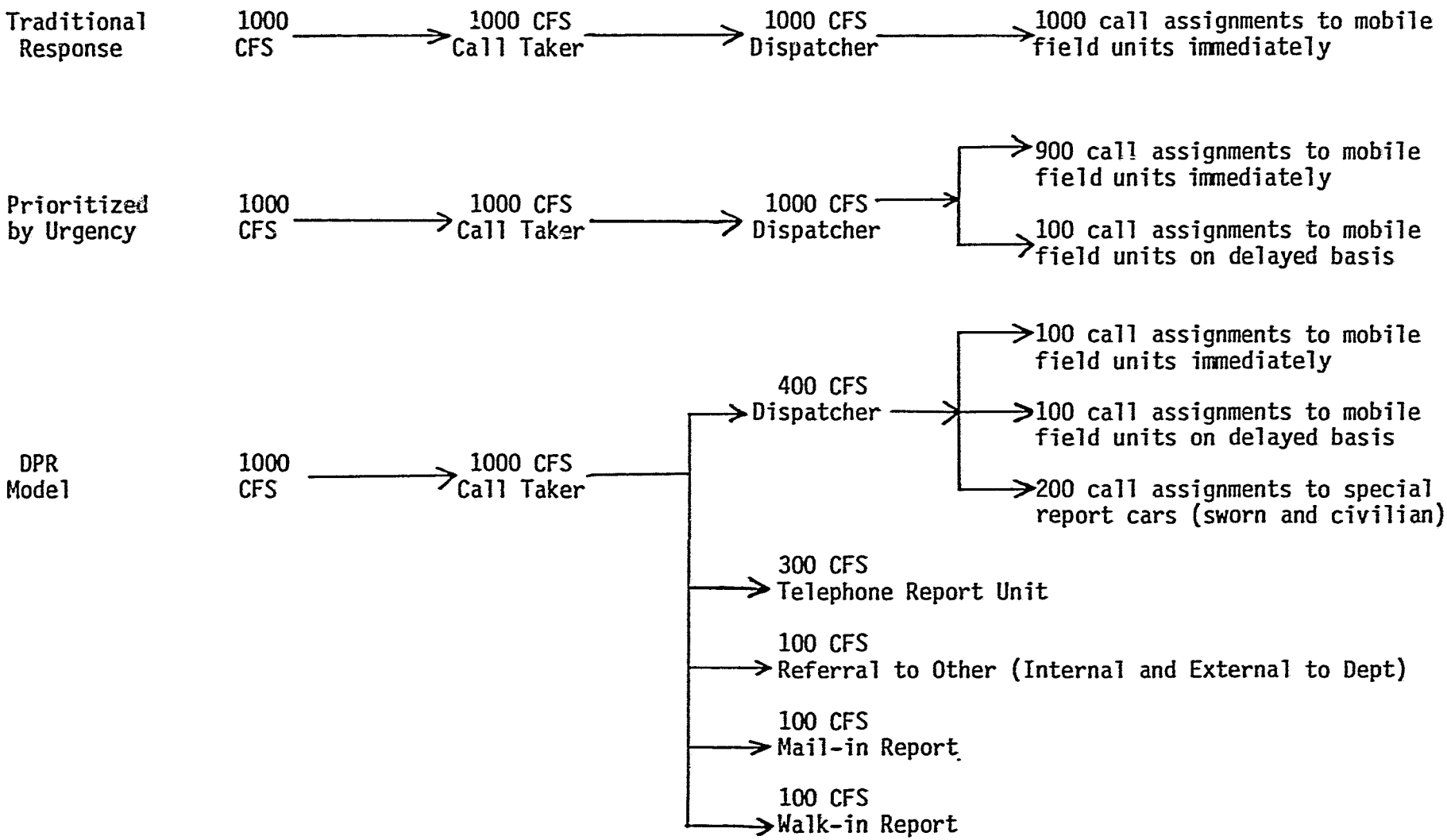
A great deal of importance in police work has traditionally been placed on the ability of a police department to respond rapidly to calls for service with a patrol unit. In attempts to improve upon the response time, departments have implemented costly 911 systems, computer-aided dispatch systems, and vehicle locator systems, and have placed an emphasis on field officers taking reports quickly in order to return to available service. Furthermore, there has been widespread belief among law enforcement officials that citizen satisfaction would be jeopardized if police response time were lengthened and if calls were handled other than by mobile response. In fact, many heads of police agencies feel that public and political pressure dictate all calls must be handled by rapid in-person police mobile response. They are, therefore, reluctant to consider implementing alternatives to traditional mobile response in their departments. This resistance to implementing DPR-type programs is an important factor to consider in exploring the barriers to DPR implementation.

Recent research, however, favors the implementation of alternatives to rapid mobile response. Spelman and Brown (1981) studied over 4,000 victims, witnesses, and bystanders in over 3,300 serious crimes in Jacksonville, Florida; Peoria, Illinois; Rochester, New York; and San Diego, California. They found that police response time had no effect on the chances of on-scene arrest in 70 to 85 percent of Part I crimes because the crimes were discovered after they occurred. They drew a distinction between "discovery" crimes--those that are not noticed until after they have occurred, and "involvement" crimes--those that are reported in-progress. Only 25 percent of crimes are involvement crimes, and only in these crimes does response time make a difference.

Spelman and Brown found that arrests that could be attributed to fast police response were made in 2.9 percent of reported serious crimes, and that innovative programs would increase this figure only to about 5 to 6 percent. Similarly, research by the Police Executive Research Forum (Caron, 1980) questions the effectiveness of rapid response in making on-scene arrests. The study, as a follow-up to the 1977 Kansas City Response

EXHIBIT 2-8

METHODS OF HANDLING POLICE CALLS FOR SERVICE



Time Study, found that rapid response led to an on-scene arrest in less than 3 percent of the serious cases sampled. As David Couper (1983), Chief of the Madison, Wisconsin Police Department, points out in a recent book:

> Sending a police car immediately to all calls for police service is not only unnecessary, but also a tremendous drain on police resources. A carefully developed range of responses based on the seriousness of the calls, when the incident occurred, and the needs of the caller would provide the most effective police service.

Furthermore, placing a high priority on rapid response to calls for service creates tradeoff problems in other areas. For example, dispatchers not wishing to stack calls during busy periods will often resort to dispatching units from adjacent beats or districts to answer calls in an unfamiliar area, or may interrupt officers from other calls or activities to handle the call.

The most important factor in response time does not involve the police, according to Spelman and Brown, but citizen delay in reporting the crime. Many problems are associated with reporting crimes. People must recognize a crime when they see one. They must take responsibility for action and see some benefit in becoming involved and calling the police. They must also be able physically to get to a phone and get through to the police. The authors highly recommended that emphasis be placed on motivating citizens to call quickly, and that call screening and prioritizing take place in the communications center to maximize use of fast response when it can make a difference.

Farmer (1981) surveyed 175 police agencies to determine call for service response practices and found no evidence that rapid mobile response had any impact on gathering evidence. He stressed that it did not lead to increased arrests, since over 85 percent of the calls were of a non-critical nature. Many types of calls involved no witnesses, only a small percentage involved actual crime, and police were seldom able to arrest a suspect.

A brief review of those studies that have examined the proportion of calls to report crimes of a serious nature lends further substantiation for the selective use of rapid response. Meyer (1976) found that 17 percent of the calls to the New York City Police Department related to crimes. Several other researchers (Bercal, 1970; Maxfield, 1979; Reiss, 1971) also found that less than 20 percent of all calls to large metropolitan police departments were related to crime or criminal matters. More recently, Antunes and Scott (1981) studied 26,417 calls from Rochester, New York; St. Louis, Missouri; and Tampa-St. Petersburg, Florida, and found that, consistent with these earlier findings, less than 20 percent were calls about criminal incidents. Nevertheless, 47 percent of the callers in Scott's sample were promised that a unit would respond to their calls.

Citizen Satisfaction and Rapid Response

In addition to the lack of evidence supporting increased arrests due to rapid response, the fear that citizen dissatisfaction will increase when

response time is lengthened has never been empirically demonstrated. Some of the earliest data on citizen satisfaction and response time were the Kansas City Response Time Studies. Pate et al. (1976) utilized data from four surveys from the Kansas City Preventive Patrol Experiment to determine not only the factors involved in police response, but the difference in citizen satisfaction between expected and observed response times. The variables found most likely to affect response time directly were the distance to be traveled, the amount of time elapsing before an officer answers a call, and the driving speed.

Regarding satisfaction, the majority of citizens in all four surveys were satisfied with the police response time. Satisfaction ranged from 54 percent to 71 percent. Most importantly, this study showed that the difference between expected and observed response time was the best predictor of citizen satisfaction with response time. Pate concluded: "Public assurances of rapid response may inadvertently result in citizen dissatisfaction when response time exceeds that which citizens have been led to expect."

The important distinction between expectations of police arrival time and actual arrival time as the determining factor in citizen satisfaction was supported in Percy's study (1980) of 12,000 people in Rochester, Tampa, and St. Louis. While 76 percent of those who had recent contact with police were satisfied with what the police did, he found that the best predictors of citizen satisfaction were the variables which compared expected and reported response times. He recommended that it was best to tell citizens when to expect an officer to arrive so that citizens had reasonable expectations and, therefore, would not be dissatisfied.

Several other studies, most notably Tien's et al.'s (1977) evaluation of the Wilmington Split Force Experiment, came to a similar conclusion that citizen satisfaction was a function of expectation. Those expectations, however, are in the hands of the communications personnel, most often the call takers, who generally do not inform citizens. In only one percent of the cases in the Antunes and Scott study where a unit had been promised were citizens told how long to expect to wait before the police would arrive. The responsibility of informing citizens and shaping their expectations falls to the call taker, whose role is integral to the implementation of any innovative police response alternative.

Call Classification and Patrol Management

Several different call classification systems have been suggested and used to some extent over the past decade. Most have attached priorities to certain types of calls and designated certain units or officers to handle these calls. Gay et al. (1977) suggested three categories in which calls for service could be divided: type A calls for crimes in progress, emergencies, and disturbances calls; type B calls for significant crimes, but those for which immediate police response was not necessarily warranted; and type C calls for auto thefts, information requests, and minor incidents which could be handled by telephone. Larson (1972) suggested three priority levels using similar categories. Other researchers have divided calls for service into categories by which the calls could be studied, but Farmer (1981) points out that these have generally involved divisions such

as criminal/non-criminal, and are not suitable for call intake on the part of communications personnel.

Gay estimated that as many as 40 percent of all calls could be handled without in-person response. Scott, as mentioned earlier, also found that 50 percent of all calls for service were either information calls or referrals that were handled completely by the call taker. Furthermore, research has consistently shown that less than 20 percent of all calls for service are for criminal matters. Thus, the purpose of any call classification system would be to gather information necessary to choose the most appropriate police response.

Most importantly, an early call classification model proposed by Farmer (1981) served as an example and starting point for the three police departments involved in the DPR field test. Briefly, the model had three components: a set of eight call classifications ranging from major personal injury crimes to minor incidents; time categories designated as in-progress, proximate, and cold; and a series of possible responses.

A number of studies have implemented call priority systems and alternative responses, either as part of another project involving managing the demand for calls for service, improving the efficiency of police services, or related research. The Wilmington, Delaware Split-Force Experiment had two focuses: first, the development of two patrol forces (structured and basic); and second, a prioritization scheme for classifying calls for service. The prioritization scheme used was in-progress (immediate response), basic patrol-critical, and basic patrol. Within each priority, calls were dispatched first-come, first-served. Callers were advised when calls were delayed and told the amount of time the response would take. Tien (1977) found that formally delaying non-critical calls by 30 minutes did not decrease citizen satisfaction; that 86 percent of all calls were non-critical; and that a more efficient and effective allocation of resources was possible. However, the authors reported that complaint takers and dispatchers were often confused about the priority designations, and that the formalized delay procedure was underused.

In a follow-up study, the Wilmington Management of Demand Program further refined reactive responses and utilized formalized delayed mobile responses, such as appointments by field units; and non-mobile responses, such as referrals, telephone reporting, and walk-in reporting. Cahn and Tien (1980) found that the alternative responses handled 23 percent of all calls for service, and productivity increased by 16 percent. Telephone reporting alone accounted for 11 percent of all calls. However, they noted underutilization of alternative response strategies and a reluctance by call takers to carry out some of the alternative functions. They found that delayed or diverted calls could have been doubled. The authors recommended that more precise program guidelines be developed to assist the complaint takers in matching calls with responses; that training of call takers be increased and improved; and that walk-in complainants be handled by a complaint service unit.

Telephone report units (Teleserve Units) were one of the more replicated ideas from the Integrated Criminal Apprehension Program (Grassie, 1978). At least 20 of the participating police departments established such units to relieve workload from patrol. A sample of some of the

program evaluations showed that teleserve units in police departments in Fairfax County, Virginia; Springfield, Missouri; Nashville, Tennessee; and Virginia Beach, Virginia prepared from 10 to 23 percent of all department field incident reports. These departments also reported that it took less time to take a report over the phone than it did to provide a mobile response.

More recently, the Managing Patrol Operations Field Test showed effective use of telephone report units at the test sites of Albuquerque, New Mexico; Charlotte, North Carolina; and Sacramento, California. The telephone report units in these three departments handled between 30 and 40 percent of the total crime reports (McEwen, 1982). In Albuquerque, a three-priority system was implemented: priority 1 for emergency calls; priority 2 for immediate response, within 10 minutes; and priority 3 for routine calls. McEwen found that routine calls could be delayed for an hour or more without adversely affecting patrol operations. Problems were noted with call takers being reluctant to follow exact guidelines and overclassifying calls. Though additional training was planned at the end of the grant period, McEwen concluded that telephone reporting units were a viable alternative for handling calls, and that other response strategies, such as community service officers and mail-in reporting, should be considered.

One additional study which examined use of alternative responses and prioritization of calls was conducted by the Kansas City, Missouri Police Department (1980). As part of its Directed Patrol Project, call takers screened calls into three priorities: immediate, delayed (up to 40 minutes), and call diversion for non-urgent calls. The Kansas City Police Department reported that walk-in and telephone reports handled 26.8 percent of all reports, and that 10.2 percent of the calls were delayed. They concluded, as did the other studies, that more calls could have been handled with the alternative strategies, and that call takers need continuing and increased training to maximize the use of the alternative responses.

Recently, the Champaign, Illinois Police Department presented findings on a mail-in reporting program implemented due to budget cutbacks. The call takers were trained to classify calls and select those eligible for a mail-in report. Dye and Auten (1983) found that 55.2 percent of the reports were returned, saving the department 6.4 hours per day. Problems were noted with the call takers' ability to categorize appropriate calls for this service, and with handling the 44.8 percent of reports that were not returned.

While some of these studies ascertained citizen satisfaction with the alternative services, several studies have also included an examination of the degree to which citizens would be receptive to their calls being handled by one of several other alternative responses. Cahn and Tien (1981) reported that Wilmington residents continued to be satisfied with police service irrespective of the police response they received. Those receiving traditional response strategies were no more satisfied than those receiving alternative response strategies. When asked whether they would be willing to accept a less costly response than the one they had received, 49 percent agreed.

As part of the differential police response strategies in Birmingham, Alabama and San Jose, California, Farmer surveyed citizens to determine their receptivity to alternative response. He reported that nearly three-quarters in both cities said it would be acceptable to have a civilian employee respond; 69 percent in Birmingham and 62 percent in San Jose were receptive to having a police specialist respond within 30 minutes; just over half in each city found it acceptable to have police respond within 30 minutes; and one-third in Birmingham and 21 percent in San Jose were amenable to coming to headquarters to report the complaint.

Presently, the utilization of differential police response and call classification and prioritization procedures is more widespread than generally thought. Findings from Fennessy's (1983) national survey of 153 police departments showed that 69 percent have a formal written policy for screening calls, 71 percent have a formal written policy for prioritizing calls, and 67.5 percent have telephone response units. A comparable survey by the Police Executive Research Forum several years earlier found that 61 percent of the 175 departments responding took some incident reports by telephone; 30 percent sent special units to answer some calls; 25 percent set appointments; and 71 percent stacked calls (Farmer, 1981). However, as Farmer succinctly noted, "No single responding police agency has considered and implemented a rational plan of matching the full range of response alternatives to various types of citizen calls" (p.28).

The findings that approximately two-thirds of police departments may have telephone reporting units or take some reports by telephone does not indicate to what extent this strategy is used, nor does it indicate use of a comprehensive plan for all calls for service. The problems encountered in the studies cited above, in which call classification systems and alternative police responses were tested, repeatedly showed that call takers were not fully implementing the call classification systems, that citizens were not always being informed of time delays, and that responses were underused. Without an adequate test of a uniform differential response model, the optimal use of alternative response techniques remained undemonstrated. The Differential Police Response Field Test was designed to provide this information by measuring in a controlled setting the effectiveness of a uniform call classification and prioritization scheme and alternative response strategies as mechanisms for managing calls for service.

How DPR Project Differs from Previous Research

The DPR field test was able to build on prior research studies in several ways. There was a recognition, for example, that the field test required substantial changes in communications center operations in order to process calls in a more efficient manner with the aim of selecting the best possible alternative for each call for service based on the call characteristics. The initial effort in the project was devoted to the development of a generic call classification system which the departments were able to adapt to local needs.

The three participating sites also wanted to test as many alternatives as possible for handling non-emergency calls for service. These alternatives included (1) taking reports over the telephone, (2) delaying the

dispatch of a patrol unit, (3) arranging appointments, (4) sending civilian personnel to handle calls, (5) asking citizens to come to the department to report their problems, (6) using mail-in forms to report incidents, and (7) eliminating services. While not all successful, the comprehensiveness of the range of alternatives enhanced the utility of the field test.

In addition to testing a variety of alternatives, there was also interest in determining the maximum number of non-emergency calls which could be diverted. While many previous projects had successfully diverted significant volumes of calls to alternatives, no attempts had been made to determine the extent to which each alternative could be used. In the DPR field test, the sites diverted a wider range of call types, such as taking burglary calls over the telephone, and also attempted to divert as many calls as possible to alternatives.

Citizen satisfaction was also a major concern in the DPR field test. The primary interests centered on the satisfaction of citizens who had received an immediate mobile response compared to citizens who had received alternatives. The randomization procedures established at each site ensured that such comparisons were possible for the same types of non-emergency calls during the same period. Further, because of the phased approach to the project, baseline information on citizen satisfaction was also developed. In summary, the evaluation results include "before/during" comparisons and "test/control" comparisons.

CHAPTER 3

CALL CLASSIFICATION AND CALL INTAKE PROCEDURES

CALL CLASSIFICATION

Development of Call Classification Systems

The most conceptually difficult aspect of the DPR Field Test was the development of the call classification model. It involved a significant break with past philosophy and practice in processing calls for service. Prior to the project, these departments operated with traditional "10-code" classification systems in their communications centers. These systems basically only provided information on the criminal code designation of the type of call. Since most calls received an immediate mobile response, these systems were adequate because little information was needed to dispatch to the field. Additional information, such as the time of occurrence and the extent of injuries, served only as remarks about the incident and were not recorded in a consistent manner.

Classifying an incident only in terms of a legal/criminal code provides insufficient information for response decisions. For example, classifying a call as a "larceny" omits information such as when it occurred, the value of the property taken, the likelihood of a suspect being quickly apprehended, or the availability of witnesses. Such information is critical to determine an appropriate response such as sending a patrol unit as quickly as possible, delaying a dispatch for some period of time, sending a civilian unit, taking the report over the phone, or some other alternative. Under the DPR project, this information would become part of the decisionmaking process to determine the most appropriate response.

At the beginning of the project, each of the departments had little more than a basic understanding of the concept of redesigning and improving the call classification systems. Thus, the early cluster conferences were almost entirely devoted to the planning process of designing and developing a new system along with revised call intake procedures. As seen later in this report, developing the new response alternatives was a more straightforward procedure.

The development of the call classification systems was influenced by the previous work of the Police Executive Research Forum (PERF) in its joint study with the Birmingham, Alabama Police Department on this subject. The final report from PERF presented a basic call classification system which combined the type of call with time of occurrence information, then related possible combinations to response alternatives. With this report as background material, the three DPR sites felt that any new call classification system should also include a mixture of type of call and event descriptors.

The basic tenets used by the sites in developing the call classification systems were as follows:

- The type of incident must be defined as specifically and narrowly as possible; and
- The descriptive characteristics of the call must be determined.

During one of the early cluster conferences, the sites agreed on the two basic principles listed above. They also agreed to adopt a working model presented by the technical assistance contractor, which used the call categories and descriptors shown in Exhibit 3-1. Some of the ideas used by the technical assistance consultant in developing this model were taken from previous research studies including a key study by Indiana University in 1977.

EXHIBIT 3-1

CALL CATEGORIES AND DESCRIPTORS

Call Categories	Call Descriptors
Violent Crimes	Injury Type
Interpersonal Conflicts	Time of Occurrence
Medical	Likelihood of Apprehension
Non-Violent Crimes	Purpose of Call
Traffic Problems	Availability of Witnesses
Public Nuisance	Potential for Commission of a Crime
Suspicious Circumstances	Non-Crime Hazards
Dependent Person	Scene Characteristics
Public Morals	
Assistance	
Information	

Each of the sites felt that "time of occurrence" was the most important call descriptor in determining what action should be taken by the police. As stated earlier, this time element encompasses the length of the time interval between when the event occurred and when the caller contacted the police. Previous research has shown that the longer the time interval, the less likely that an immediate patrol response will produce worthwhile results, particularly in terms of arrest potential. The departments in the field test agreed that three levels of time were important: in-progress, proximate or just occurred, and cold. In-progress meant that the event was on-going at the time of the call to the communications center. Proximate or just occurred meant that the elapsed time might be from 10 minutes to an hour, depending on the department's definition, while a cold call was generally a call in which the elapsed time was longer than an hour. These time intervals suggest different responses on the part of the police, as reflected by the following general guidelines:

Time Information	Possible Response
In-Progress	Immediate Mobile Response
Proximate/Just Occurred	Routine Mobile Response
Cold	Telephone Report/Civilian Response

Presence of injuries was also an important descriptor and was a key point of information which patrol officers wanted to know before arriving at the scene. Injuries reflect the seriousness of the event and can determine whether backup patrol units or other types of assistance, beyond police presence, are needed at the scene.

Each site also analyzed and "profiled" its current call for service list as part of the process to develop new call categories and combine them with the call descriptors to determine the proper responses to calls. The analysis not only provided insight into the development of call characteristics, but also highlighted the weaknesses of their current systems and the need for change. Several problem areas were identified, including a large number of calls being placed into a "miscellaneous" category, which would have to be redefined and subdivided; and the lack of consistency among call takers in classifying calls of a similar nature into the same category.

Over a period of several months and three cluster conferences, the eventual call classification systems and new intake procedures began to take shape. The process was a cycle of analyzing local needs, having a conference to exchange viewpoints, and repeating the process until closure on key elements was obtained. Exhibit 3-2 is a list from the Greensboro documentation on the definitions of the broad call categories previously shown. Similar definitions were developed at the other two sites. Exhibit 3-3 gives the definitions of the call characteristics or descriptors implemented by the Toledo communications center on key elements such as injury, time of occurrence, likelihood of apprehension, suspicious circumstances, availability of witnesses, and other items.

At this point, some conclusions about the development of the call classification systems at each of the sites can be stated. First, one of the shortcomings of the test design was that it anticipated all three sites agreeing completely on the design and appearance of the call classification model. This was unrealistic. The three sites, due to differences in local ordinances, types of clientele, philosophies of project staff members, and other factors, were unable to agree completely on such matters as the format and terminology of the system. Thus, each site specifically tailored the generic working model to fit its needs. Consequently, the final call classification systems and intake procedures were not identical. The important point is that the principles were the same and the variations were minor.

Second, the process of the development of the call classification systems was not inductive, as initially planned, but became deductive in nature. The sites started with an inductive process by examining each type

EXHIBIT 3-2

GREENSBORO CALL CATEGORIES

0. PERSONAL INJURY: Any incident in which personal injury is involved; this injury can be the result of:

    - o Criminal - Injuries sustained as a result of a criminal act.
    - o Non-Criminal - Injuries sustained as a result of actions not involving criminal acts or traffic accidents.
    - o Traffic - Injuries sustained as a result of an incident involving a motor vehicle or the violation of motor vehicle laws.

1. PROPERTY DAMAGE/LOSS: Any incident involving the loss of or damage to any property; this damage can be the result of:

    - o Criminal - Property damage or loss due to a criminal act.
    - o Non-Criminal - Property damage or loss which is not a result of a criminal act or traffic incident.
    - o Traffic - Property damage or loss due to an incident involving a motor vehicle or the violation of motor vehicle laws.

2. INVESTIGATE: Incidents which cause the citizen concern and make him feel that police should investigate the situation.

3. SUSPICIOUS ACTIVITY: Incidents causing citizens to be concerned, ill-at-ease, or puzzled at what is going on.

4. INTERPERSONAL CONFLICT: Situations involving a crisis or misunderstanding between two or more people which has not yet escalated to the point of causing injury to persons or property.

5. PUBLIC NUISANCE/DISORDER: Concern or annoyance to the citizen; something upsetting the peace and tranquility of an area.

6. PUBLIC MORALS: An affront to the legal standards of "right conduct."

7. TRAFFIC: Incidents involving motor vehicles and the enforcement of motor vehicle laws.

8. ASSISTANCE: Incidents in which the citizens request support or aid for any group or individual.

9. DEPENDENT PERSON: Incidents involving persons generally regarded as being unable to completely care for themselves.

EXHIBIT 3-3

TOLEDO CALL CLASSIFICATION CHARACTERISTICS

INJURY

A. **REQUIRES MEDICAL ATTENTION AT SCENE:** Any physical injury, or illness, that requires professional medical assistance at the scene or the extent of the injury, or illness, requires immediate transportation to a medical facility. Includes severe emotional trauma suffered as the result of personal involvement in an incident that does not result in physical injury (e.g., pedestrian hit, person shot, non-injured witness or victim to a serious crime).

B. **POTENTIAL IMMEDIATELY PRESENT:** Circumstances are such that a reasonable and prudent person would believe there is an immediate threat to any person's safety due to the characteristics at the scene (e.g., weapons involved, extremely violent person, possible suicide, young child lost).

TIME (CRIMES)

C. **IN PROGRESS:** Incidents that are of concern to the police, require police presence at the scene, and are still taking place at the time the call is received (e.g., robbery in progress, burglary in progress, large street fight).

D. **AGAINST PERSONS - 15 MINUTES OR LESS SINCE OCCURRENCE:** All crimes against persons where it is known the perpetrator left the scene less than 15 minutes prior to the crime being reported to the police.

E. **AGAINST PERSONS - MORE THAN 15 MINUTES SINCE OCCURRENCE:** All crimes against persons where it is known the perpetrator left the scene more than 15 minutes prior to the crime being reported to the police.

F. **AGAINST PROPERTY - 5 MINUTES OR LESS SINCE OCCURRENCE:** All crimes against property where it is known that the perpetrator left the scene less than 5 minutes prior to the crime being reported to the police.

G. **AGAINST PROPERTY - MORE THAN 5 MINUTES SINCE OCCURRENCE:** All crimes against property where it is known that the perpetrator left the scene more than 5 minutes prior to the crime being reported to the police.

LIKELIHOOD OF APPREHENSION

H. **PERPETRATOR AT SCENE/IMMEDIATE VICINITY:** Incidents where the crime has been completed and the perpetrator is still at the scene or is positively known to be in the immediate vicinity and can be identified by a physical description or property carried from the scene. (Exception: calls that fall within the criteria for telephone reporting shall still be diverted to the Telephone Reporting Unit.)

SUSPICIOUS CIRCUMSTANCES

J. **CRIME POTENTIAL/THREATENING CIRCUMSTANCE:** Any circumstance, or combination of circumstances, such that a reasonable and prudent person would believe a crime has been, or is about to be committed. Any incident where the caller

perceives the situation potentially threatening to self or another, but the caller does not have sufficient information to place the call into a crime related event category yet feels certain the situation is threatening (e.g., strange noises inside or outside without knowledge of the cause, a suspicious vehicle or person reported frequenting a school playground or following children to or from school).

NON-CRIME HAZARDS/OCCURRENCES

K. **NO CRIMINAL LIABILITY:** Incidents where no criminal liability is indicated, that are unpleasant or annoying, hazardous, cause a major inconvenience, involve interpersonal conflict, or where a person is in need of on-scene assistance (e.g., loud party/stero, traffic accident on major thoroughfare, dispute between neighbors, assist an invalid, other non-crime related incidents).

CHARACTERISTICS AT SCENE

N. **EXTENT OF LOSS/DAMAGE:** All theft and criminal damage incidents where the amount of loss, or extent of the damage, is $1,000 or more, as determined by the caller when the crime is reported to police.

P. **TELEPHONE REPORTING CRITERIA:** Reports that can be taken by the Telephone Reporting Unit due to the nature of the incident and the TRU reporting policy.

R. **CALLER'S DEMEANOR:** Call where the demeanor of the caller, or a person being called about, indicate the person is incoherent, excited, confused, demented or too young to determine the exact nature or extent of the problem over the telephone.

AVAILABILITY OF WITNESSES (NON-VICTIM CALLERS)

S. **INVOLVEMENT:** The caller has seen, heard, or is otherwise involved in the event, and the information would otherwise be lost if a report is not made. Applies only when the caller is **NOT** the victim and the victim cannot be readily located (e.g., caller witnesses a crime, but the victim is not at the scene to make a report).

T. **FUTURE AVAILABILITY:** The witness has seen, heard, or is otherwise involved in the event, has pertinent information for reporting purposes, but will not be conveniently available for future follow-up (e.g., witness is leaving town or is from out of town). **Applies only when caller is NOT the victim.**

DISPATCH POLICY OVERRIDE

U. **CITIZEN DEMANDS UNIT:** When the incident is a matter of police concern and the citizen demands a unit, a unit shall be sent if the city-wide saturation procedure is not in effect, personnel are availabe and there is no significant loss of emergency response capabilities to the residents of the city.

W. **STATUTORY REQUIREMENTS:** All local, state, and federal police response and reporting requirements shall be adhered to.

X. **ADMINISTRATIVE POLICY:** All police response and reporting policies as determined by the Chief of Police shall be adhered to. Generally these calls do not involve incidents of police concern.

of call for service to determine its attributes and characteristics in hope of building a model from the ground up. This process proved tedious and time-consuming. Moreover, logic dictated that eventually the planning team would create a model close to the working model proposed early in the project, since this model was created through a combination of a deductive process and previous research. Due to the structured time frame of the grants, the sites felt they could ill afford to spend an excessive amount of time in the pre-implementation stage.

Finally, in terms of degree of implementation, the objective of introducing a new call classification system was achieved by all three sites. The new systems were a break from the traditional legal orientation of the systems previously in place at the departments.

Call Classification Codes

The next step in the process for the three sites was to develop call classification codes which would summarize the type of call, the descriptive elements, and the selected response. The sites differed in their approach to this problem and reached different conclusions on the complexity needed in associating classification codes with the appropriate response. The Garden Grove solution was to develop a four-character call code, as shown in Exhibit 3-4, which gives the general type of call as the first character, the time of occurrence information as the second character, the injury information as the third character, and the selected response as the fourth character. For example, the code "1210" signifies a crime against persons call which just occurred, with injuries, and requires an immediate patrol unit response. Similarly, a "B100" means a burglary, in-progress, with an immediate patrol response. Based on the four-character code, the CAD system automatically assigns a priority which dictates whether the call needs an immediate response or is eligible for a dispatch delay.

It should be noted that the final digit includes an "override" code which signifies that a patrol unit is to be dispatched because (1) a state statute, local ordinance, or department policy requires police presence at the scene, or (2) the citizen demands that a patrol unit be sent. It was realized that a patrol unit might have to be dispatched at the insistence of the citizen even though the call could be handled in an alternative manner. For example, a minor larceny would ordinarily receive a telephone report alternative at these sites; however, the citizen has the right to reject this alternative and request that a patrol unit be sent to the scene. In a similar vein, the department policy might be to dispatch a patrol unit to all fraud calls even though such calls could also be taken over the telephone.

At the other extreme, the Greensboro system was more complicated than the other two sites. In addition to the development of 75 individual call types under the ten general categories, the call classification system also included a priority code and a five-digit descriptor code. Exhibit 3-5 gives Greensboro's definitions of the nine priorities in its call classification system and describes the range of alternative responses developed

EXHIBIT 3-4

GARDEN GROVE

CALL CLASSIFICATION CODES

FIRST CHARACTER -- CALL CATEGORY

1. Crimes Against Persons
2. Disturbances
3. Assistance
4. Crimes Against Property B--Burglary
5. Traffic Accidents T--Traffic Problem
6. Suspicious Circumstances
7. Public Morals
8. Miscellaneous Service
9. Alarms

SECOND CHARACTER -- TIME

1. In-Progress
2. Just Occurred
3. Cold

THIRD CHARACTER -- INJURY

0. No Injury
1. Actual, Probable, or Potential Injury

FOURTH CHARACTER -- RESPONSE

0. Immediate Mobile Response
1. Mobile Response Due to Override
2. Expeditor Unit

PRIORITIES

99 Immediate - Injury
98 Immediate - Crimes Against Persons
97 Immediate - Crimes Against Property
96 Fifteen (15) Minutes
95 Thirty (30) Minutes
94 One Hour
93 Exceeds One Hour or When Available
92 Non-Mobile Response

Example: A "3110" is an assistance call, in-progress, with injuries, which requires an immediate mobile response. A priority of "99" would automatically be assigned to this call by the CAD system.

EXHIBIT 3-5

GREENSBORO CALL PRIORITIES

PRIORITY 0: EMERGENCY MOBILE RESPONSE

Events of this type will be handled by the telecommunicator in the most expedient manner possible. Priority 0 calls will be dispatched to the first available unit. Events classified as Priority 0 are those situations that produce or are likely to produce serious bodily injury or death to any person. These incidents are those with major personal injury on the scene or where the potential exists for major injury or death. No event will automatically receive a Priority 0 except, "Emergency from MDT." Priority 0 will be reserved for use by the call taker when the characteristics of the event fit the definition of an emergency as described above. The call taker will advise the complainant that an officer will be dispatched immediately.

PRIORITY 1: IMMEDIATE MOBILE RESPONSE

Calls classified as Priority 1 will be dispatched to the first available Field Operations Bureau unit. Incidents requiring Priority 1 response will include crimes which are in progress and present the potential for injury or property damage/loss; those situations in which the suspect is at the scene or in the area and will elude apprehension or create the potential for personal injury or property damage/loss if the police do not arrive rapidly; situations where crime scene protection is essential so that evidence will not be destroyed and where it would be destroyed or lost if an officer is not dispatched immediately; incidents where an officer is needed to secure and interview witnesses who would be lost if not contacted immediately; and when there is a need for crowd or traffic control and the failure to do so immediately would create the imminent potential for personal injury or property damage/loss. The call taker will advise the complainant that an officer will be dispatched immediately.

PRIORITY 2: DELAYED MOBILE RESPONSE

Calls receiving this priority will preferably be dispatched to the Field Operations Bureau unit assigned to the response zone in which the call is located. If that unit is not available, the call will be held for 30 minutes, or until the unit returns to service, whichever comes first. If after 30 minutes the unit is still unavailable, the telecommunicator may assign the call to a unit from an adjoining zone. The telecommunicator must dispatch a unit in time so that its arrival at the scene is within one hour of the time the call was received in Communications. Incidents receiving this type of response are those which involve minor injuries which require no medical attention; incidents where there are injuries but in which the victim has been removed from the scene and is already receiving or has received medical attention by the time the call is received in Communications; incidents involving only property damage or loss; and any other situation where the immediate presence of a sworn police officer is not required, however, an officer going to the scene is desirable or necessary. The telecommunicator will advise the complainant that it may be up to one hour before the police arrive.

PRIORITY 3: NON-SWORN RESPONSE

Incidents of this type do not require the presence of a sworn officer to fulfill the complainant's request or needs. A civilian member of the department may be dispatched to these incidents if the circumstances at the scene would pose no threat to the physical safety of the civilian member. These incidents are those of a service-related nature, animal-related calls, and "cold" crime calls where there is a need to process the scene for evidence. "Cold" calls are those incidents which are reported after such a significant period of time has elapsed since the occurrence that the presence of a police officer will have little or no effect or advantage. For purposes of definition, any call which occurred more than 30 minutes before the time the caller notified the police is considered a "cold" call. In those incidents in which evidence is present, an Evidence Specialist will be dispatched to the scene; and in addition to collecting evidence, the Evidence Specialist will make the preliminary investigation of the incident. Other civilians utilized to answer calls for service are Community Service Specialists and Animal Control Officers. If these individuals are out of service, the call will be held for 30 minutes or until the unit returns to service. If the appropriate civilian unit does not become available by the end of 30 minutes, the telecommunicator may dispatch a sworn unit. The telecommunicator must dispatch a unit in time so that its arrival at the scene is within one hour of the time the call was received in communications. The telecommunicator will advise the complainant what type of unit will be dispatched and that it may be up to one hour before the unit arrives.

PRIORITY 4: INTRA-DEPARTMENTAL REFERRAL

In incidents of this type, the needs of the citizen will be more appropriately met by divisions within the police department other than Field Operations. During the normal business day, the telecommunicator will transfer the call to the appropriate unit or division. During non-business hours, the telecommunicator will obtain the information necessary to complete a service/complaint request form and forward a copy of this document to the appropriate division. If, however, the matter cannot wait until the next day, an FOB unit will be dispatched Priority 2.

The following criteria apply to Priority 5, Priority 6, and Priority 7. In order for a call to qualify for any of these three priorities, it must pass the following criteria:

1. There is no injury at the scene.
2. There is no imminent danger of injury at the scene.
3. The event is not in progress and does not present the potential for personal injury or property damage.
4. The event has not just occurred to the point where a mobile response by department personnel would be advantageous.
5. There is no significant physical evidence at the scene.
6. There are no suspects or witnesses to be interviewed.

PRIORITY 5: MAIL-IN RESPONSE

Incidents of this type meet the criteria set out above and the caller has access to a Greensboro Police Department mail-in form. The telecommunicator will direct the complainant to pick up a form, fill it out, and return it to the police department.

PRIORITY 6: WALK-IN RESPONSE

Incidents receiving this priority are those which the telecommunicator feels can best be handled by having the complainants come to the police department to have their needs met. These incidents meet the criteria as set out above and would generally be able to be handled either by mail-in or telephone; however, because of special circumstances or needs, it would be more appropriate to have the complainant come to the police department and speak directly with an officer or other department member.

PRIORITY 7: TELEPHONE RESPONSE

Incidents of this type include any complaint or request which does not meet any of the mobile response criteria, thus making the dispatch of a department representative unnecessary. These incidents are those which the telecommunicator feels can best be handled by having the complainant speak with an officer on the telephone. These incidents will be handled by the Telephone Response Unit by a call-back within one hour of the time the complaint was received in Communications.

PRIORITY 8: INFORMATION/OUTSIDE REFERRAL

Incidents qualifying for this response should not be disregarded or minimized in importance. This priority would apply to those calls received in which the telecommunicator is able to provide information which is sufficient to satisfy the citizen's need and no further action is necessary or in which the telecommunicator refers the complainant to an outside agency or other city department. Referrals shall be made to the most appropriate agency based on the telecommunicator's understanding of the problem or situation. If the referral is to another city department and the call is received during non-business hours, the telecommunicator will fill out a service/complaint request form and forward it to the appropriate department.

and implemented. Exhibit 3-6 gives the categories for the five-digit descriptor codes. The combination of the call categories, descriptors, and response priority codes, displayed in a composite format, was referred to as the "call classification matrix." Exhibit 3-7 is an excerpt from Greensboro's Communications Manual, and shows an example of the call classification matrix.

An example of how the Greensboro system works will be helpful. One of the individual types of call categories in Greensboro is BURG, which stands for a burglary call and has the following potential descriptor codes:

Descriptor Code	Response
11310	Priority 1 (First Available Unit)
12610	Priority 1 (First Available Unit)
13630	Priority 3 (Civilian Response)
13680	Priority 7 (Telephone Report Unit)

The first descriptor code of "11310" means that the burglary is in-progress with imminent or potential danger of damage or loss and that an apprehension is possible. This descriptor code dictates a Priority 1 response. At the other extreme, the code "13680" means a cold burglary with no property damage in which only a report is needed. A telephone report would be taken in Greensboro under this circumstance.

For each individual type of call, the Greensboro project staff developed the potential descriptor codes and the appropriate priority response. This information was then packaged into a matrix and placed in a booklet for ease of reference by the call takers. Exhibit 3-7 shows one page of this booklet using the burglary category just discussed.

In conclusion, it is clear that the new call classification systems provided for adequate specification of the type of call and its characteristics, which allowed call takers to match call information with the appropriate police response. Also, each department fully implemented the new call classification systems, which was a necessary step to ensure the validity of the field test of alternatives and the evaluation.

CALL INTAKE PROCEDURES

Intake Processing

Each of the police departments was expected to take steps to improve the intake and processing of calls for service. Prior to the DPR test, they had relied primarily on immediately dispatching a mobile unit to nearly all calls for service. Toledo and Greensboro screened some calls to be handled over the telephone, but these were generally minor property offenses.

EXHIBIT 3-6

GREENSBORO FIVE-DIGIT

DESCRIPTOR CODE

A. Purpose of Call

0. Personal injury
1. Property damage/property loss
2. Investigative
3. Suspicious activity
4. Interpersonal conflict
5. Public nuisance
6. Public morals
7. Traffic
8. Assistance
9. Dependent person

B. Time

1. In-progress
2. Occurred/needed within 30 minutes
3. Occurred/needed greater than 30 minutes

C. Injury/Damage/Loss

0. Unknown
1. Injury needs attention/injury at scene
2. Injury needs no attention/injured party not at scene
3. Imminent or potential danger of injury/damage/loss
4. Property damage/loss greater than $200
5. Property damage/loss less than $200
6. Not considered/none

D. Police Activity Needed

0. Unknown/not applicable
1. Apprehension
2. Alleviation of hazard/nuisance
3. Protection of crime scene/collection of evidence
4. Crowd or traffic regulation
5. Contact witness
6. Recover lost or stolen property
7. Non-enforcement service
8. Report
9. Information

E. Override

0. None
1. Citizen demands
2. Call taker's discretion

EXHIBIT 3-7

GREENSBORO CALL CLASSIFICATION MATRIX

BURG	PRI 1	PRI 2	PRI 3	PRI 4	PRI 5	PRI 6	PRI 7	PRI 8
BURGLARY	11310 12610		13630				13680	
B&E OF AUTO	11610 12610		12630 13630				13680	

CONSIDERATIONS

- IS THERE A POTENTIAL FOR INJURY/DAMAGE/LOSS?
- IS SUSPECT AT SCENE OR IN AREA?
- IS THERE PHYSICAL EVIDENCE TO BE COLLECTED?
- CAN THE EVIDENCE BE SECURED AND COLLECTED LATER?
- WHEN DID THE EVENT OCCUR?

ADDITIONAL INFORMATION

- SUSPECT DESCRIPTION
- SUSPECT'S MEANS AND DIRECTION OF TRAVEL
- WAS SUSPECT ARMED?
- POINT OF ENTRY

NOTE:

- DISPATCH LAB PERSONNEL ON PRIORITY 3 CALLS. THEY WILL HANDLE PRELIMINARY INVESTIGATION AND THE COLLECTION OF EVIDENCE. THESE ARE CALLS WHERE THE ONLY CONSIDERATION IS THE COLLECTION OF EVIDENCE.

SOURCE: Greensboro Communications Manual

Using the traditional dispatch models, each of these departments only required the call intake personnel to obtain minimal information from the callers, such as name, location, and the crime code. Such information was all that was necessary because the call taker knew that the responding officer would obtain any other information needed. Under the DPR system, call intake operators were required to obtain much more information in order to classify the calls according to the dimensions in the new systems, and to determine the appropriate response, which might be one of several available alternatives to immediate mobile dispatch. Based on the selected response strategy, the call taker was also required to inform the citizen of the anticipated response.

At this point, to assist with the revision of the call intake procedures, Greensboro and Garden Grove initiated task forces which consisted of sworn and civilian representatives of all key divisions of the department, particularly patrol and communications. These task forces worked very effectively in both departments. They provided a great deal of input into the decisionmaking, and helped to legitimize the project and increase its acceptability throughout the departments.

One of the most critical methodological steps was to review actual phone conversations between citizens and call takers. Each of the departments employed these reviews to assess current information obtained by call intake operators and determine how much additional information would be required. All police departments tape record these conversations and store the tapes for a limited time period. These tapes are rarely used except to investigate citizen complaints, or they may be introduced in court proceedings on a case.

Some of the products developed by each department for call intake included the following:

- Written guidelines on the new call classification systems and procedures;
- A set of standardized questions, specifically tailored to each site, to facilitate the classification of calls;
- Standardized explanations for informing citizens of the appropriate responses; and
- New call intake forms.

The result was to increase the amount of information obtained from citizen callers and to improve the consistency and uniformity of call classification according to the new matrix and dispatch of alternative responses.

Shortly after development, each department prepared manuals and handbooks containing guidelines for using the new call classification matrices and call intake procedures. These manuals, which contained easy-to-use flipcharts, proved very beneficial in training. Exhibit 3-8 contains an example from the Toledo manual on intake procedure questions.

EXHIBIT 3-8

TOLEDO CALL INTAKE PROCEDURES

CALL INTAKE PROMPTER

IMMEDIATE MOBILE RESPONSE

Make a Green card if "YES" is the answer to any below:

Make a Red card if "Code 3" criteria is met:

(Red card shall be coded by supervisor)

	Information Code Below
Is there physical harm requiring medical assistance at the scene?	"A"
Is the crime still in progress and/or suspect still at the scene?	"B"
Is it a crime against person that occurred within the past 15 minutes?	"B"
Is it a crime against property that occurred within the past 5 minutes?	"B"
Is the potential for physical harm to a person present?	"C"
Is there a major traffic interruption?	"D"

CODE "3" CRITERIA

Send "Code 3" when there is reasonable grounds to believe a life is in extreme danger, or when an officer is in immediate pursuit of an offender.

Emergency cases MAY include:

1. A serious public hazard.
2. The preservation of life.
3. Crime of violence in progress.
4. Prevention of a crime of violence.
5. An officer requests assistance "Code 3".

If none of the above apply go to the top of next column.

DELAYED MOBILE RESPONSE

Make White card if "YES" is the answer to any below:

	Information Code Below
Does the caller demand a unit be sent?	
Is it a crime against person, that occurred more than 15 minutes ago?	"B"
Is it a crime against property; that occurred more than 5 minutes ago?	"B"
Is the potential for a crime being committed present?	"B"
Is there a major inconvenience to a citizen?	"C/D"
Does the call meet the telephone reporting criteria?	To TRU
Does the call meet the call-back criteria?	Supervisor

Note: The beat unit is in service and the call meets the delayed mobile response criteria, send unit immediately.

Inform the caller a unit will be sent within 60 minutes.

CALL SATURATION PROCEDURE

When you are advised by the shift commander the calls are too numerous for the beat units to handle.

1. Minor calls; advise caller we may not send at all.
2. Traffic accidents; advise caller to make report at the Traffic Section. Exchange information with other driver at scene.
3. Advise any caller that any type report may be made at the Safety Building.

TELEPHONE REPORTING CRITERIA

Hours: 0800 x 2000 Days: Monday through Friday

1. Garage B & E's, unattached loss under $1,000.
2. Commercial B & E's. (No loss)
3. Misdemeanor Assaults. (Suspects known or not known)
4. Telephone Harrassments. " " " " "
5. Thefts under $1,000.00. " " " " "
6. Criminal Damage under $1,000.00. " " " " "
7. Missing Persons.
   (0700 X 2300 - 247-6242)(2300 X 0700 - 247-6131)
8. Lost Property.
9. Additional information on previously filed report.
10. Verification of auto thefts, Auto Desk – 247-6597.
11. Dog bites.
12. Criminal Menacings.

IF THE ANSWER IS "YES" TO ANY OF THE FOLLOWING A UNIT SHALL BE SENT.

1. Are the suspects KNOWN to be still in the immediate vicinity and are not known to the complainant?
2. Is there PHYSICAL evidence at the scene?
3. Is the additional information on a previous report of physical evidence?
4. Is the missing child under 8 years and it is between 0700 - 2300 hours?
   Is the missing child under 13 years and it is between 2300 - 0700 hours?
5. Does the caller demand a unit be sent?

COMMUNICATIONS CALL-BACK PROCEDURE

When the nature of the call is such that no police report will be made, obtain the following information.

1. Address of the offense.
2. Name of the offending person/business.
3. Phone number of the offending person/business.

Communications personnel shall:

1. Call the offending party and advise them of the nature of the complaint.
2. Indicate that no unit will be sent unless additional calls are received.
3. Not identify the complainant.

Calls that shall be handled in this manner shall include, but are not limited to:

1. Noisy parties.
2. Noisy sound systems.
3. Noise mechanics/workmen.
4. Parking violations at specific locations.
5. Barking dogs.
6. Other minor violations where a warning is usually sufficient.

If more than one complainant is received concerning the same violator, a unit shall be sent if the call back procedure cannot be utilized.

The call shall be considered delayed mobile.

"A" PERSONAL INJURY INFORMATION

1. What is the extent of the injuries ?
2. How many persons are injured ?
3. Is an ambulance needed at the scene ?
4. What is the exact location of the injured persons ?
5. Is anyone trapped in a vehicle ?

"B" CRIME INFORMATION

1. Are there weapons involved ?
2. Have shots been fired ?
3. Is the person with the weapon still there ?
4. How many persons are involved? How are they related ?
5. What is the exact location ? Residence or business ?
6. What is the mental state of the person ?
7. Direction of flight ?
8. Was he on foot/car/bicycle/motorcycle ?
9. What (time) did he leave ?
10. Where did the suspect go ?
11. Where are you (caller) at ?
12. What kind of property was taken ?
13. Have the police already been there today on this call ?
14. What kind of noises do you hear ?

"C" POTENTIAL FOR PHYSICAL HARM

1. Is there a violent person at the scene ?
2. Are there weapons/firearms available to a person involved at the scene ?
3. Is there an agent that could explode ?
4. Are harmful chemicals involved ?
5. Are high voltage wires involved ?
6. Are there vicious animals there ?
7. Are very young children left unsupervised ?
8. Is there a dangerous traffic hazard ?

"D" TRAFFIC INFORMATION

1. Is there a chance of fire or explosion ?
2. Have the gas tanks ruptured ?
3. Are there wires or poles down ?
4. Is there an interruption on a major artery ?
5. Is the street entirely blocked ?
6. Can the vehicles be moved ?
7. What are the traffic conditions ? (e.g., light, heavy)
8. What are the road conditions ? (e.g., wet, dry, icy)
9. How many vehicles are involved ?
10. What kind of vehicles are they ?
    (e.g. car, truck, m/c, bike, plane, boat)
11. Is anyone trapped in a vehicle ?

Prepared By: Planning & Research Unit - May/83

INJURY		TIME (CRIMES)					Likeli of Appre hension	Suspicious Circumstances	Non Crime Hazards & Occurrence	Characteristics At Scene			Availability Of Witnesses		Dispatch Policy Override		
A	B	C	D	E	F	G	H	J	K	N	P	R	S	T	U	W	X
Requires Medical Attention At Scene	Potential Immediately Present	In-Progress	Against Persons (within) (15 min.)	Against Persons (over) (15 min.)	Against Property (within) (5 min.)	Against Property (over) (5 min.)	YES	Crime Potential/ Threatening Circumstance	No Criminal Liability	Extent Of Loss/ Damage	Telephone Reporting Criteria	Caller's Demeanor	Involvement	Future Availability	Citizen Demands Unit	Statutory Requirement	Administrative Policy

Evaluation of the new call intake procedures showed that the operators (1) learned to accurately and consistently classify calls correctly; (2) increased the amount of information which was obtained from callers; (3) increased patrol officer satisfaction with additional call information; and (4) provided callers with more accurate information on what to expect in terms of the response to their calls. The details of these results are presented in later chapters of this report.

Each site monitored and evaluated how the telecommunicators handled calls for service using the new call classification system and call intake procedures. A random sample of calls was evaluated for each telecommunicator. One of the project staff carefully reviewed the call by listening to the tape recording and comparing how the call was classified and processed to how it should have been handled according to the new system and procedures. Exhibit 3-9 shows the monitoring form developed by the Greensboro project staff, which allowed the communications center supervisory personnel to evaluate their telecommunicators. Chapter 10 includes an analysis conducted by the evaluation staff of a sample of these forms.

The results of this internal monitoring showed that the error rate at all three sites was between five and thirteen percent. At Garden Grove, for example, three-fourths of the errors were attributed to call takers not asking enough questions and not obtaining enough information on descriptions of possible perpetrators or suspects. Moreover, it was found that only one or two call takers at each site accounted for most of the errors.

The amount of information, using the new system, also increased as measured by an increase in the overall transaction time of the call intake conversations and the amount of additional information being conveyed to patrol officers as part of the dispatching process. Based on responses to the field officers' surveys, the amount of information and detail in radio transmissions improved noticeably as a result of the DPR system. These findings are discussed in more detail in Chapter 10. As expected, the vast majority of patrol officers surveyed were satisfied with this additional and more detailed information.

One of the most significant improvements in the project was evident in the changes in the explanations of responses provided to citizens by the telecommunicators. Prior to DPR, by reviewing the tape recorded conversations, it was determined that for the majority of calls, call takers would end the conversation by informing the citizen that "we'll take care of it" or that a unit "would be right there." Citizens might not be informed of the length of time they would have to wait before a car arrived, even if the call taker knew that all units were busy and there would be a delay. This point was also verified in citizen surveys conducted by the evaluation staff during the baseline period. The result was that citizens were often dissatisfied with the response time because the call taker had given them the impression that the call would be responded to in a matter of minutes.

Under DPR, callers were informed as to the exact nature of the response alternative and, as close as possible, the time interval before the call would receive a response. If the call were to receive a delayed response, the caller was so informed. As discussed in the chapter on citizen satisfaction, these new procedures met with citizen agreement,

EXHIBIT 3-9

GREENSBORO CALL INTAKE

PERFORMANCE REPORT

TELECOMMUNICATOR _____

	DATE/TIME	POSITION	ECN #	NATURE	ADDRESS
1	_____	_____	_____	_____	_____
2	_____	_____	_____	_____	_____
3	_____	_____	_____	_____	_____

	DID THE TELECOMMUNICATOR: (key: Y-Yes/N-No)	1	2	3
a	Answer the phone properly?	_	_	_
b	Classify the call correctly?	_	_	_
c	Ask appropriate questions?	_	_	_
d	Select appropriate response?	_	_	_
e	Provide appropriate explanation/ information to caller?	_	_	_
f	Record correct information?	_	_	_
g	Exhibit courtesy?	_	_	_

SUPERVISOR'S COMMENTS, SUGGESTIONS, ACTION TAKEN: _____

_____

_____

_____

TELECOMMUNICATOR _____ DATE _____

SUPERVISOR _____ DATE _____

although the procedure of having the call taker inform the citizen about a potential delay continued to be a problem throughout the project.

In conclusion, the revision of the intake procedures was accomplished in line with the objectives of the test design, and the new procedures were fully implemented without significant problems or constraints. The changes from the previous procedures were significant.

Training and Testing

Each department devoted an extensive amount of planning time to preparing for the training of personnel in the new call classification system and intake procedures. The training efforts are discussed in detail in Chapter 10 on the Role of the Telecommunicator. In summary, it is safe to say that the degree of implementation for the training component was excellent at all three sites. From a process evaluation point of view, one can find few faults or shortcomings with the training efforts in this project. As a result of the training efforts, the telecommunicators at all three sites understood and were able to function according to the new DPR system.

The next major step in the process was to pre-test the new call classification systems and revise intake procedures. These systems were tested for approximately four months in each department. During this test phase, the telecommunicator personnel began to process all calls for service according to the new systems. The call takers used the new intake procedures to query citizens, then selected an appropriate alternative response. For this test period, the alternative responses were selected but not dispatched. All telecommunicators were closely monitored by communications supervisors, project staff, and the evaluation team. Only minor problems with the call classification systems or with the intake procedures were encountered during this test. The test led to revisions of some of the procedures and to some changes in the call classification codes.

CONCLUSIONS

The experiences of the three sites in regard to the Call Classification Phase may be summarized as follows:

- The DPR Field Test sites successfully developed a generic model for call classification systems which can be modified by any police department to meet local needs. The generic model is comprised of (1) a set of call event categories which cover virtually all citizen calls for service to the police; and (2) a list of key call characteristics or descriptors which were found to be important in determining the most appropriate police response.

- The three sites successfully tested and implemented new call classification systems which resulted from this generic model.

- The experiences of these sites show that a call classification system can be simple, as in the case of Garden Grove, or more complex, as in the case of Greensboro.

- A more complex system may be desired when (1) there are more alternatives available; and (2) there are more types of calls and characteristics which the department wants to be considered for matching with alternatives.

- The new call classification systems and intake procedures (1) increased the amount of information obtained from callers; (2) provided callers with more accurate information on what to expect in terms of the response to their calls; and (3) provided patrol officers with more detailed information on calls prior to arrival at the scene.

- The time to develop the new call classification systems was underestimated. More time than originally planned was required for a review of the current systems and the development of the most appropriate call characteristics. It was also found that input for the new system was needed from communications center personnel as well as from field operations commanders and other management personnel in the department.

- A major benefit at all three sites was that the new systems standardized the process of handling citizen calls for service.

- The three sites developed effective procedures for monitoring and assessing the performance of telecommunicators.

CHAPTER 4

THE TEST PHASE OF THE DPR PROJECT: IMPLEMENTATION OF ALTERNATIVE RESPONSES

The second phase of the project involved a test of the alternative responses. To this point, the new call classification systems and intake procedures had been developed and the call takers had learned how to select alternatives, but had continued to dispatch calls in the traditional manner. During the test phase, the alternative responses were implemented and used for responding to calls. As a result, a noticeable amount of calls for service began to be shifted from being handled by mobile patrol officers to other alternatives.

The cooperation of the three sites for the conduct of this experiment and the implementation of the randomization procedures was excellent. While there were initially several concerns, the tests were conducted in a professional and competent manner.

The project now became a quasi-experiment. Each site developed some form of an experimental design in which non-emergency calls for service were randomly assigned to receive either the new response alternatives (experimental group) or the traditional responses (control group). Each site implemented a slightly different experiment, but the principle of randomization of assignment held true in each case. The duration of the experiments was four to six months at each site, which was sufficient to produce valid evaluation results.

True emergency calls for service were not part of the experiment. These calls continued to be dispatched in the normal expeditious manner, generally to mobile units in the field.

For non-emergency calls, the call characteristics dictated the appropriate dispatch alternative. Based on the randomization procedures, calls in the experimental group were eligible for one of the response alternatives, while calls in the control group were handled just as that particular type of call would have been handled prior to the DPR project. For example, a theft from auto call might be classified as a cold, minor property loss call for which a non-mobile response, such as a telephone report, would be appropriate. If, based on the randomization system, this call fell into the experimental group, the report would be taken over the telephone. On the other hand, if a similar larceny call fell into the control group, it would be handled by dispatching a mobile unit immediately, if this were the traditional, pre-DPR response.

As mentioned in the last chapter, there was a "citizen override" built into each call classification system. Thus, each citizen whose complaint was designated for an alternative, such as a telephone report, was given the opportunity to request that a mobile unit respond to the scene. Call takers were instructed to suggest and recommend acceptance of the alternative, but to allow the citizen to request a mobile response. As presented in a later chapter, the override was rarely demanded by citizens.

A question which was asked by the sites at this point was, "why conduct an experiment?" It was well known that many police departments had already implemented telephone report units and other types of alternatives, and there were legitimate concerns at the field test sites as to what this experiment would add to an already large body of literature on the subject.

There are two answers to this question. First, the general concensus was that most police departments had implemented telephone report units without much prior planning. Planning for such a unit generally only involved assigning the staff, then identifying the types of calls at the last minute which could be handled by the unit. In the DPR Field Test, the objective was to plan for the use of such a unit, as well as the other alternatives, in order to maximize the use of the alternatives. A greater variety of alternatives were implemented by these three sites than was generally found in other cities. As previously indicated, the first eight months of the project were devoted to developing the new call classification systems and planning the alternatives, since it was believed that proper call screening was the only way to fully use the alternatives.

The second major reason for the experiment was to measure citizen satisfaction with the alternatives. The citizen surveys began during the planning stage in order to determine what types of alternatives would be most acceptable to the citizens who call the police for assistance. Such surveys had not been conducted by other cities which had introduced alternatives.

The randomization procedures were considered crucial to the experiment. The evaluation objective was to measure citizen satisfaction with the alternatives as compared to the traditional method of immediately dispatching a patrol unit. A key to this objective was to make such comparisons during the same time period. For example, the experiment and the randomi-zation in Greensboro occurred during the period January-June 1983. Citizen satisfaction surveys were conducted during this period for citizens who had received the alternatives (experimental group) and for citizens who had received the traditional mobile response (control group). In addition, comparisons were also made with a group of surveys conducted during the baseline period prior to any changes. In summary, the experiment and the use of the randomization procedures provided an excellent experimental design which produced the most valid conclusions possible in this type of field test.

The NIJ Test Design Program document required that the three test sites implement the following alternatives to an immediate mobile response:

- Telephone report unit for taking reports over the phone;
- Delayed mobile response (holding calls for 30 to 60 minutes before dispatching to beat car, or using a scheduled appointment system);
- Referrals to other agencies; and
- Mail-in reports or walk-in reports.

Prior to DPR, nearly every call for service at each of the test sites was answered by dispatching a mobile unit to respond to the location of the caller. In some cases, other mobile units responded to the scene to provide backup assistance, if needed. Often these backups were not assigned by the dispatcher, and the dispatcher was not even aware of the presence of the backup units. As one can imagine, this procedure is one of the most costly types of police response. In a later chapter, some cost comparisons on alternative response modes will be presented.

In terms of the pre-DPR mobile response, each department had some form of dispatch priority system, generally based solely on whether the call related to an in-progress offense. If so, an "emergency" dispatch was ordered, which referred to the response by one or more mobile units displaying sirens and flashing lights and exceeding the posted speed limit. Contrary to the public impression, this type of response priority was used infrequently. In fact, an analysis of calls for service in Greensboro showed that the emergency priority response was used less than three percent of the time.

The most frequent mobile response priorities were "immediate" and "routine." For an immediate response, units generally displayed sirens and flashing lights but observed the posted speed limit in responding to the scene of the call. The routine response commonly involved no sirens or flashing lights and the posted speed limit was observed.

Also prior to DPR, none of the three sites employed a formal "delayed" mobile response. Although all three sites delayed the dispatching of non-emergency calls when all units were busy, there was no planned policy or formal procedure. Moreover, the caller was seldom advised that the call response would be delayed.

The only non-mobile alternative responses used at the test sites prior to DPR involved taking walk-in reports at the station, which is common in most police departments, and, on a limited basis, taking reports by telephone. In addition, Garden Grove allowed two local self-service gas stations to report gas larcenies by mail on a specially prepared form.

Telephone report units (TRU) existed in both Toledo and Greensboro at the start of the project. In Toledo, the TRU was staffed by three civilians and was in operation Monday through Friday from 2:00 p.m. to 10:00 p.m. The TRU, located in the Records Section in a separate building from the communications center, only took reports over the telephone for minor larcenies and minor property damage incidents. Procedurally, the call takers determined that the call was of a minor theft or property damage nature, filled out a dispatch ticket with basic information including the caller's name and phone number, and physically transferred a batch of tickets each morning to the TRU. The TRU staff then tried to reach the citizens by phone to process their incident reports. These incidents were reported on regular field incident report forms.

As previously established, the TRU in Greensboro was organized under the Community Services Division of the Services Bureau, and was located in a separate office on the second floor of the police department. It was staffed by a supervisory sergeant and ten sworn personnel operating seven days a week, 24 hours a day. The Greensboro TRU also only handled reports

by phone of minor larcenies, property damage, and indecent phone calls. Other criteria were that the incident not be in progress, that there were no suspects, and that there was no danger to the public.

The initial Greensboro TRU function was also commingled with the "staff duty officer" function, which was traditionally used as a catch-all service to deal with such matters as handling dissatisfied citizens, providing general legal information, providing general information after hours (the "police information" number in the phone book rang in the staff duty office), and other related functions. Due to the 24-hour availability, the unit was used for almost all types of calls or service requests that could not be directed to a more proper disposition. Many of the officers in the unit were assigned as light duty officers on temporary assignment.

Procedurally, in Greensboro the TRU officers initially received notice of a citizen call via a CAD terminal located in their office. The officers then attempted to reach the citizen by phone. If the citizen was reached, the officer took the report of the incident over the phone, and afterward called in to the central recorder with an abbreviated incident report form which was later transcribed. All field incident reports in Greensboro were transcribed in a similar manner. If the TRU officer could not reach the complainant, the call was rerouted back to the dispatcher and a mobile unit was sent to the address of the complainant. Approximately 10 percent of all TRU calls were rerouted for dispatch. The TRU officers also had the authority to recommend dispatching a unit if, after interviewing the complainant, they determined that the call could best be serviced by an officer at the scene. For example, this might happen if evidence was available. Prior to DPR, the initial call taker in communications did not routinely determine the availability of evidence.

In summary, Toledo and Greensboro both had experience with telephone report units prior to the start of the project, but the units accounted for a small volume of the calls for service (less than 5 percent), and they generally handled only minor theft and property damage incidents. For the DPR project, as will be discussed in detail in the following chapters, the test at these two departments involved the expansion of the volume and types of calls handled over the telephone.

An overall picture of the alternatives implemented at the three sites during this test phase is displayed in Exhibit 4-1, which summarizes the types of responses available during the test at each site. The next three chapters discuss in detail the implementation of alternatives and the subsequent results in regard to managing calls for service at each of the sites.

EXHIBIT 4-1

ALTERNATIVES IMPLEMENTED DURING DPR FIELD TEST

Type of Response	Garden Grove	Greensboro	Toledo
Immediate Mobile	X	X	X
Dispatch Priorities	X	X	X
Delayed Mobile	X	X	X
Telephone Report			
• Sworn	X	X	X
• Civilian	X		
Communications Call Back			X
Referrals			
• Internal		X	
• External	X	X	X
Walk-In	X	X	X
Mail-In	X	X	
Appointment		X	

CHAPTER 5

DPR ALTERNATIVES IMPLEMENTED AT GARDEN GROVE

DPR ALTERNATIVES

Overview

The new DPR alternatives in Garden Grove, implemented on September 1, 1982, included the expeditor unit, (Garden Grove's equivalent of a telephone report unit), mail-in report, expanded walk-in, referrals, and delayed mobile responses. The month of September 1982 was a pilot period in which procedural and other problems with the alternatives were resolved. It was not deemed advisable to include data from this initial month in the analysis. Exhibit 5-1 shows the flow of calls for service in Garden Grove during the field test period of October 1982 to March 1983.

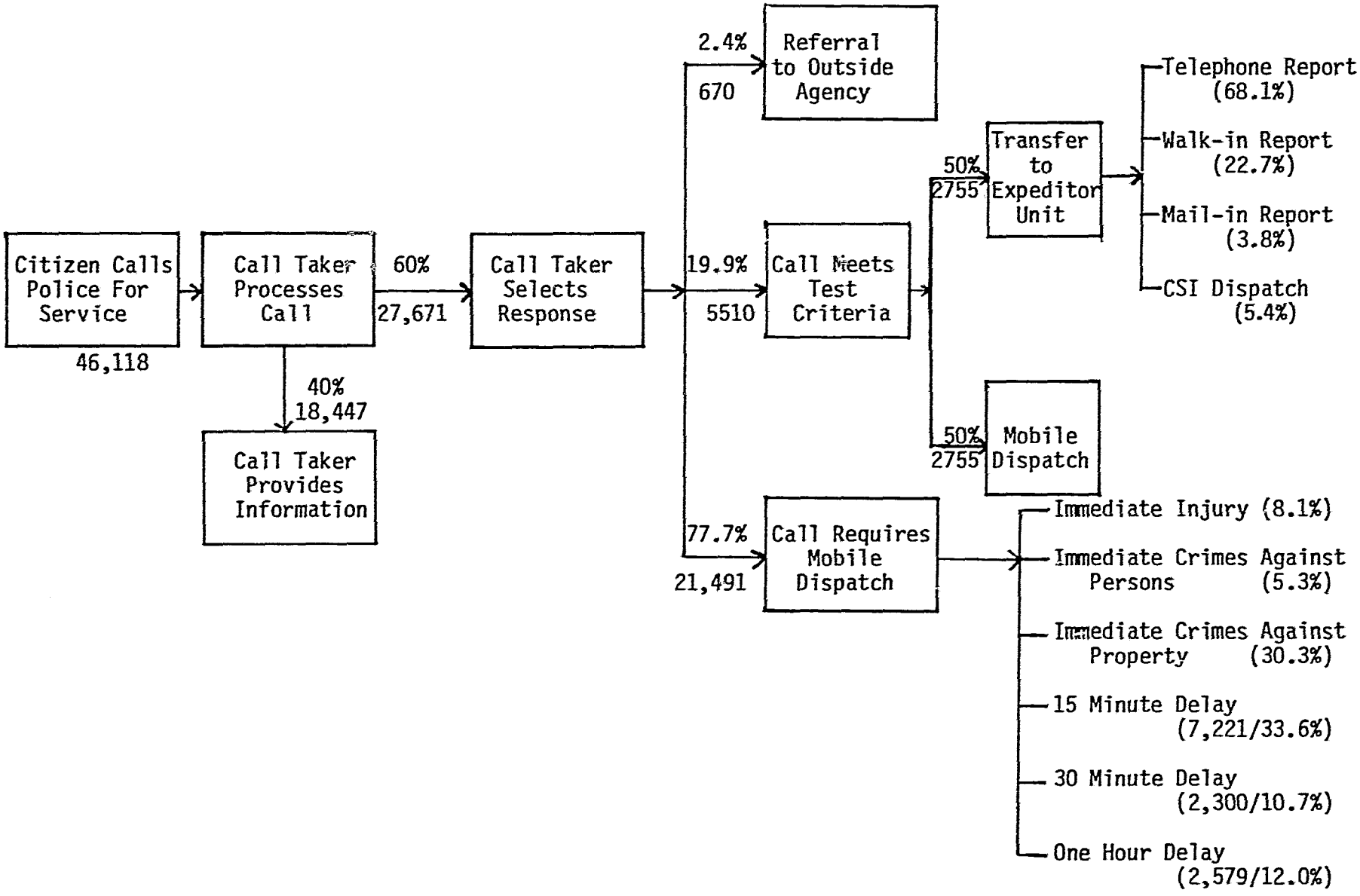
As seen in Exhibit 5-1, all citizen calls for service were answered by the civilian call takers who had been trained in the new call classification system. Approximately 40 percent of these calls resulted in the call taker providing the information requested by the caller. This percentage of "information only" calls did not differ significantly from the baseline period of the project because there were no changes in the procedures used by call takers on the information only calls. If the caller required more than just information, the next decision was to select the most appropriate response. Under the new system, call takers could refer the person to an outside agency such as the welfare office, a county agency, or another agency in city hall. Approximately 2.5 percent of the calls at this point resulted in such a referral. Prior to the project, no referrals of this type were made; instead, a patrol unit was dispatched to the scene. It was not unusual for the patrol officer to advise the parties of the services provided by the other agencies.

The call taker was also responsible for determining whether the call met the test criteria and could be handled by the expeditor unit. It was at this point that the new call classification system was important, since the elements in the system, such as time of occurrence and extent of injuries, were the primary characteristics of the incident which determined whether the call was eligible for the test. The call taker, using the CAD terminal, would complete the information on the screen by entering the four-digit classification code, the location of the call, the citizen's name and address, and other information.

Based on the classification code, the CAD system would determine the priority of the call and whether it should be routed to the expeditor unit. As seen in Exhibit 5-1, approximately 20 percent of the calls fell into the eligible category for the expeditor unit. However, because of the test requirements to achieve experimental and control samples, only half of these calls were actually transferred to the expeditor unit, while the other half received a mobile dispatch (in practice, this latter half was classified in the delayed mobile response category). For calls which met the test criteria, the CAD system was reprogrammed to automatically send half of the eligible calls to the dispatcher and the other half to the

EXHIBIT 5-1

GARDEN GROVE DPR PROCESS



Test period: October 1, 1982 - March 1, 1983

expeditor unit. The CAD system accomplished this aim by sending an eligible call to the dispatcher, the next eligible call to the expeditor unit, and repeating this process to give the fifty-fifty split necessary for the randomization process.

If the characteristics of the call did not meet the test criteria, then the call was routed by the CAD system to the dispatcher. Many of these calls were, of course, eligible for a delayed mobile response when the unit in the area of responsibility was busy. However, delayed mobile responses were not part of the randomization process, since including them would have meant that calls would have been intentionally delayed by the dispatcher. That is, half the calls in the delayed mobile response would have been intentionally delayed, and the other half dispatched, if the unit were available. Arranging for such a test would have been both cumbersome and undesirable from the viewpoint of the department management. Since the aim of the randomization was to assess citizen acceptance of alternatives, it was believed that enough delays would occur naturally, which proved to be the case. Further analysis of Exhibit 5-1 is presented later in this chapter.

One other feature of the implementation in Garden Grove was a change from dispatching in 10-codes to dispatching in "plain English." The purpose of this change was to facilitate the transmittal of greater and more detailed information about the call from the dispatcher to the field unit. In a follow-up evaluation questionnaire to the field units (with a 75 percent response rate), 78 percent of the officers and 63 percent of the sergeants felt that dispatching in plain English provided more information than the 10-codes. As well, 75 percent of the officers and 63 percent of the sergeants felt dispatching in plain English provided clearer information than the 10-codes.

The following subsections provide more information on each of the alternatives implemented in Garden Grove.

Description of Alternative Responses

Delayed Response. During the test phase, Garden Grove programmed a new delayed response mode into the CAD system. Certain calls, depending primarily on the nature of the event and the time of occurrence, were given one of four new response priorities by the call taker and transferred to the dispatcher to be dispatched on a delayed basis of 15 minutes, 30 minutes, one hour, or more than one hour. As in the other two sites, if the unit in the area of responsibility was busy, then the call was delayed up to the amount of time implied by its priority. If the delay time elapsed and the unit was still busy, then the dispatcher assigned the call to the nearest available unit.

For all calls, especially the delayed calls, whether mobile or nonmobile, the citizen caller was informed by the call taker as to the expected time of contact by the Garden Grove personnel.

Expeditor Unit. In Garden Grove, if the call takers classified a call as eligible for an alternative response, it was transferred to the expeditor unit, which selected the specific alternative response. This procedure

differed from the other two sites, where call takers were responsible for the selection of the most appropriate alternatives. The expeditor unit in Garden Grove had a full range of alternative responses, including taking the report over the telephone, requesting that the caller come to the station to report the incident, sending the caller a mail-in report form, referring the call to another agency, and dispatching a crime scene investigator.

The primary hours of operation of the expeditor unit were 8:00 a.m. to 10:30 p.m., Monday through Friday. On Saturdays and Sundays, the unit operated a split shift with three hours in the morning (Saturday from 10:00 a.m. to 1:00 p.m.; Sunday from 9:00 a.m. to 12:00 p.m.) and three hours at night (Saturday from 7:00 p.m. to 10:00 p.m.; Sunday from 5:00 p.m. to 8:00 p.m.). The day and evening shifts on the weekdays were handled by two sworn officers permanently assigned to the unit, both of whom were on light duty. The weekend coverage was handled by regular patrol officers who were temporarily assigned on a rotating basis to the duty. In all, 32 patrol officers received training to fill in as expeditors. The weekend hours, when patrol officers were used, were kept to a minimum to avoid depleting the patrol force.

Prior to the above schedule, the expeditor unit was staffed with patrol officers from 8:00 a.m. to 10:30 p.m. on Saturdays and Sundays, similar to the weekday schedule. However, the low volume of calls did not justify this diversion of patrol officers from mobile patrol, and many officers complained about the inactivity. In January 1983, officers from the crime scene investigation unit replaced the patrol officers performing the weekend expeditor function.

The expeditor unit was physically housed in a room connected to the communications center. One end of the expeditor room opened into the communications center, the other side contained a counter which served as the desk for walk-in reports and citizen information. A CRT unit was available in the expeditor room, permitting access to the CAD system.

The main criteria for telephone reports in Garden Grove was time of occurrence on <u>cold</u> calls, which was defined as follows:

> Time of occurrence of incident is more than 15 minutes prior to a request for police service; and/or the suspect is not at the scene or in the immediate area; and/or rapid response by a mobile police unit would not aid in the apprehension of the suspect or in securing evidence at the scene.

When the expeditors were available, appropriate calls were directly transferred via the CRT screen. If the expeditors were busy, the call takers informed the citizen that an expeditor would return the phone call within a short period of time. If the caller would not be available for an immediate call back, the call taker made additional arrangements and noted this information in the notes portion of the call screen format on the CAD. When the expeditors were not on duty, the call takers took initial information from callers, informed them as to the time the expeditor would be back in service to return the call, and placed the information into the computer's

automated calls for service list to be processed by the next expeditor on duty.

In terms of alternative responses, the biggest change in Garden Grove was the handling of reports over the telephone, since this had never been done in the department prior to the DPR project. Procedurally, the expeditor personnel were allowed to complete their incident reports on a short form by hand. All other field reports completed by field units were dictated over the phone to a central recorder and eventually transcribed, which is similar to the mobile field incident reporting procedure in Greensboro. If the expeditor reached a citizen complainant by phone and did not receive sufficient information to complete the incident report over the phone, the expeditor either sent this citizen a mail-in report form or requested that the citizen come to the station in person to complete the report after locating the necessary information.

Walk-In Response. Walk-in reports were also designated for callers who had been involved in minor property damage traffic accidents or, in the case of a crime offense, did not know what items were stolen; did not know the make or model of the stolen items; or had evidence which needed to be duplicated (e.g., personal documents, photographs). As well, some walk-in reports came as a result of the citizens' own initiative because they were close by or they wanted an immediate copy of the incident report for insurance purposes. The majority of walk-in reports were processed during the day because the front door to the police station was locked after 6:00 p.m. In addition to the expeditor staff, civilian cadets assisted in processing walk-in reports.

Mail-In Response. A new mail-in report form was designed by Garden Grove and implemented during this test phase. The criteria for the use of this response mode, as noted in the Garden Grove DPR manual, was as follows:

> The Expeditor may use the mail-in "Citizen's Report of Property Crime" form on those minor burglaries, thefts, and vandalism cases for which there are no leads, no suspect information, and the reports are being made primarily for insurance, tax, or information purposes only.

Thus, based on initial information given over the telephone, the expeditor could choose to send the citizen the self-reporting mail-in form. This mode was also used if, after several attempts, the expeditor could not reach the complainant by telephone on a call-back.

In terms of degree of implementation, the walk-in report was satisfactory, but there were some problems with the mail-in report. First, the expeditors did not like to use the mail-in mode. They felt that in the time it took to process the initial citizen information over the phone, prepare the mail-in form, and mail it to the citizen, they could have processed the call as a telephone report call. In fact, at the end of the seventh week of implementation, it was discovered that the mail-in was being so infrequently used that the grant staff issued a memorandum requiring increased usage of the mail-in response mode in order to provide a sufficient sample size for the evaluation.

The other problem with the mail-in was the poor return rate. After a few weeks into the test period, it was apparent that only 30 percent of the citizens were returning the mail-in form. The department then devised a follow-up letter notifying citizens of the importance of completing and returning the form. Nonetheless, this feature did not seem to improve the return rate. The grant staff considered making follow-up phone calls, but this was thought to be too expensive.

Intra-departmental Referral. Garden Grove also implemented a response alternative which involved the crime scene investigation unit (CSI). On commercial and residential burglaries and grand thefts, where usable evidence was available, the expeditors had the option of taking the basic incident report over the phone and then contacting a member of the CSI unit to process the scene. The victim was advised that someone from the unit would call and arrange an appointment.

When CSI personnel processed the scene, they did not write another incident report, since it was felt that the information obtained earlier by the expeditor was sufficient. However, a supplemental report might be completed to list additional missing or stolen property that was not given to the expeditor, or a supplemental report could be left with the victim to be filled out and returned by mail.

This alternative use of the CSI unit was a departure from past practice in two ways. First, it was the first time that personnel in the unit, which had been in existence for several years, were allowed to make their own scheduled appointments to process evidence scenes. Previously, they were dispatched as any other mobile unit, and the victim would generally not be apprised of their arrival time. Second, the new operation was much more efficient in that patrol officers no longer needed to respond to the scene, fill out preliminary reports, and remain while someone from the CSI unit processed the scene.

However, the CSI alternative was not implemented to the extent which the project staff initially intended. The unit was supposed to be staffed by six sworn officers to operate seven days a week, 24 hours a day. In this way, they could contact the victims by telephone and schedule appointments. Shortly after the test began, three of the officers left the department for reasons unrelated to the project. Cutting the staff in half had a significant impact on the volume of calls which the unit could handle. As shown in Exhibit 5-1, the unit was only able to respond to about 150 calls during the test period. With full staffing and without a fifty/fifty split for the test, the number of calls for the unit could have been substantially greater than during this test.

Outside Referrals. In terms of outside referrals, the Garden Grove procedures allowed the call takers, in appropriate cases, to refer callers to specialized support and victim assistance services, including Family Violence Hotline, Amparo Youth Shelter, Turning Point Drug Center, Family Services, Legal Aid, and the West Court Victim Assistance Program. During DPR, Garden Grove also compiled a resource directory of social service agencies which was used by call takers to provide information to callers.

With regard to degree of implementation, this alternative response procedure was not extensively implemented in any of the sites. The NIJ Test Design contemplated that the police departments would make formal written agreements with the outside agencies, and would compile a written directory of referral agencies which would specify the operating procedures, eligibility criteria, and hours of availability of the outside agencies. This was not accomplished in the formal sense envisioned by the test design.

The police departments felt that they could not "screen" clients for the referral agencies, thus they did not want to elaborate to callers on the eligibility criteria of social service and other agencies. The police departments also did not want to be put in a position of being responsible or accountable for the delivery or quality of the outside services. Thus, formal arrangements were avoided.

TEST RESULTS

Use of Alternatives

An important area of analysis for the entire experiment was to estimate how many calls for service could actually be handled in an alternative manner. Answering this question in Garden Grove requires a more detailed look at Exhibit 5-1. The call takers made selection decisions on 27,671 calls during the test, of which 5,510 calls met the test criteria. Had it not been for the fifty-fifty split requirement of the test, all of these calls would have been diverted to the expeditor unit. In addition, 670 calls were referred to outside agencies. Thus, a total of 6,180 calls, or 22.3 percent, could be completely diverted from patrol units. In addition, 2,300 calls were eligible for a 30-minute delay, and 2,579 were eligible for a one-hour delay for a total of 4,879 calls which could be delayed in dispatch. In summary, at its maximum, about 40 percent of the calls could have received an alternative response. In addition, if 15-minute delays were included, then this figure would increase to 66.1 percent of the calls. Of course, not all calls in the latter category of delayed mobile response were, in fact, actually delayed. Further analysis showed that only 4.8 percent of the calls were delayed in dispatch for more than thirty minutes. If the department had been allowed to introduce a major change in field operations, such as more on-scene investigative time by patrol or directed patrol assignments, then the number of calls actually delayed would have been much higher. However, under the conditions of the grant, the departments were requested not to introduce major programs, so that citizen satisfaction with the alternatives could be assessed without fear of other intervening changes having an influence. Since the department did not make any major changes, there is more confidence in relating the results of the citizen surveys to the DPR project.

Exhibit 5-1 shows that 21,491 calls for service required a mobile dispatch. That is, the characteristics of the incidents were such that a patrol officer was required at the scene. The new four-digit call classification code allowed for a detailed examination of why these calls required police presence. Exhibit 5-2 shows breakdowns of these calls into type of call, time of occurrence, injuries, and response mode.

EXHIBIT 5-2

CHARACTERISTICS OF CALLS REQUIRING MOBILE RESPONSE IN GARDEN GROVE

Type of Call	Number	Percent
1. Crimes Against Persons	1,868	8.7
2. Disturbances	4,116	19.2
3. Assistance	2,533	11.8
4. Crimes Against Property (not burglary)	2,316	10.8
4B. Burglary	516	2.4
5. Traffic Accidents	2,165	10.1
5T. Other Traffic Problems	1,043	4.9
6. Suspicious Circumstances	3,945	18.4
7. Public Morals	213	1.0
8. Miscellaneous Service	301	1.4
9. Alarms	2,475	11.5
	21,491	100.0

Time of Occurrence	Number	Percent
1. In-Progress	15,025	69.9
2. Just Occurred	4,779	22.2
3. Cold	1,687	7.9

Injury Status		
1. No Injury	19,711	91.7
2. Injury	1,780	7.9

Response Status		
1. Mobile Dispatch	19,804	92.1
2. Override	1,687	7.9

The type of call distribution shows that the most frequent call was a disturbance (19.2 percent), followed closely by suspicious circumstance calls (18.4 percent). Four other types of calls--assistance, alarms, traffic accidents, and crimes against property (not burglary)--each comprised about 10 percent of the total. With regard to time of occurrence, 69.9 percent of the calls were classified as in-progress, 22.2 percent as just occurred, and 7.9 percent as cold. Based on other studies, the volume of cold calls may appear to be lower than expected; however, many of the cold calls were handled by the expeditor unit and did not receive a mobile response. The category of in-progress calls includes any incident which was on-going at the time of the call into the police department. In-progress calls also included other incidents such as domestic disturbances and many suspicious circumstances calls.

Exhibit 5-2 also shows that 7.9 percent of the calls were classified as "override" calls, which meant that a patrol unit was sent even though the call would ordinarily be eligible for an alternative. The usual reason for an override was that the citizen demanded that a patrol unit be dispatched to the scene. This percentage was higher than the department management expected. The project staff found that the call takers were abusing the "citizen demand" option. At a meeting with the call takers, it was determined that many of them had empathy for the victim and personally believed that a police officer should be dispatched even when there clearly was no reason to send an officer other than the desire of the caller. A related problem was that the expeditor unit was not staffed around the clock. When no expeditors were on duty, call takers were instructed to tell citizens that someone would call them as soon as possible to take a report. Many call takers also had difficulty with this procedure, and found it more compassionate to have a unit dispatched rather than tell the citizen that the response would be by telephone in several hours. The Garden Grove staff refers to this problem as one of the "human factor" problems of implementing a DPR project.

It is inevitable that some citizen overrides will occur. However, the aim of the DPR project was that such overrides be initiated by the citizen rather than the call taker. In this regard, the other two sites were more successful, since they experienced less than 2 percent overrides. Had Garden Grove met this figure, then an additional 5 percent of the calls could have been diverted to the expeditor unit, and a total of about 27 to 28 percent of the calls could have been completely relieved from patrol units.

There are other features of the Garden Grove classification system which highlight the advantages of basing decisions on the characteristics of a call. Some of the results for the key call types of crimes against persons, assistance, and burglary calls are as follows:

- Of the 1,868 crimes against persons:
  - 29.1 percent were Immediate Injury Category
  - 60.7 percent were Immediate Crimes Against Persons Category
  - 10.3 percent were One-Hour Delay Category

- Of the 2,533 assistance calls:
  - 13.0 percent were Immediate Injury Category
  - 82.1 percent were 15-Minute Delay Category
  - 2.3 percent were 30-Minute Delay Category
  - 2.6 percent were One-Hour Delay Category
- Of the 516 burglary calls:
  - 29.3 percent were Immediate Crimes Against Property Category
  - 43.6 percent were 15-Minute Delay Category
  - 27.1 percent were 30-Minute Delay Category

These figures show the importance of identifying the call characteristics in determining the most appropriate response. For example, less than 3 percent of the assistance calls can be delayed more than one hour, while 10 percent of the crimes against persons calls can be delayed more than one hour. Under the Garden Grove system, any burglary call which could be delayed more than one hour was routed to the expeditor unit for a telephone report or other type of alternative service.

Further evidence of the value of call characteristics is shown by the following table on time of occurrence and injury for crimes against persons calls:

CRIMES AGAINST PERSONS CALLS

	In-Progress	Just Occurred	Cold
Injury	386 (42.1%)	157 (20.7%)	40 (20.8%)
No Injury	530 (57.9%)	603 (79.3%)	152 (79.2%)
Total	916	760	192

These figures show that injuries were more likely with in-progress calls in this category than just occurred or cold calls. With in-progress calls, about 40 percent involved injuries, as compared to only 20 percent in the other two categories.

Delay Time, Travel Time, and Service Time

The impact of the DPR project on the operations of the dispatchers and on the patrol units can be seen by analyzing the communications center delay times and travel times of patrol units to incidents. Exhibit 5-3 on the following page illustrates these results. By priority, the communications center call processing delays (elapsed time from receipt of call to dispatch) decreased substantially with the more serious calls. Calls with priorities 94, 95, and 96 had communications center delays of 8 to 10 minutes as compared to priorities 97, 98, and 99 with 2 to 4-minute delays. The travel times of patrol units to these calls showed the same pattern, with travel times to the low priority calls averaging about 6.6 minutes, and travel times to serious calls about 4.5 minutes.

EXHIBIT 5-3

RESPONSE TIMES BY CALL CHARACTERISTICS

Priority Designation	Communication Center Call Processing Time	Patrol Travel Time
94 - Potential One-Hour Delay	9.9 minutes	6.6 minutes
95 - Potential 30-Minute Delay	10.3	6.3
96 - Potential 15-Minute Delay	8.4	6.1
97 - Immediate Dispatch - Crimes Against Property	3.4	4.9
98 - Immediate Dispatch - Crimes Against Persons	2.4	4.5
99 - Immediate Dispatch - Injury	1.8	3.9
Overall	6.6	5.5

Time of Occurrence	Communication Center Call Processing Time	Patrol Travel Time
In-Progress	5.4 minutes	5.4 minutes
Just Occurred	7.1	5.4
Cold	15.5	7.8
Overall	6.6	5.5

Injury	Communication Center Call Processing Time	Patrol Travel Time
Injury	2.2 minutes	4.1 minutes
No Injury	6.9	5.7
Overall	6.6	5.5

By time of occurrence, the communications center delay times ranged from an average of 5.4 minutes for in-progress calls to 15.5 minutes for cold calls. Average travel times were 5.4 minutes for in-progress and just occurred calls and 7.8 minutes for cold calls. By injury categories, the communications center delays were only 2.2 minutes for calls involving injuries, compared to 6.9 minutes for calls without injuries, while travel times averaged 4.1 minutes to calls with injuries and 5.7 minutes to calls without injuries. In summary, total response times (communications center time plus travel time) had the following results under the DPR project:

- 7.0 minutes for high priority calls
  15.8 minutes for low priority calls

- 11.7 minutes for in-progress/just occurred calls
  23.3 minutes for cold calls

- 6.3 minutes for calls with injuries
  12.6 minutes for calls without injuries

These averages on total response time show that the DPR project has had a significant impact on both the operations of the communications center and field operations. Calls which should have received rapid response by the police were being handled in an expeditious manner. The ability of the call takers to recognize these situations increased under the DPR project, and the officers in field operations responded to the changes.

Calls Handled by the Expeditor Unit

In Garden Grove, the primary alternative for relieving officer workload was to route the call to the expeditor unit to decide the most appropriate alternative response, rather than to leave this choice with the call takers. The only exception to this rule was with referrals to outside agencies. Exhibit 5-1 showed that for the test calls handled by the expeditor unit, 68.1 percent were telephone reports, 22.7 percent were walk-in reports, 3.8 percent were mail-in reports, and 5.4 percent received a CSI response. The types of calls handled by the expeditor unit were as follows:

EXHIBIT 5-4
TYPES OF CALLS HANDLED BY THE EXPEDITOR UNIT

	Type of Call	Percent
1.	Crimes Against Persons	2.8%
2.	Disturbance	4.6
3.	Assistance	4.8
4.	Crimes Against Property/Theft	62.3
4B.	Burglary	16.7
5.	Traffic Accidents	6.1
6.	Suspicious Circumstances	.6
7.	Public Morals	.5
8.	Miscellaneous Service	1.6
		100.0

As expected, the main type of call for the expeditor unit was the theft category, which accounted for more than half the calls. Second was the burglary category, which represented a significant departure from the practice of most police departments with telephone report units. It is unusual to have burglary calls taken over the telephone, and the high volume of over 16.7 percent attests to the fact that the Garden Grove project was willing to have alternatives for major offenses. The same comment is true for traffic accident reports, which accounted for 6.1 percent of the total. These reports were for non-injury accidents and were generally used to satisfy the citizen's needs for insurance purposes. Almost all of the traffic accident reports were walk-in reports in which the expeditor had requested that the driver come to the police department to complete the report. It should also be mentioned that most of the crimes against persons calls were simple assaults. Purse snatching and strong-arm robberies were also handled by the expeditor unit when there was a significant time delay by the victim before calling the police.

Another feature of the expeditor unit was that, during the test period, police cadets supplemented the police officers. The cadets in Garden Grove were non-sworn, part-time employees who worked for the police department while attending college. The cadets handled approximately 26 percent of the total number of reports referred to the expeditor unit.

Another way of viewing the activities of the expeditor unit is to consider the percentage of reports taken by the unit personnel. During the six-month test phase, the unit handled 50.4 percent of the burglary reports and 55.6 percent of the larceny reports. In total, based on the number of Part I crime and traffic accident reports, the expeditor unit handled 32 percent of the reports in the department. This is a large volume of reports by a relatively small number of personnel. If the fifty-fifty split conditions had not been in effect, then about 64 percent of the reports would have been handled by the expeditor unit.

Citizen Satisfaction with the Alternatives

Chapter 13 gives a detailed analysis of citizen survey results for Garden Grove, but it is beneficial at this point to highlight the findings of the surveys conducted during the test period. The surveys conducted in Garden Grove during the test period were as follows:

Number of Citizens Surveyed	Type of Response
293	Mobile
104	Delayed Mobile
338	Telephone Report
93	Walk-In

One of the key questions on the survey asked how satisfied the citizen was with the service provided by the police department. The citizen was asked to respond to one of four choices: very satisfied, satisfied, dissatisfied, or very dissatisfied. Using categories of satisfied versus dissatisfied gives the following results:

EXHIBIT 5-5
CITIZEN SATISFACTION WITH ALTERNATIVES

	Satisfied	Dissatisfied
Mobile Response	97.0%	3.0%
Delayed Mobile Response	96.1	3.9
Telephone Report	94.7	5.3
Walk-in Report	88.3	11.7

These figures show high levels of satisfaction in all categories. Delayed mobile responses reflected only a slight reduction in satisfaction over mobile responses. With telephone reports, the satisfaction decreased to about 95 percent, and a further reduction to about 88 percent was seen with walk-in reports.

In a more detailed examination, there were differences between the percentage of persons saying they were "very satisfied" versus "satisfied." For example, with the mobile response surveys, 52.6 percent stated they were very satisfied as compared to 44.2 percent for delayed mobile responses, 31.4 percent for telephone reports, and 31.2 percent for walk-in responses.

Since the percent of dissatisfaction was highest with walk-in reports, an examination of the reasons in this category was of interest. The main reasons given were the inconvenience of coming to the police department, and a belief that the officers were not interested in the citizen's problem. Another reason given was that the citizens felt that the department did not intend to conduct an investigation of the complaint but rather just take the report. This latter complaint was justified in the sense that the investigation of the incident probably would have been futile. However, Garden Grove felt the problems of inconvenience and lack of interest needed to be addressed in the future.

Another question asked of the respondents who had received an alternative was whether they would be willing to use the same service again for a similar incident. More than 90 percent of the walk-ins and 80 percent of those who filed a telephone report said they would be willing to use these alternatives again. However, only 65 percent of those who received a delayed mobile response wanted a similar service in the future.

One reason recipients of delayed mobile response may have been more negative was that they were not all told that the response to their call might be delayed. Just over half of the respondents (51 percent) said they were not told to expect a delay, and another 6.7 percent could not remember if they had been informed of a potential delay. This result indicates that one of the most difficult components of a DPR project is having the call takers consistently inform citizens that a delay may occur.

In summary, the results of the citizen surveys during the test phase supported the alternatives which were implemented. The majority of

citizens were satisfied with the type of service they received from the department and were willing to receive the same type of service in the future for similar types of incidents.

CONCLUSIONS

The major evaluation conclusions of the field test in Garden Grove may be summarized as follows:

- The alternatives of telephone reports, walk-ins, scheduled appointments, mail-in reports, referrals, and delayed dispatches were successfully implemented during the DPR project. Very few problems were encountered during the implementation.

- The experimental design was successfully implemented. Fifty percent of the eligible calls were diverted to the expeditor unit and the other fifty percent were dispatched to field units. This procedure allowed the evaluation team to conduct citizen surveys on satisfaction during the same time period as the field test.

- Projecting the test results, the expeditor unit could handle about 20 percent of the incoming calls for service and produce well over half of the incident reports in the department.

- The policy of delayed mobile responses has the potential of providing time for officers to perform other duties when most needed. Approximately 40 percent of the incoming calls in Garden Grove could be delayed more than 30 minutes.

- The least successful alternative in Garden Grove was the mail-in report. The main problem encountered was that more than half of the reports were not returned to the department. Expeditor unit personnel believed that a telephone report could be taken in the time required to explain the mail-in process to a citizen and send the form to the citizen.

- Citizens were well satisfied with the services provided by the alternatives. 96.1 percent of the citizens surveyed stated that they were satisfied with a delayed mobile response, 94.7 percent were satisfied with a telephone report, and 88.3 percent with a walk-in response.

- Of the citizens surveyed, 90.2 percent stated they would use the walk-in alternative again for a similar incident, 80 percent said they would use a telephone report unit again, and 65.7 percent said they would agree to a delayed mobile response. The primary reason for the lower rate with delayed mobile response was that many callers were not informed of the potential delay when they talked with the call taker.

- Proper screening under the new call classification procedures allowed call takers and patrol officers to respond quickly when needed. Total response time to calls in progress was 7.0 minutes for high priority calls, as compared to 15.8 minutes for low priority calls. Similarly, the total average response time to calls with injuries was 6.3 minutes, compared to 12.6 minutes for calls without injuries.

CHAPTER 6

THE DPR TEST IN GREENSBORO

DPR ALTERNATIVES

Overview

The Greensboro site implemented the test of the alternative responses on January 15, 1983, preceded by a special order from the Chief of Police issued to all personnel on January 3, 1983 explaining the value of the project to the department. This order followed closely a previous memorandum on December 30, 1982, which alerted all personnel to the experimental nature of the DPR test and commended the work of the project staff, the Response Advisory Board, and all others involved in the project. The memoranda by the Chief helped to set a positive tone for the test period, which continued until mid-July 1983.

The Greensboro project staff spent a great deal of time in planning the alternative responses and preparing for implementation. More time was required than at the other two sites because they assembled a fifteen-member Response Advisory Board, chaired by the major in charge of the Field Operations Bureau, to review all alternative responses and procedures. Activities of this committee will be discussed later in this chapter.

The basic DPR process implemented in Greensboro was different from Garden Grove in two respects. First, the design of the experiment and call randomization process was different. In Garden Grove, calls for service which met the DPR criteria were split automatically by the computer between traditional service and the new alternative service. In Greensboro, as reflected in Exhibit 6-1, the experimental/control procedure was based on the work schedule for the telecommunicators, who were split into two groups of two squads each. Two squads worked four days in a row on 12-hour shifts, then had the next four days off, while the other two squads worked four days in a row on 12-hour shifts. Thus, squads A and B served as the control group and squads C and D served as the experimental group.

EXHIBIT 6-1

GREENSBORO TELECOMMUNICATOR WORK SCHEDULE

Group	Designation	Work Schedule							
		Sun	Mon	Tues	Wed	Thur	Fri	Sat	Sun
Squad A	Control	X	X	X	X	0	0	0	0
Squad B	Control	X	X	X	X	0	0	0	0
Squad C	Experimental	0	0	0	0	X	X	X	X
Squad D	Experimental	0	0	0	0	X	X	X	X

Note: An "0" represents a Day Off while an "X" represents a Work Day of 12 hours.

On a control day, for the four-day period in which the control group was on duty, calls meeting the DPR criteria were dispatched in the traditional, pre-DPR manner. On an experimental day, calls meeting the DPR criteria were dispatched according to one of the new alternative responses.

All the telecommunicators were trained to use the new call intake procedures and call classification system, and to match calls with the new alternative responses, but only the experimental group actually selected and used the expanded alternative responses. A schematic of the overall implementation process in Greensboro is shown in Exhibit 6-2 on the following page.

A second difference from the Garden Grove process, which is also reflected in Exhibit 6-2, is that in Greensboro the selection and transfer of calls for service to the alternative responses was handled by the call takers. In Garden Grove, this was accomplished by the expeditor unit.

Prior to implementation of the alternatives, Greensboro decided to reduce two types of police services which they felt were inappropriate and too costly for the police to continue. These services were general escort services and responses to all fire and ambulance calls. The changes were recommended by the Response Advisory Board.

Police escorts for funerals, bank deposits, and motorist assists accounted for over 100 calls for service per week prior to DPR, and necessitated the allocation of over 30 patrol officer hours per week to provide the service. While implementing DPR, the department reduced this service by nearly 80 percent by eliminating the routine escorts for bank deposits entirely and reducing the other escorts.

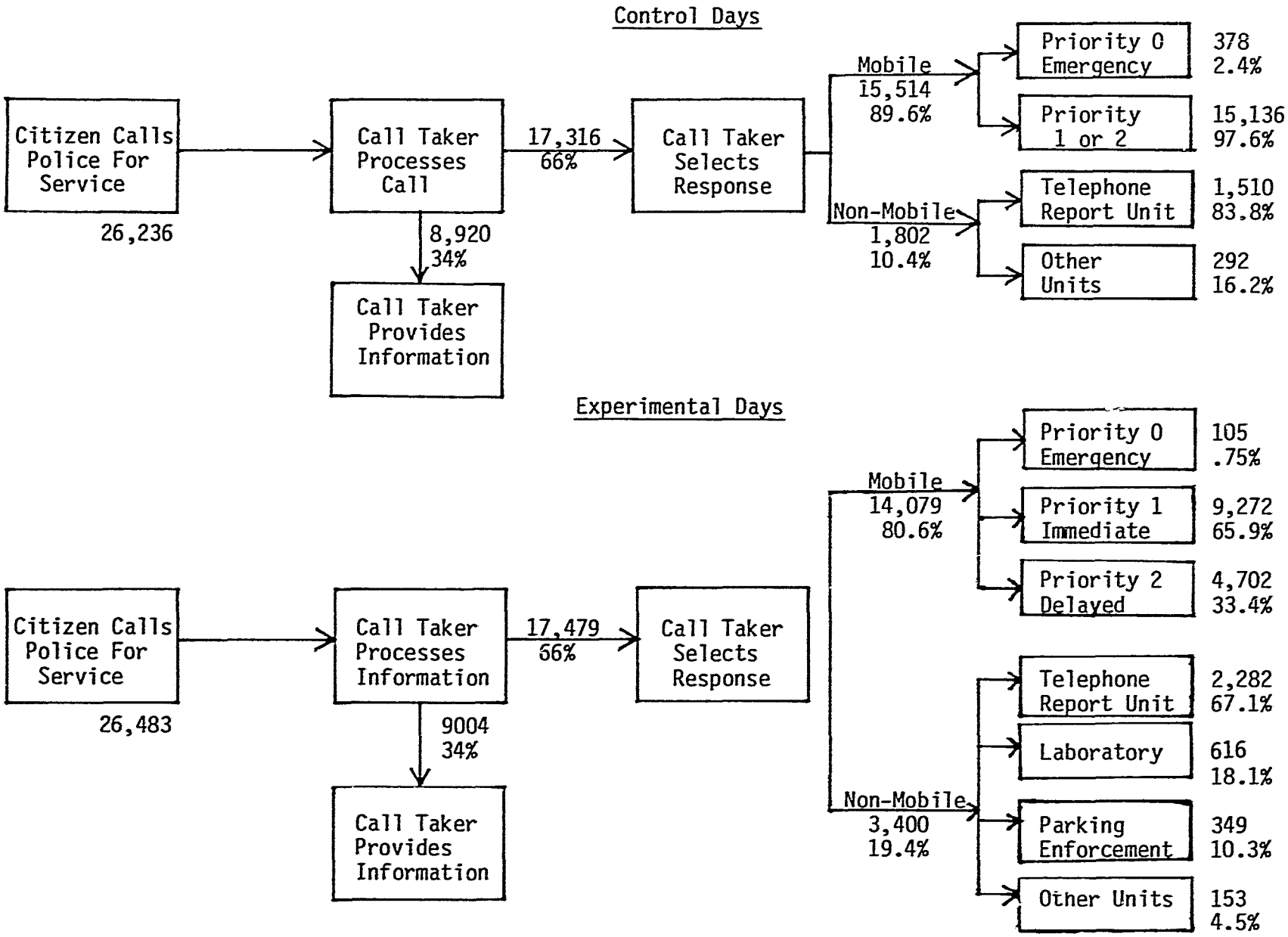
In addition, the police discontinued the practice of dispatching a police unit on every fire and ambulance call. Historically, the police department dispatched mobile units, often on a quick response basis, to respond to such calls as electrical investigations, smoke clearing operations, hydrant openings, and other non-emergency calls of the fire department. In meetings with the fire department, it was decided that the police would only respond to calls where someone's life was in obvious peril or upon specific request by the fire department. The police were able to control this situation and implement the change in procedure during DPR because the communications center handled the dispatching of police and fire calls. As a result of this change, these calls were reduced by 40 percent.

Greensboro actually developed a fuller range of alternative responses than the other two sites. In addition to implementing the alternatives suggested in the test design, such as delayed mobile, telephone report, walk-in, mail-in, and referral, Greensboro diverted a number of calls from patrol to other units in the police department to provide a first response and complete the incident report. Nine basic response modes were implemented during the test phase. The modes were described in Exhibit 3-5, which was excerpted from the Communications Manual developed by the project staff.

Overall, in terms of degree of implementation of the alternative responses, Greensboro was very successful in implementing the full range of

EXHIBIT 6-2

GREENSBORO DPR PROCESS



Test Period: January 15, 1983 - May 7, 1983

different response modes. However, in terms of volume of calls diverted from the uniform patrol response, Greensboro followed an admittedly conservative philosophy. By way of explanation, Greensboro stated that during the test period they did not wish to redistribute calls to the extent that they had to borrow personnel from patrol to staff other alternative units. Also, no additional personnel could be employed for the test. Greensboro had not increased the number of authorized sworn personnel in 11 years. Thus, while this observation does not suggest that the Greensboro Police Department was in any way unsuccessful in its degree of implementation for the alternative responses, it certainly could have been more successful in transferring a greater volume of calls for service to alternative handling.

Description of Alternative Responses

Delayed Mobile Response. One of the new mobile responses implemented in Greensboro was the delayed mobile response. This new response, which was only tested during the experimental days, allowed dispatchers to hold a call for up to 30 minutes in order to dispatch the call to the zone car assigned to the geographic area where the call originated. If, after 30 minutes, the zone car was not back in service, the call would be given to an adjoining zone car. The caller would be advised that it might take one hour before a unit arrived.

The purpose of the delayed call was to reduce continuous cross-zone dispatching, which had traditionally been the case in Greensboro. The city of Greensboro is divided into four patrol districts, each directed by a captain. In turn, each district is subdivided into four or five zones, each staffed by a patrol car. Under the new DPR procedures, during the experimental days, the dispatchers did not observe the strict district boundaries. Traditionally, and during the control days, patrol cars from one district were never dispatched to respond to calls for service in another district. The problem with this, from an efficiency viewpoint, is that it may sometimes be quicker to send an adjoining unit from the next district than to wait for the travel time of another zone car from the same district.

Telephone Response Unit. The telephone response unit (TRU) in Greensboro was not new, but under DPR, the unit increased the volume of calls handled and expanded the types of calls. Before DPR, the TRU handled only eight different call types. During the experimental period, this was expanded to 25 call types. Some of the added calls included assault, burglary, vice, noise disturbance, animal calls, and threats.

During DPR, Greensboro separated the TRU function from the staff duty function in an effort to resolve the problem described in Chapter 4 on dual functions with the staff duty section. The personnel assigned to the TRU consisted of one sergeant as supervisor, and six patrol officers, most of whom were on light duty and had previously served in the TRU. The hours of operation during DPR were 6:00 a.m. to 2:00 a.m., seven days a week.

As described earlier, the procedures for administering the telephone report did not change dramatically under DPR. The call taker transferred the call, via computer terminal, to the TRU, which was located on the next floor in the police building. A TRU officer, after reviewing the basic

call information, then called the complainant back to complete the report. If the caller could not be reached within one hour, the call was transferred back to communications for dispatch to the field.

One problem with Greensboro's TRU procedure was that nearly 10 percent of the calls were sent back to communications for dispatch to the field. In retrospect, the one-hour time period for reaching the complainant was too short. Subsequent to the completion of the test period, the procedure was changed to eliminate this problem so that when the complainant could not be reached by the TRU (busy signal, no answer), a TRU officer continued to make periodic attempts for 24 hours. If, at the end of the 24 hours, no contact had been made, the call was cleared as unfounded.

Mail-In Response. In Greensboro, the mail-in form was used for reporting events at specific locations which met certain enumerated criteria (no injury or danger; time of occurrence not in-progress or just occurred; no suspects or witnesses; and no usable evidence at scene). The forms were located at the security offices of two major shopping malls and five college campuses.

Procedurally, when a complainant called from one of these locations and reported a call fitting the mail-in criteria, the call taker instructed the caller to pick up the mail-in form at one of the security offices and return it to the police department in the attached, pre-stamped envelope. Security offices at these locations were also briefed to direct complainants to use the forms rather than call the police for incidents which fit the mail-in criteria. The intake point at the police department for receiving and reviewing the forms was the staff duty office. The staff duty officer entered the basic information into the CAD, then sent the reports to records for processing and mailed a copy to the complainant.

The mail-in response was the only alternative response in Greensboro not implemented on January 15, 1983. Due to the additional orientation needs of the private security personnel at the locations, the mail-in response was not implemented until March 19, 1983. This two-month delay may have been partly responsible for the low utilization of these forms during the test period.

Over a four-month period, only 38 mail-in reports were received by the department. In retrospect, the Greensboro project staff felt that the use of the mail-in response needed many more locations and that it was too dependent on the private security personnel to advocate the use of the form as an alternative to calling the police. In the future, the department felt that the locations for the mail-in reports should be expanded (to libraries and fire stations) and that the Greensboro call takers should even advise complainants who are close by, but not actually in the facility, to use the mail-in alternative.

Walk-In Response. The walk-in response was used to process complaints or reports from individuals who were requested to come into the station because of special circumstances, such as turning over found property or evidence. In some instances, the complainants just walked in on their own. Walk-in reports were generally handled by the TRU.

An interesting addition to the walk-in response in Greensboro under DPR was the "drive-in." Automobile hit-and-run victims, with property damage only, were directed by the call takers to bring their vehicles into the station and contact the accident follow-up unit, which was part of the Criminal Investigation Division.

Prior to DPR, the accident follow-up unit became involved in hit-and-run investigations after a mobile patrol unit had visited the scene or complainant's home and completed an incident report. Under DPR, to improve the efficiency of this service, the follow-up unit served as the "first response" and completed the incident report for those victims requested to drive to the station by the call takers. From January 15, 1983 to June 1, 1983, the unit processed 83 initial incident reports of hit-and-run cases.

The hours of operation of this five-officer unit were 8:00 a.m. to 5:00 p.m., Monday through Friday. If an accident investigator was not available (the unit also handled on-scene accident investigations), the hit-and-run reports were processed by the TRU. While most citizens were satisfied with this "drive-in" procedure, the unit personnel felt it did not allow them to plan, manage, and control their own workload as they had in the past. The unit's preference was to have the "drive-ins" call first and make a scheduled appointment.

Intra-departmental Referral. Greensboro's new Priority 3 and Priority 4 responses involved a direct transfer of the call for service by the call taker to an appropriate unit in the police department, other than the field patrol units, to provide the primary response and write the incident report if appropriate. This intra-departmental referral response utilized sworn and non-sworn personnel.

The theory of the intra-departmental referral was, in Greensboro's words, "to cut the middleman out of the system." In other words, they wanted to improve the efficiency of the call for service function while still maintaining citizen satisfaction. An example, cited by Greensboro in their DPR Communications Manual, is as follows:

> Example:
>
> A citizen calls and wants to provide additional information for a previously reported burglary.
>
> - Non-DPR Method - Communications would dispatch a field patrol officer to interview the citizen. The officer would dictate a follow-up report to the Word Processing Section for typing and forwarding to the Detective Division. After a processing and mail delay, the investigating detective receives the report. The detective then recontacts the victim to verify the report information and corrects where necessary.
>
> - DPR Method - Communications transfers the call directly to the Detective Division during normal business hours; after hours, takes information relative to how a detective can contact the complainant when he returns to duty.

The primary units involved in the intra-departmental referral are listed in Exhibit 6-3 along with the most prominent types of calls that were referred by communications. The workload for each of these units increased under DPR, as calls for service, which had previously been dispatched to patrol cars, began to be diverted to these units for the primary response.

EXHIBIT 6-3

GREENSBORO DPR INTRA-DEPARTMENTAL REFERRALS

Police Department Unit	Types of Calls
Sworn Response	
Detectives	Larceny, Embezzlement, Threats, Burglary
Vice and Narcotics	Gambling, Liquor Laws, Indecent Exposure
Youth Division	Juvenile Nuisance, Juvenile Assault
Traffic Enforcement	Traffic Hazard, Motorist Assist, Direct Traffic
Parking Enforcement	Parking Violations, Abandoned Auto
Civilian Response	
Evidence Specialist	Burglary, B & E Auto, Malicious Damage
Animal Control	Dog Bites, Barking, Loose Animals
Community Service	Loud Party, Neighborhood Disturbances, Public Disorder, Drunk in Public, Missing Child, Runaway

Procedurally, for Priority 4 calls, if a call met the DPR criteria, the call taker transferred the complainant immediately to the appropriate unit in the department. If no one was available at the time, the call taker was instructed to fill out a "service/complaint request form" for the basic call information, send this form to the unit, and advise the caller that the call would be returned later, or even the next day. If the caller objected, a patrol unit was dispatched.

Shortly into the implementation test period, the call takers stopped using the service/complaint request form and began to transfer the callers to the TRU. The reason given by many of the call takers was that they sympathized with the caller and wanted someone from the police department to talk with the person immediately, rather than have the person wait until the next day. However, the TRU officers, when they received the call, just filled out the service/complaint request form because they felt the type of call was most appropriately handled by the detectives, youth officers, and other personnel. Near the end of the test period, the project staff identified this situation and began to require that the call takers complete the service/complaint request form and not transfer the callers to the TRU.

Personnel from criminal investigations, youth division, and vice and narcotics did not wish to be used as an alternative response. The main reason was that it gave them little control over their caseload, unlike their traditional control through screening. In addition, they felt that these were the kinds of cases that traditionally resulted in only a patrol

report, and that they would not have conducted a follow-up or spent any time on these cases.

The procedure for the Priority 3 intra-departmental referrals was similar to the procedure for the Priority 4 calls for service except that on these calls, the evidence specialist, animal control officers, or community service specialists were dispatched to the scene on a delayed basis. These calls were held by the dispatcher for 30 minutes if the above units were not available, and were then dispatched to a mobile patrol unit. The complainant was always advised of, and acknowledged, the delayed response.

Toward the end of the test period, it was recognized that the 30-minute delay period should have been expanded to 60 minutes in order to alleviate more workload from patrol. In fact, after the test was over a change was made so that, rather than going to patrol units after a delay, these calls were transferred to a non-sworn unit, regardless of immediate availability. The non-sworn unit then scheduled an appointment with the complainant.

The evidence specialist in Greensboro was used in a similar fashion to the crime scene investigator in Garden Grove, with a few significant differences as follows:

Garden Grove	Greensboro
Sworn officers received call from telephone report unit	Civilian evidence specialist received call from communications call taker
Telephone report unit handled initial incident report over phone	Civilian evidence specialist prepared incident report at scene

In both sites, patrol officers were relieved of the responsibility of taking the initial report, waiting at the scene for the evidence specialist to arrive, and remaining while the scene was processed, as was common prior to DPR.

It is interesting to note that, based on monitoring and review of assignments by the call takers, the evidence specialist supervisor felt that most calls assigned by the call takers to his unit during DPR were appropriate; there was usable evidence at the scene of the incidents which required processing by trained specialists. From another viewpoint, the coordinator of the police department's Managing Criminal Investigations Program, an experienced detective supervisor, reviewed all of the initial incident reports prepared by the evidence specialists under DPR and found them to be as acceptable as the usual patrol reports.

The other non-sworn intra-departmental response alternatives were animal control and community services. Prior to DPR, the community service specialists did not receive any calls for service. Most of their involvement began with a request form from a patrol supervisor for their assistance in a community problem. Under DPR, they became involved in the problems at an earlier stage. The role of the animal control personnel did not change significantly during DPR.

Outside Referrals. During DPR, the Greensboro police made formal arrangements with social service and other agencies to handle police referrals. For example, complainants calling the communications center with complaints of power failures or lines down were referred to a special emergency number of the Duke Power Company. However, none of these arrangements were reduced to writing. Prior to DPR, the call takers would fill out a call for service ticket and possibly dispatch a mobile unit to observe and verify the situation. The Greensboro communications center had previously developed a social services directory, which was updated during DPR. Some of the agencies listed for referrals included Mental Health, Women's Aid, Urban Ministry, FOCUS (youth counseling), Department of Social Services, Turning Point (hotline), and others.

An oversight with this alternative was that the outside referral category was lumped with the information category in Greensboro's CAD system. Thus, for data collection purposes, it was impossible to separate the two categories and determine exactly how many outside referrals were made by the telecommunications staff during DPR. However, it was not believed that there was a significant increase in the number of outside referrals.

ROLE OF THE RESPONSE ADVISORY BOARD

The fifteen-member Response Advisory Board was formed by the Chief of Police for the specific purpose of reviewing the progress of the project, determining the procedures for implementing the alternatives, and laying the foundation for the DPR project to be continued after the conclusion of the grant period. The Board was chaired by the major in charge of the Field Operations Bureau and was comprised of all ranks and representatives from all sections of the department on which the project might have an impact.

The Board met every day for a two-week period to accomplish its tasks. At the first meeting, DPR project staff members made presentations on the activities of the project, the development of the call classification system, the grant requirement for an experiment with randomization, and other related topics of interest to the group. While the main objective of the Board was to see that the alternatives were implemented, an early decision was that a review of the call classification system was needed to determine which alternatives were being considered for each type of call. As a result of this decision, the first week of meetings was devoted to discussions of each type of call, the five-digit descriptor codes which were possible for each call type, and the potential alternatives. Some revisions on alternatives were made as a result of this review.

During the second week of meetings, the group discussed the problems associated with the establishment of the full range of alternatives. For example, one decision which came out of these meetings was to dispatch Priority 3 and Priority 4 calls to patrol officers if a delay of more than 30 minutes occurred. Other areas which were addressed included the problem of the staff duty officer position and the TRU position, the hours that the alternatives should be in place, the use of the mail-in reports, and other related problems.

The use of this Response Advisory Board was very beneficial in resolving several key issues before they became problems during the implementation. The major who chaired the Board did an outstanding job in conducting the meetings over a long two-week period as well as keeping the group focused on the issues at hand. The other benefit of the Board was that it solidified the project in the department. Rather than being a grant project assigned to a few individuals, it became a department-wide project which virtually ensured that it would be continued after the grant period. All Board members saw the need for the alternatives and agreed that they could be of great benefit to the department in relieving workload from patrol officers.

There were two drawbacks related to the Board's efforts. First, it delayed the implementation of the test for approximately two months while the project staff incorporated the decisions of the Board into the call classification system and the response procedures. Second, the test was conservative in the sense that it did not take full advantage of the alternatives. The conservative approach is reflective of the decisions of groups of this size, which tend to compromise rather than always take strong positions. In addition, the department wanted to consider the project a long-range effort, of which this test was the first step. It was envisioned that the department would review the success of the alternatives after the grant period with the aim of expanding the circumstances and types of calls which could receive alternative responses. The consequences of this conservative approach can be seen in the next section on the test results.

TEST RESULTS

Use of Alternatives

The test of the alternatives began on January 15, 1983 and continued for exactly 112 days--56 experimental days and 56 control days. This test period was purposely chosen because it gave a sufficient length of time to test the alternatives, and also had the advantage of having the same number of days of the week for the experimental and control periods. That is, during the experimental days, there were eight Sundays, eight Mondays, etc., and the same held true with the control days. The impact of the alternatives could then be measured without having to be concerned about day of week variations. Moreover, because the experimental and control days were over the same six-month period, seasonal variations also did not have to be given special consideration.

Exhibit 6-2 shows the procedure implemented for the control and experimental days. The volume of "call taker provides information" calls accounted for 34 percent of the total incoming calls to the communications center. These calls were requests for telephone numbers of other sections in the department or in the city, directions to a location, advice on whether a problem is a police matter, or any of a variety of other topics. While 34 percent may seem a high figure, it is in line with other studies which have captured this type of information.

Other key results from Exhibit 6-2 are the following:

- There were 34,795 calls requiring some type of police department action; 17,316 (49.8 percent) of these calls were during the control days and 17,479 (50.2 percent) were during experimental days. The almost perfect split between control and experimental days gives credence to the validity of the test.

- During control days, basic patrol units responded to 89.6 percent of the dispatched calls, and 10.4 percent were handled by the TRU or other alternatives, as compared to the experimental days for which 80.6 percent of the dispatched calls were handled by the basic patrol units and 19.4 percent by other alternative responses. The use of the alternatives was almost doubled during the experimental days.

- The TRU made a total of 1,510 reports during control days, as compared to 2,282 reports during experimental days, for a workload increase of 51.1 percent.

- Other units handled 292 calls during the control days, as compared to the experimental days in which the evidence technicians (laboratory) handled 616 calls, the parking enforcement section handled 349 calls, and other units handled 153 calls.

These figures reflect significant increases in the use of the alternatives in Greensboro during the experimental days. The key result is that 19.4 percent of the calls eligible for dispatch were handled by alternative responses. However, given the history of already having alternatives in Greensboro, it was expected that even more calls would have been diverted from basic patrol units during the experimental period. The fact that more calls were not diverted reflects the conservative approach the department took during the test period.

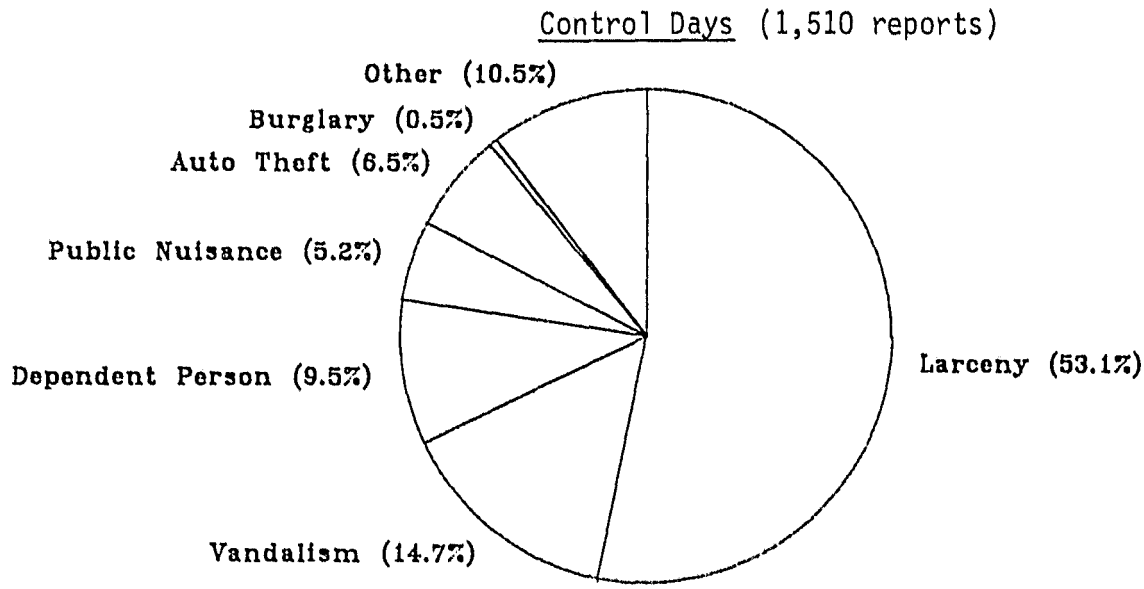
To further validate the test, statistics were gathered for an eight-week period in 1982 prior to the implementation of the expanded alternatives. For this eight-week period, it was found that 91.2 percent of the calls were dispatched to basic patrol units, 7.7 percent were handled by the TRU, and 1.1 percent by other units. These percentages are close to the results for the control days, which indicates that the traditional methods of handling calls were continued on the control days during the experiment. One difference was that during this prior period, 10.5 percent of the calls to basic patrol units were classified as emergencies, as compared to only 2.4 percent during the control days. This difference can be attributed to the new call classification system and the training which the telecommunicators received on how to identify true emergency calls.

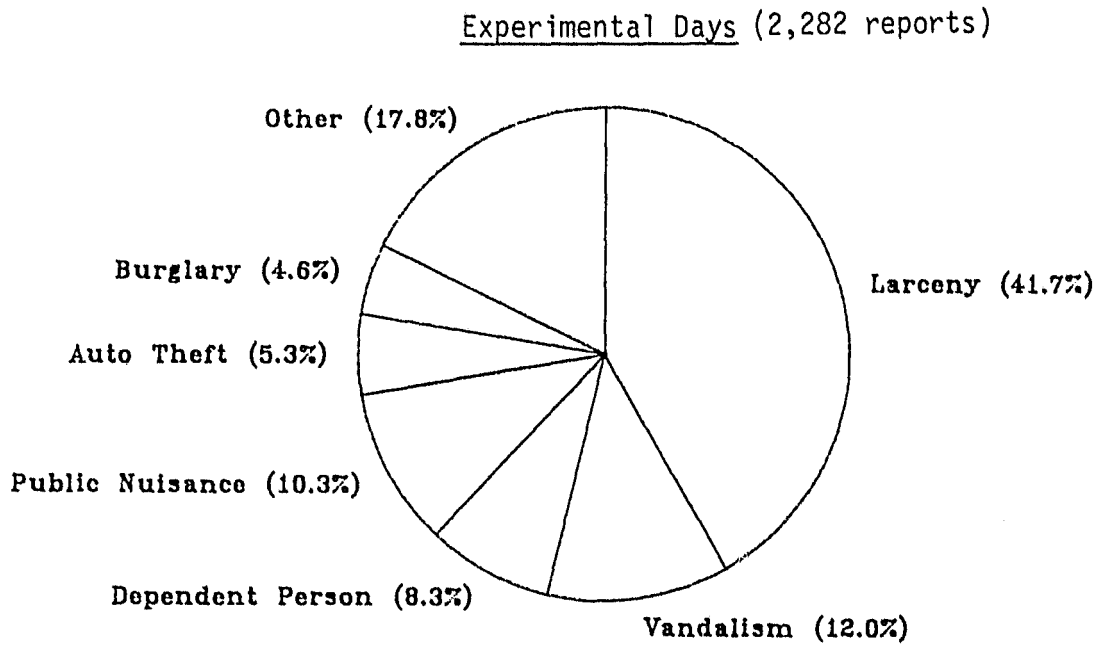
TRU and Evidence Technician Calls

As already noted, the increase in TRU calls was substantial, with an increase of over 50 percent during the experimental days. Exhibit 6-4 shows that the mix of report calls for the TRU also changed as a result of

EXHIBIT 6-4

TRU REPORT CALLS





the new call classification system. Larceny report calls continued to be the main type of call, representing 53.1 percent during the control days and 41.7 percent during the experimental days. The most significant change was in the burglary category, which accounted for less than 1 percent during the control days and almost 5 percent of the TRU reports during the experimental days. Public nuisance report calls also increased from 5.2 percent on control days to 10.3 percent on experimental days. Further, the "other" category shows 10.5 percent during the control days and 17.8 percent during the experimental days. During the experimental days, this category encompassed over 30 different types of calls (including fraud, lost property, threats, trespassing, and suspicious activities) which were not evident on the control days. This indicates that the call takers were sending an increased number of call types to the TRU.

Most of the calls for the evidence technicians were burglary, vandalism, and larceny calls, although the range of calls included assaults, property recovered, and family domestic calls. The important point to remember with the evidence technicians is that these calls were assigned directly to them and no patrol units had to be dispatched to the scene. In addition to the obvious advantage of relieving workload from patrol units, the only report necessary for these calls came from the evidence technicians.

Exhibit 6-5 compares the volume of calls handled by basic patrol units with alternative responses for key types of calls. This exhibit shows that the alternative responses were used for more than half of several types of calls including larceny, vandalism, missing person/runaway, and theft from auto. It can be assumed that the calls in these categories handled by the basic patrol units were of a more serious nature and, as determined by the call taker, required the presence of an officer. With burglary and noise calls, the patrol units continued to handle the majority of these calls during the experimental days. Increasing the types of calls handled by alternative responses in Greensboro will require a further examination of the call types shown in Exhibit 6-5, as well as other selected types, to determine whether their characteristics make them appropriate for alternatives.

EXHIBIT 6-5

ALTERNATIVE RESPONSES VERSUS PATROL UNIT RESPONSE
FOR SELECTED CALLS DURING EXPERIMENTAL DAYS

Call Category	Alternative Response		Basic Patrol Units	
	Number	Percent	Number	Percent
Larceny	995	61.0%	637	39.0%
Vandalism	329	56.6	259	46.4
Missing Person/Runaway	177	62.8	105	37.2
Theft from Auto	120	67.8	57	32.2
Burglary	273	35.4	499	64.6
Noise Call	100	16.8	495	83.2
Animal Complaint	58	45.0	71	55.0

Delay Time, Travel Time, and Service Time

Under the new call classification system, a Priority 2 call was to be delayed in the communications center if the unit in the area of responsibility was busy on another call. That these delays were actually taking place is indicated by the fact that the average communications center time for Priority 2 calls was 14.9 minutes during the experimental period, as compared to only 4.6 minutes during the control days. The average of 4.6 minutes can be attributed to the fact that some delays occurred naturally when all units were busy. Further analysis showed that during the experimental days, 20.7 percent of the Priority 2 calls were being delayed for more than thirty minutes as compared to only 2.1 percent during the control days. By way of contrast, the average communications center times for Priority 0 and Priority 1 calls were all under two minutes for the control and experimental days.

One of the hypotheses of the field test was that the average travel time to emergency calls would decrease substantially, since the reduced workload would increase the chances that the unit in the area of responsibility would be available for the emergency call. However, there was only a small difference in average travel times between the control and experimental days. For Priority 0 calls, the average travel time during the control days was 4.93 minutes, as compared to 4.50 minutes during the experimental days, for a difference of only about one-half minute. By way of comparison, the travel times for Priority 1 calls were 5.48 minutes during the control days and 5.69 minutes during the experimental days and for Priority 2 calls, 6.86 minutes and 6.53 minutes, respectively. In summary, the travel time to emergency calls was not changed significantly as a result of the alternative responses, even though it was less than the other priority types.

The average service time for calls during the control days was 30.87 minutes, as compared to 29.20 minutes during the experimental days. These figures are of interest because they mean that the total amount of work for the basic patrol units was 7,982 hours during the control days and 6,852 hours during the experimental days. Thus, the workload of the basic patrol units was reduced by over 14 percent during the experimental days, rather than the 9.2 percent figure which was previously cited based only on the volume of dispatched calls.

If it is assumed that the calls handled by alternative methods required the same average time of 29.2 minutes during the experimental period, then the workload reduction is even greater. Multiplying the 3,400 calls handled by alternative responses by 29.2 minutes gives 1,655 hours of additional work for patrol units. Thus, the workload of the units would have been more than 24 percent higher without the alternatives.

In addition, the impact of the elimination of escort services and responses to all fire and ambulance calls should also be considered. The reduction in these two categories affected both the control and experimental days, since these services essentially were eliminated. For the experimental days, it is estimated that in these two categories there could have been over 700 calls which would have been handled by the basic patrol units. These calls would have required approximately 15 minutes each, based on analysis of previous calls, which equals about 175 more hours of

work relieved from the patrol units. Adding these hours to the above figures means that the total reduction in workload for the basic patrol units was approximately 27 percent.

Citizen Satisfaction with the Alternatives

As in the other two sites, a primary reason for conducting the field test was to determine citizen satisfaction with the alternatives being provided. In Greensboro, the citizen surveys were conducted over the full period of the test from January to June 1983. Citizens who had received the alternative services, as well as citizens who had received mobile responses, were contacted to determine their satisfaction in a number of different areas. The primary comparison was satisfaction with the alternatives as compared to satisfaction with an immediate mobile response. The surveys conducted in Greensboro during the test period were as follows:

Number of Citizens Surveyed	Type of Response
729	Immediate Mobile
503	TRU
112	Delayed Mobile
73	Civilian Mobile (evidence technician)

All of these surveys were conducted during the experimental days for a valid comparison. A more complete analysis of these surveys is presented in Chapter 12 of this report. The survey results are summarized below.

Exhibit 6-6 shows overall satisfaction levels with the services provided by the alternatives in Greensboro during the experimental days. During this period, 94.1 percent of the citizens stated that they were satisfied with the services provided by a mobile response, 91.4 percent were satisfied with a telephone report, 94.6 percent with a delayed mobile response and 98.6 percent with a civilian mobile response. There were some differences between the "satisfied" and "very satisfied" categories. With mobile responses, 69.8 percent stated that they were very satisfied as compared to 67.1 percent with civilian mobile response, 60.4 percent with a telephone report, and 57.1 percent with a delayed mobile response.

EXHIBIT 6-6

CITIZEN SATISFACTION WITH ALTERNATIVES

	Satisfied	Dissatisfied
Mobile Response	94.1%	5.9%
Civilian Mobile Response	98.6	1.4
Delayed Mobile Response	94.6	5.4
Telephone Report	91.4	8.6

Another indication of satisfaction with the service provided was whether the citizens felt that there was interest expressed in what they had to say. The evidence technicians scored high in this category with almost 95 percent of the respondents stating that the evidence technicians expressed interest. In contrast, a lower level of citizen satisfaction related to interest was with TRU service, in which 88 percent of the respondents stated that the TRU officers expressed interest. Answers to this question for mobile responses and delayed mobile responses were between these two values.

The primary reasons that citizens gave for dissatisfaction with the service provided were that there was no investigation of the case, or that there was no follow-up assistance offered. Complaints included such comments as "no fingerprints were taken," "we haven't heard anything from them," and "the officers said someone will come out (to investigate) and no one ever has." With TRU, another reason given for dissatisfaction was that the officer acted disinterested or uncaring.

In terms of the respondents' willingness to use the alternatives again, 94.5 percent of those who received a civilian mobile response, and 86.7 percent who received a TRU response said they were willing to use these alternatives again. Only 62.5 percent who received a delayed mobile response wanted this service on future calls.

CONCLUSIONS

The primary evaluation conclusions from the Greensboro test may be summarized as follows:

- Greensboro attempted a wide variety of alternative responses ranging from simple in-house referrals to a drive-in response for hit-and-run property damage accidents. All of these alternatives were successfully implemented during the test period.

- The experimental design was successfully implemented. Taking advantage of the schedules of the telecommunicators provided a means of giving the fifty-fifty split for eligible calls which was needed. This procedure allowed the evaluation team to conduct the citizen surveys during the same time period as the test.

- The task force approach was successful. Use of the Response Advisory Board had the advantages of developing good policy and operational procedures for the alternatives and solidifying the project within the police department. Drawbacks to this approach were that it delayed the implementation of the test, and the decisions from the Board made for a more conservative approach to the test.

- The Greensboro project staff personnel developed good written procedures for all alternatives. These procedures

anticipated problem areas which might occur and provided a solid foundation for the alternatives.

- The alternative responses accounted for almost 20 percent of the potential dispatched calls and as much as 27 percent of the patrol workload as measured by hours of work required.

- The types of calls for the TRU were successfully expanded. There was a 51.1 percent increase in workload during the experimental days for the TRU.

- The use of the evidence technicians as the primary response unit was successful. The technicians were able to handle burglary, vandalism, larceny, and several other types of calls as the only dispatched unit. Over 18 percent of the non-mobile responses were handled by the evidence technicians, and it is believed that their workload could be increased even more.

- The mail-in reports, as implemented during the test, were not successful. The volume of these reports was very low over the test period due to the small number of locations in which they were placed and the restrictions placed on their use.

- The in-house referrals were successful in relieving patrol unit workload, but were not liked by members of the detective division, youth division, and vice and narcotics. Many believed they had to handle too many minor offenses, taking time away from their regular duties.

- Citizen satisfaction was high for the alternatives. Over 90 percent of the citizens surveyed stated that they were satisfied with the services provided by the police department. The majority of citizens said they would accept the same alternatives again for a similar call in the future.

- Travel time to emergency calls was not significantly reduced as a result of the implementation of the alternatives.

CHAPTER 7

THE DPR TEST IN TOLEDO

DPR ALTERNATIVES

Overview

The new alternative responses implemented in Toledo included delayed mobile response, expansion of the telephone report unit, outside referrals, walk-ins, and a communications callback response. The implementation test period in Toledo ran from November 1, 1982 to April 30, 1983, although the actual randomization experiment did not start until January 1, 1983. The DPR test design in Toledo, as shown in Exhibit 7-1, was more like Greensboro than Garden Grove in that the call taker had the discretion to select and transfer the call to the appropriate alternative response, while in Garden Grove, this decisionmaking rested with the expeditor.

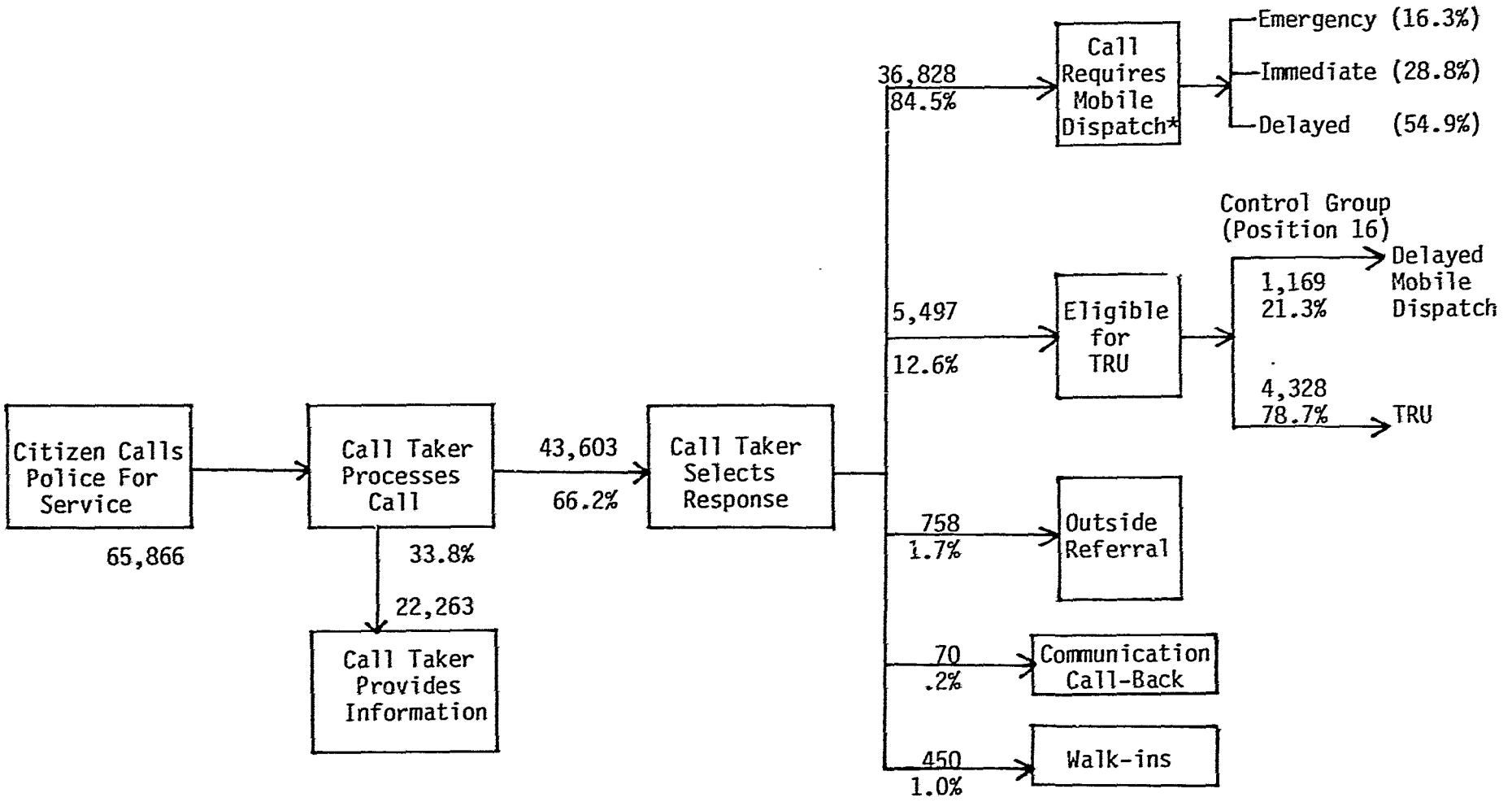
The experimental design in Toledo also differed from the other two sites. Toledo agreed to establish one call taker position (position 16), which was staffed 24 hours a day, as the control group. Any calls this position received which fit the criteria for a telephone response, were coded for the TRU but dispatched to the field in a delayed mobile response category rather than taken over the phone. Since there were usually five call taker positions staffed in the communications center, this control position should have received approximately 20 percent of the calls for service. As seen in Exhibit 7-1, the actual percentage was 21.3 percent with the difference due to the varying number of actual call takers. It was not unusual for officers from the field to be used as call takers during busy days, and a pool of officers had received training in the new call classification system.

The call takers other than position 16 represented the experimental group, and followed the normal routine of transferring the TRU-eligible calls to the TRU for a telephone report. While not a fifty-fifty split as in the other two sites, this experimental design met the requirements for the field test.

As noted earlier in this report, during the Toledo project the city experienced a serious fiscal crisis due to the downturn in the automobile industry and subsequent high unemployment rates. At one point, unemployment reached 12 percent. The impact in the city was a decline in the revenues for the general operating fund of the city. As a result of this decline, over a period of several months 900 municipal employees (24 percent of the work force) were laid off. The police division was reduced to 628 sworn officers from a high of 772, and the civilian staff was reduced from 119 to 44 employees. During the month of May 1982, approximately 200 city employees were laid off, including 30 civilian personnel from the police department. Since many of these civilians were in essential jobs, the police department had to transfer officers from the field to fill these positions. The sworn force remained approximately 25 percent below authorized strength throughout the project as a result of the attrition.

EXHIBIT 7-1

TOLEDO DPR PROCESS



Test Period: January 1, 1983 - April 30, 1983

*There were an additional 10,878 dispatch tickets for backup units to these calls.

This fiscal picture put the police management in a situation where it had to sacrifice some of the experimental requirements of the test design in order to continue to handle its daily operational demands. Because of the economic problems, the police department was even more committed to the DPR project, since management saw it as a solution to the problem of how to handle an increasing workload with a decreasing workforce without sacrificing citizen satisfaction with police service.

A partial solution to Toledo's fiscal crisis came in the Fall of 1982 in the form of a tax increase approved by a voter referendum. One of the factors attributed to passage of the referendum was that the city pledged to earmark a quarter of the funds generated from the tax increase to police and fire services. The police and fire unions had lobbied aggressively for passage of the referendum. In mid-1983, the police department was authorized to hire 120 new officers, bringing their sworn strength back to the 1980 level. However, the department did not receive authorization to refill the lost civilian positions.

In addition to this fiscal situation, other factors existed in the department which made the implementation of the alternatives more difficult than at the other two sites. For example, the police labor union contract included strict guidelines on the bid procedures to fill available positions in the department, and the dispatcher positions were reserved for the rank of sergeant Newly promoted sergeants bid for available positions, and if two persons wanted the same position, then seniority determined the selection. However, the job of dispatcher was not seen as a "good" job for newly promoted sergeants, since they were anxious to be placed into positions which they felt fit their skills more appropriately. As a result, the sergeant dispatchers were generally disgruntled and anxious to find other jobs in the department. The interviews that were conducted during the evaluation confirmed these viewpoints on the dispatcher position.

Another factor was the manual dispatch system, which was a slow, traditional system in contrast to the CAD systems in Garden Grove and Greensboro. Over 60 percent of the telecommunicator survey respondents in Toledo felt their communications equipment was outdated and ineffective, while in Greensboro and Garden Grove, over 90 percent were satisfied with their communications equipment.

Because of the personnel layoffs, Toledo was forced to make changes on a different schedule than the other two sites. First, in order to meet the demands of an increased workload, the types of calls which the TRU could handle were increased as of May 1982, which was four months prior to the training on the new call classification system and six months prior to the formal implementation of the alternative responses. Second, while the test officially began on November 1, 1982, the procedure involving position 16 in the communications center did not occur until January 1983. Fortunately, this latter circumstance did not adversely affect the evaluation, since the test length of four months provided a sufficient volume of calls for evaluation.

The alternative responses employed by Toledo during the DPR test are presented in more detail in the following subsections.

Description of Alternative Responses

Delayed Mobile Response. Prior to DPR, Toledo had no formal policy or procedure for delaying the dispatch of mobile units to answer citizen calls for service. Because of the department's staffing problems in patrol, there were more occasions when all units were busy than at the other two sites. When this occurred, citizens would naturally receive a delayed response to their calls. However, the determination of which calls to delay and which calls to handle quickly rested with the discretion of the individual dispatcher. Calls being held in queue usually were dispatched to the next available unit, with little regard for travel time. As one can imagine, this practice resulted in a great deal of time-consuming cross-beat dispatches.

Under DPR, a new delayed call policy was established. When the "home beat" unit was busy and the calls met the delayed call criteria, these calls could be held in queue for up to 60 minutes until the home beat unit came back in service to receive the calls. The callers were informed that a unit might not arrive for 60 minutes, and were given the option to decline and request an immediate response.

Telephone Report Unit. Prior to May 1982, the TRU was staffed by three civilians from 2:00 p.m. to 10:00 p.m., Monday through Friday. Effective May 14, 1982, these civilian personnel were laid off by the city and four officers were transferred to staff the unit. The hours of operation were expanded to 7:00 a.m. to 4:00 p.m., Monday through Friday, and the types of calls eligible for the TRU were increased. The physical location of the unit remained in the records room, which was located in the main police building across the street from the communications center.

The types of calls which the unit began to process over the phone included garage burglaries, commercial burglaries (with no loss), misdemeanor assaults, telephone harassments, criminal menacing, dog bites, lost property, and additional information on previously filed reports. In terms of the degree of implementation, an analysis of the TRU calls presented later in this chapter verified this increase in activities.

Procedurally, if a call met the new criteria for a telephone report, the call taker obtained the name of the caller, address, phone number, and type of complaint, and explained to the caller that an officer from the TRU would return the call the next day. This information was entered on dispatch cards which were forwarded to the TRU each morning. A TRU officer would then contact the citizen and complete the report over the telephone.

One of the problems with the Toledo implementation of TRU was the delay in returning the call and reaching the citizen to process the report. It was not uncommon to have a one to two-day delay before someone from the TRU reached the complainant. It could take three to four days if the original complaint came in to the call taker on a Friday.

Outside Referrals. Another type of alternative service available to the call takers was to refer the caller to another agency. As with the other two sites, the call takers were already performing this alternative prior to the project. However, the list of agencies was expanded and the

call takers were encouraged during the training sessions to make greater use of the referrals.

Communications Callback. In certain types of minor violations where a police warning was usually sufficient to alleviate the complaint, Toledo designed the communications callback, an efficient alternative to the traditional dispatch of a mobile unit.

The callback criteria included noisy parties, loud sounds, barking dogs, certain parking violations, and other minor complaints. When a complaint met this criteria, the call taker would obtain the name, address, and phone number of the offending party (this information was usually obtained from the complainants, cross directories, and commercial telephone directories). The complainant was notified that the call taker would call with a warning, but that a unit would not be sent.

The call taker then called the offending party and advised the individual of the nature of the complaint. The complainant was not identified. The call taker further indicated that if the offensive behavior was not stopped, then a patrol unit would be sent. If a later complaint was received in regard to the same offensive behavior, a delayed mobile dispatch was made.

Walk-Ins. A final procedure implemented during the DPR project was to advise citizens to come to the police department to report their problems. The most frequent use of this procedure was with minor assaults between two parties in which one of the participants wished to press charges. By coming in to the department, a report could be given to the citizen to take immediately to the prosecutor's office.

This procedure was also used to a lesser extent during periods when the patrol units were saturated with calls; for example, during winter storms when traffic accidents and other related problems created a backlog of serious calls in the communications center. During these times, the call taker requested citizens to come to the department to report minor offenses.

MANAGEMENT INFORMATION SYSTEM

At the start of the DPR project in Toledo, there was a major problem in analyzing dispatch tickets. The department had obtained a software package five years earlier which processed dispatch ticket information and produced several reports on the volume of calls by time of day, day of week, and type of call. The reports also included information on average response times, average travel times, and average on-scene times. The police department was responsible for keypunching the dispatch ticket information, then entering the records into the city's computer for analysis by the software package.

While these reports were adequate for the department's purpose, two events happened which decreased their utility. First, the department was several months behind in keypunching dispatch information due to the layoffs of civilian personnel. No current information about the volume of

calls was available at the start of the project. Second, the changes brought about by the new call classification system made the software package unusable, since it was tied to the old dispatch ticket and classification system.

Because of these problems, the police department became interested in obtaining its own minicomputer system for the specific purpose of analyzing dispatch ticket information. Approval for acquiring this equipment as part of the DPR project was obtained from NIJ. System requirements were developed in April 1982, and a request for vendors to bid on hardware and software was issued in June 1982. In September, the department selected the International Association of Chiefs of Police (IACP) to install a Data General computer system with its recently developed POSSE software system. The POSSE system was specifically developed to process dispatch ticket information and produce a series of reports on calls for service. The IACP agreed to make modifications to the system to accommodate the new call classification system and the revisions to the dispatch tickets. Reports generated by the system included the following:

- Daily Summary of Calls for Service
- Beat Report by Hour of Day
- Incident Summary by Beat Areas
- Activity by Day of Week
- Activity by Hour of Day
- Activity by Hour and Day of Week
- Response Time by Patrol Beats
- Response Time by Event Type
- Time Consumed on Event by Hour of Day
- Time Consumed by Hour and Day of Week
- Time Consumed by Responding Unit by Hour of Day

Unfortunately, there were several problems encountered in the initial hardware and software obtained with the system. It was several months before these problems were resolved, with the subsequent effect that only a sample of dispatch tickets was available for the evaluation. As discussed later in this chapter, the evaluation team was provided 31 days of dispatch tickets covering January through March 1983. There were 23,003 dispatch tickets in the sample, which was an adequate amount for the purposes of the evaluation. The figures shown in Exhibit 7-1 are an extrapolation from the analysis of the sample of tickets.

By the end of the grant period, in June 1983, the hardware and software problems with the system had been almost entirely resolved, and the department was able to produce reports on a regular basis. With funds from the grant, keypunchers were hired on a part-time basis to key the backlog of tickets that had been accumulating. In summary, as a result of the DPR project, the department was able to significantly upgrade its capability to process and analyze dispatch tickets. The information provided by the system allowed the department to determine how well the call classification system was working, how busy the patrol units were on calls for service, and whether changes in patrol allocation were needed.

Use of Alternatives

Exhibit 7-1 shows the test portion of the project, which centered on the calls eligible for the TRU. Just over 21 percent of these calls came through position 16 and received a delayed mobile dispatch as part of the test design, while the remaining eligible calls were transferred to the TRU to have a report taken over the telephone. The dispatched calls in the control group from position 16 were separated from the other dispatches so that proper comparisons could be made. As with the other two sites, Exhibit 7-1 shows the test and the effects of having all alternatives in place.

In Toledo, 15.5 percent of the calls were handled in an alternative fashion, while 84.5 percent required the dispatch of a patrol unit. The percentage of calls being diverted was less than the other two sites, but the total volume of 6,775 calls handled in alternative ways represented a significant workload. The TRU handled 10 percent of the calls, which was a large volume for a unit of only four officers. In the next section of this report, a detailed analysis of the TRU calls is presented.

As seen in Exhibit 7-1, outside referrals and communications center callbacks were seldom used, and represented only 1.9 percent of the total calls. While the callback alternative was an innovative idea, it was one which the project staff had difficulty persuading the call takers to use. The call takers in Toledo had been assigned to the communications center for longer periods of time than at the other two sites, and had grown accustomed to simply providing information, or processing calls to get just enough information for a dispatch. The callback procedure ran counter to these customs. It was generally agreed among the project staff that considerably more callbacks could have been made than was the case during the test.

Another problem with establishing other alternative procedures in Toledo was that the department did not have specialized units as did the other two sites. The traffic section of the department had been absorbed into the patrol force as a result of the decrease in personnel, so that it was not possible to divert the traffic-related workload to other units. Similarly, there were no evidence technicians under the control of the police department who could be made available for handling crime scenes on their own as in the other two sites. These circumstances restricted the options which were available to the department.

Calls Handled by the Telephone Report Unit

As stated earlier, in May 1982, the civilians in the TRU were laid off along with many other civilians in the department, and four officers were transferred to the TRU. At that time, the types of calls which the unit could handle were expanded considerably. This step was also necessary because of the decrease in sworn personnel resulting from the fiscal problems in the city. With the expanded types of calls, the TRU could now

handle the following:

- Garage Breaking and Entering
- Commercial Breaking and Entering (with no loss)
- Misdemeanor Assaults
- Telephone Harassment
- Thefts Under $1,000
- Criminal Damage Under $1,000
- Missing Persons
- Lost Property
- Supplemental Reports
- Dog Bites
- Criminal Menacing

An important procedural change also occurred when the officers were transferred to the unit. The previous policy was for the call takers to give the telephone number of the TRU to citizens and request that they call the unit during the hours of operation. The problem with this procedure was the tendency for citizens to call early in the morning, with the result that the TRU lines were frequently busy. Since there were only two telephone lines into the TRU, many callers eventually became frustrated and finally gave up trying to report the problem. In a separate analysis during the planning phase of the project, the evaluation team compared the number of referrals from the call takers to the actual number of TRU reports and found that approximately 20 percent of the incidents were never reported. In addition, 40 percent of the respondents to the evaluation survey who had received TRU service during the planning phase of the project stated that they had called the TRU number more than once in trying to report their problems.

With the new procedure, the call takers recorded the information from the citizens, then sent the cards to the TRU so that the officers could return the calls and take reports. While there were delays of up to 48 hours in returning the calls, virtually none of the calls were lost as a result of citizen frustration in trying to reach the TRU.

One other TRU procedure with regard to misdemeanor assaults should be mentioned. If the TRU officer determined while talking to the complainant that the victim intended to prosecute a known suspect, then the TRU officer could advise the victim to come to the records section and file the report in person. The advantage of this procedure was that the victim could obtain a copy of the report at that time and proceed directly to the City Prosecutor's office. This procedure was equivalent to the "walk-in" procedure as used in the Garden Grove project. However, it has not been listed as a separate alternative because of the low volume of calls of this type handled by the TRU officers.

Exhibit 7-2 shows the number of reports by type which were actually taken by the TRU during the four-month experimental period. The figure does not show the group of control calls which were eligible for the TRU but were dispatched to patrol units as part of the test. As might be expected, the greatest number of reports were taken in the theft category, which accounted for over half of the total volume, with thefts from vehicles accounting for almost 42 percent of the total theft reports. The

EXHIBIT 7-2

REPORTS TAKEN BY TOLEDO TRU

January - April 1983

Type of Report	Number		Percent	
Garage B&E	257		5.9	
Commercial B&E	26		.6	
Misdemeanor Assault	40		1.0	
Telephone Harassment	74		1.7	
Theft				
Vehicle	1,802		41.6	
Bicycle	86		2.0	
Residential	175		4.0	
Business	204		4.7	
Purse	161		3.7	
Total Theft		**2,428**		**56.0**
Criminal Damage				
Vehicle	707		16.3	
Residence	170		3.9	
Business	86		2.0	
Total Criminal Damage		**963**		**22.0**
Lost Property	73		1.8	
Additional Information	372		8.6	
Dog Bites	68		1.6	
Criminal Menacing	14		.3	
Coercion	13		.3	
TOTAL	**4,328**		**100.0**	

category of criminal damage accounted for 22.2 percent of the total calls, with damage to vehicles as the largest subcategory. The percentages drop off significantly after these two categories, with additional information reports accounting for 8.6 percent of the total, and garage breaking and enterings accounting for 5.9 percent.

Since the TRU was in place in Toledo prior to the project, a question of interest is the increase in volume handled by the unit during the test period. Exhibit 7-1 showed that there were 5,497 calls eligible for the TRU, or an average of about 1,375 per month. Prior to the DPR project, the TRU averaged about 725 reports per month. Thus, the increase as a result of the additional types of calls referred to the TRU was about 90 percent, or almost double the previous amount. Part of this increase was also attributed to the new procedure in which an officer called the citizen back rather than having the citizen reach the unit in a separate call.

It is also of interest to calculate how busy the TRU would have been if all 5,497 reports had been written. The procedure with the TRU officers was that they completed the dispatch tickets from the communications center to show the time that the officers contacted the citizens and the time that the conversations were completed. Analysis of these tickets showed an average of 11.2 minutes per call for this elapsed telephone time. However, this average does not include the time required to write the report and the time required to locate the caller if unsuccessful on the first try. Discussions with TRU personnel indicated that 20 minutes per report was a better average for their efforts. This average is in line with the other sites.

With 5,497 reports at 20 minutes each, a total of 1,832 hours can be calculated as the amount of report work which the TRU officers accomplished over the four-month period. Four officers working 20 days per month gives a total of 2,560 staff hours of available personnel for a "utilization factor" on reports of 71.6 percent. The remaining time can be accounted for by general administrative work, meals, and other activities which do not get recorded. As will be seen in the next section, this utilization of officers was considerably higher than that of patrol officers on calls for service.

Delay Time, Travel Time, and Service Time

As with the other two sites, an analysis of the dispatch tickets showed the impact that the new call classification system and alternatives had on patrol operations. In Exhibit 7-1, for example, it can be seen that of the 36,828 calls which received a mobile dispatch, 16.3 percent were classified as emergencies, 28.8 percent as immediate, and 54.9 percent as "potentially" delayed. The last category has been called potentially delayed because these calls were delayed only if the unit in the area of responsibility was busy. If the unit was still busy after 30 minutes, the call was assigned to the nearest available unit. As with the other two sites, the call taker had the responsibility of informing the caller of a potential delay. Interestingly, the percent of potentially delayed calls is almost exactly the same as in Garden Grove, but much higher than in Greensboro. By contrast, the percent of emergency calls in Toledo is much higher than in either of the other two sites, which may be attributed to

the conservative approach by the call takers on this category.

One of the options in all three sites was an "override" option in which callers could request a patrol unit rather than receiving an alternate service. The overrides in Toledo accounted for only 1.2 percent of the total dispatched calls, which meant that the call takers were effective in getting citizens to accept the alternatives.

The impact on the time in the communications center was reflected in the averages of 2.3 minutes for emergency calls, 5.9 minutes on immediate calls, and 11.1 minutes for potentially delayed calls. The group of control calls from position 16 were delayed slightly longer, with an average of 15.0 minutes per call.

Travel times and on-scene times followed these same patterns. The average travel time to emergency calls was 4.8 minutes, to immediate calls was 6.8 minutes, and to potentially delayed calls was 8.0 minutes. On-scene times were almost exactly the same for all three types of calls: 21.2 minutes for emergency calls, 20.9 minutes for intermediate calls, and 21.2 minutes for potentially delayed calls.

A question of interest in Toledo, which the evaluation staff analyzed in some depth, was how busy patrol units were on calls for service. To answer this question, it was necessary to analyze the duty rosters for the test period to determine how many patrol units were actually fielded on each shift each day. While a time-consuming task, it provided information not otherwise available in the department. In fact, Toledo was the only site for which this analysis was conducted because of the difficulties in obtaining information on units fielded in Greensboro and Garden Grove.

The utilization for patrol units on calls for service was calculated by dividing the total amount of time on calls by the number of available unit hours. The amount of time on calls, including backups, was calculated from the figures in Exhibit 7-1, and the above information on average times. The average time (travel time plus on-scene time) for the 36,828 dispatched calls was 28.3 minutes and the average time for the backup units was 20.3 minutes. Combining these figures gives a total of 21,043.6 hours of work by the patrol units on calls for service. The duty rosters revealed that there were about 37 patrol units fielded each day (12 to 13 units per shift) for the four-month period, a total of 107,448 available unit hours. Thus, the utilization of the patrol units on calls for service was 19.6 percent.

If the alternatives had not been available, these patrol units would have handled about 6,325 more calls for service. Using the same information on average service times, these additional calls would have increased the utilization to 22.8 percent.

In such a large police department, a three percent reduction in patrol unit utilization is still important, and it would have been difficult to achieve without the DPR project. For example, suppose the department had desired to respond to all calls for service without alternatives, but also reduce the utilization to 19.6 percent by adding patrol units. A quick calculation shows that about 43 units per day, or about two more units per shift, would have been necessary to achieve this objective. Staffing two

units per shift would have required at least 10 additional officers, which is considerably more than the four officers assigned to the TRU.

In summary, the use of the alternatives reduced the utilization of patrol units, thus providing additional time for programs such as directed patrol or increased on-scene investigation, without having to increase substantially the number of authorized patrol officers.

Citizen Satisfaction with the Alternatives

In Toledo, the citizen surveys during the experimental period were conducted in the same manner as at the other two sites except that the selection of citizens to call was entirely a manual process, since the department did not have a CAD system. The dispatch tickets were the source for determining which citizens would be called. During the test period, the surveys conducted in Toledo were as follows:

Number of Citizens Surveyed	Type of Response
437	Telephone Report
272	Mobile (TRU control group)
122	Delayed Mobile

As with the other two sites, there was a high acceptance of the alternatives as reflected in Exhibit 7-3 below. With the TRU alternative, 95.9 percent of the respondents stated that they were satisfied with the service provided, as compared to 95.2 percent who received a mobile response, and 92.6 percent who received a delayed mobile response. Respondents were also asked if they would use the same type of service again if they had to report a similar type of incident. Over 90 percent of those who received TRU service said they would be willing to have this service again, as compared to 79.8 percent willing to agree to a delayed mobile response again.

EXHIBIT 7-3

CITIZEN SATISFACTION WITH ALTERNATIVES

	Satisfied	Dissatisfied
Mobile Response	95.2%	4.8%
Delayed Mobile Response	92.6	7.4
Telephone Report Unit	95.9	4.1

With regard to the delayed mobile responses, the same result as the other two sites was found. Nearly half (46.8 percent) of the respondents said they were not told or could not remember being told that there was going to be a delay before a unit would arrive.

CONCLUSIONS

The major conclusions of the DPR field test in Toledo are as follows:

- The alternatives of an expanded telephone report unit, a formal delay dispatch policy, outside referrals, and communications callbacks were successfully implemented in Toledo. Implementation and evaluation problems were encountered because of the fiscal problems in the city. In summary, the department had to start the TRU expansion earlier than planned with expanded staffing by sworn officers.

- The experimental design was successfully implemented. It differed from the other two sites, since a 25/75 split of calls was made under the randomization procedure. However, the four-month duration of the test provided a sufficient volume of calls for evaluation of citizen satisfaction.

- The telephone report unit officers were able to handle over 10 percent of the incoming calls for service. Given that the unit was staffed by only four officers, this volume of calls was very good.

- The least used alternative in Toledo was communications callback. This alternative was not used in a sufficient volume to have an impact on field operations. At the end of the project, the department management retained the alternative with the intention that more calls would be handled in this manner.

- Citizens expressed satisfaction with the alternatives. With the TRU alternative, 95.9 percent of the respondents stated that they were satisfied with the service provided, as compared to 95.2 percent who received a mobile response, and 92.6 percent who received a delayed mobile response.

- With regard to the TRU alternative, over 90 percent of the respondents stated that they would be willing to use this service in the future for a similar type of incident. For delayed mobile responses, 79.8 percent said that they would agree to a delay in the future. As with the other two sites, there were many respondents (46.8 percent) who did not recall being informed that a delay might occur.

- After resolving the hardware and software problems, the management information system provided the department with a very good analysis capability for the dispatch tickets. It provided a variety of reports on call for service activity which were beneficial in analyzing the patrol plan. In addition, the analysis can be tied to the call characteristics under the new call classification system.

CHAPTER 8

MAJOR CONCLUSIONS AND FUTURE IMPLICATIONS

MAJOR CONCLUSIONS OF THE FIELD TEST

Introduction

At this point in the report it is useful to discuss some of the major conclusions and future implications of the research derived from the preceding chapters. The remainder of the report, except for the chapters on evaluation approach and the telecommunicators, focuses on citizen satisfaction with the alternatives.

This chapter will also be helpful to criminal justice personnel considering adopting DPR or changing their current use of dispatch alternatives.

Implementing a Complete Program

One of the points stressed earlier in this report is that the DPR project involved a sequential implementation. The call classification systems and intake procedures in the communications centers were studied and restructured prior to the selection and implementation of alternative responses.

There are also other programs or components which should be considered when a department plans for DPR. Moreover, there is a logical or sequential development which should be followed. When planning for DPR, one of the other most important activities which should be simultaneously planned is what to do with the patrol time which is freed due to diverting calls to alternatives.

A schematic of the development process for implementing improvements in call handling and patrol operations is shown in Exhibit 8-1. The significance of this framework is twofold. First, all components should be planned and designed simultaneously. Second, there is a logical sequence in the implementation of the components. The following subsections describe each component of the framework in further detail.

Component 1. Call Classification and Alternative Response Process. This component is the basis for all other components and is the first analytical response to the demand for police services. It involves the extent to which departments methodically develop a process to manage the demand for police services.

The first step in the process involves the development of policies related to call screening and classification, call prioritization, and intake procedures. The call classification and intake systems in the communications centers serve as the first level "filter" of the demand generated by citizen calls for service.

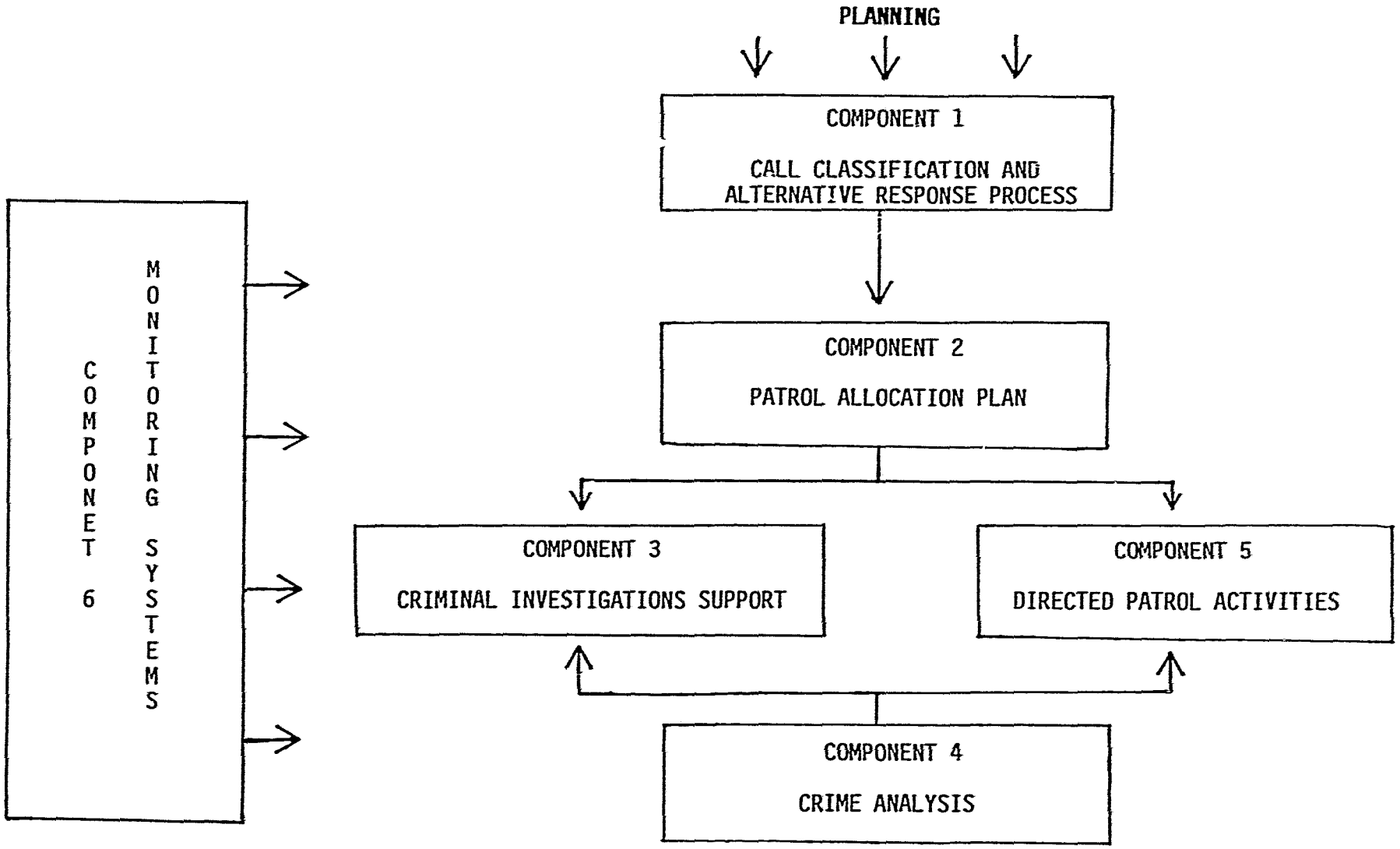


EXHIBIT 8-1

DEVELOPMENT FRAMEWORK FOR IMPLEMENTING DPR AND IMPROVING PATROL OPERATIONS

The next step involves the development of a full range of alternative response strategies used to handle calls for service including those studied at the three test sites:

- Immediate Mobile Response (applicable to perhaps 5-10 percent of the calls)
- Delayed Mobile Response
- Non-Mobile Response
  --Telephone Report Unit
  --Referral to Other Sections (inside or outside the department)
  --Mail-In Reports
  --Walk-In Reports
- Use of Non-Sworn Personnel (e.g., civilian evidence technicians rather than patrol officers to burglary scenes)

Proper implementation of this component means that emergency calls are recognized and receive the rapid attention they deserve, while non-emergency calls may receive an alternative response which satisfies the citizen and accomplishes the needs of the police department. In this manner, the alternative response strategies can have a measured impact on the volume of calls assigned to field units and on the geographic distribution of these calls.

Component 2. Patrol Allocation Plan. Once the demand has been filtered and measured, an accurate patrol allocation plan can be developed. The patrol allocation plan involves the spatial and temporal distribution of officers and units in relation to the demand for service and workload.

Police departments generally strive for the best possible allocation of patrol personnel, keeping in mind some important factors such as:

- Minimizing response time to critical calls for service
- Equalizing workload among units
- Reducing time-consuming inter-beat dispatches
- Reducing unnecessary backup coverage.

The patrol allocation plan also sets the standard for the amount of time devoted to other patrol programs such as criminal investigation and directed patrol efforts. Time for these programs is determined by a combination of the time saved from the alternative response process and the patrol allocation plan.

Component 3. Criminal Investigations Support. The degree of involvement by patrol officers in investigating and reporting on crime scenes is a significant factor of patrol operations management. The level of detective follow-up is also greatly influenced by a department's policies regarding the patrol officer's use of case screening by solvability factors such as those used in Managing Criminal Investigations (MCI) Programs.

An expanded role in preliminary investigations will increase the amount of patrol time spent on this activity, which consequently has an impact on the number of officers and units allocated to patrol. It is necessary to build in a factor in the allocation plan which allows for

greater average service time on calls requiring patrol officer investigation.

Component 4. Crime Analysis Support of Patrol Operations. Crime analysis support is the key component for directing patrol activity. Preliminary investigations, reports, and call information provide the input for crime analysis. Directed patrol assignments are the output. Critical factors involved in integrating crime analysis into the management of patrol operations include the capabilities and acceptability of the crime analysis staff, the organizational placement of the unit, the nature and quality of the crime data (including automated capabilities), and the relationship between crime analysis targets and the problems in the community.

Component 5. Directed Patrol Activities. One of the assumptions in developing an efficient and effective patrol operations program is that uncommitted patrol time is better utilized on directed patrol activities than on traditional random patrol. From department to department, there is a wide variance in the employment of directed patrol. Directed patrol programs include split force programs, special crime units, dispatch oriented patrol, and officer initiated activities. More recently, police departments are studying increasing services to victims of crime as a directed patrol activity.

In a department that wishes to heavily emphasize directed patrol to achieve objectives of greater prevention and increased detection/apprehension, the first four components can all be manipulated to devote as much as 50 to 60 percent of all patrol officers' time to directed patrol.

One of the concerns of local police chiefs is that if city managers or mayors become aware of the amount of officer time freed by DPR, they may view this as an opportunity to trim the size of the authorized personnel. To counteract this possibility, worthwhile and effective directed patrol programs should be planned as part of planning for DPR. Thus, the freed patrol time can be shown as being channeled into proactive efforts such as special drunk driving task forces, active execution of backlogged felony arrest warrants, or providing more community services.

Component 6. Monitoring Systems. Monitoring is a critical function for developing truly successful DPR and patrol operations plans. The term "monitoring" is used in a broad sense in this context to include review and evaluation. Close and continuous monitoring by management focuses on whether the communications personnel and patrol resources are being used according to the plans. Monitoring systems check the status of the other components to identify improvements in each area. For example, checks should be made on the volume of calls for non-mobile responses, on the percent of time units are busy on calls for service, on the amount of time and volume of directed patrol assignments being performed, and most importantly, on the consequences of these programs in terms of patrol objectives.

Planning for DPR

Part of the success of this DPR Field Test can be attributed to the quality and degree of planning which went into the effort. In reviewing

different aspects of the planning, two of the most critical decisions included: (1) setting aside enough time for quality planning, careful implementation, and training; and (2) selecting and assigning qualified personnel to conduct the planning. In both of these regards, each of the three test sites in this research were outstanding.

The time needed to redesign the call classification systems and change the call intake procedures was initially underestimated by the sites, as was the difficulty of the task itself. However, since a good working call classification model has now been successfully developed and tested, other police departments should be able to adjust and refine the model to their own needs in far less time.

In terms of staffing for DPR planning, each of the three sites used a different approach. Garden Grove assigned the task to the captain in charge of Administrative Services, which included the communications center. Toledo assigned the effort to Research and Planning. Greensboro's approach included a staff assignment to a specially created unit (consisting of an experienced lieutenant, patrol officer, and a telecommunicator), and creation of a DPR task force. A further discussion of the success of the Greensboro task force might be helpful to other departments.

Abraham Lincoln, renown for his individual decisionmaking, has been quoted as referring to committees as the following: "A group which succeeds in getting something done only when it consists of three members, one of whom happens to be sick and another absent." Similarly, many chief executives are reluctant to share decisionmaking or make policy by group concensus.

In Greensboro, the DPR Advisory Board developed good policy and operating procedures for the alternative responses. The Board also reviewed and modified the call classification matrix. The use of this Board resulted in widespread acceptance of and commitment to the DPR project throughout the department. However, as noted in Chapter 6, working through the Board also was time-consuming, and reaching a group concensus may have resulted in a more conservative approach to selecting the types of calls that could be diverted from patrol.

There were three primary factors which contributed to the success of the Greensboro Advisory Board. First, the Chief clearly showed his support for the Board in its inception by disseminating a special general order authorizing the Board and outlining its role and objectives. The Chief also allowed the personnel to meet during normal working hours, and the department frequently provided lunch for day-long meetings.

Second, the Greensboro DPR project staff assisted the Board by providing background materials on the project and making presentations on the NIJ grant guidelines. The staff also collected, analyzed, and presented data to the Board to help in decisionmaking; and served as "secretary" to the meetings by keeping minutes and reducing all important decisions to writing.

The third and most important key to the success of the Board was the selection of the chairperson, a patrol commander later promoted to Deputy Chief of Operations. This chairperson combined the critical skills of being "people-oriented" with being "task-oriented." As the RMA staff

observed by sitting in on over half of the meetings, he was a good listener and allowed all members to comment and participate. He also moved the group along the agenda in a timely fashion.

Factors in the Success of the Field Test

From the point of view of technology transfer, the DPR Field Test provides some very good lessons for other police departments interested in the concept. The models are extremely well-documented, tested, and evaluated. In fact, the models were designed with technology transfer in mind.

For other departments considering DPR, the evaluators have selected the following points as being key factors in the success of DPR at the three test sites:

- The original Test Design document was very clear and readable. This is a credit to the NIJ staff who worked on the development of the project.
- The planning, execution, and staffing of the projects at all three sites, and the support and commitment from the chiefs, was excellent.
- There were no other major programs introduced at the three sites during the course of the DPR implementation which could have diluted the concentration and attention of the chiefs and staff from DPR.
- There was no turnover of chiefs or project staff at any of the three sites during the project.
- There were no threats from internal (unions, elected officials) or external (citizens, media) sources at the three sites during the project.

This last point deserves further discussion. Prior to starting DPR, each chief at these three sites gained some level of commitment from the city managers and councils. As well, when the grants were awarded, each site prepared a press release or held a news conference to inform the media and citizens of the project and why it was needed. The unions in Toledo and Garden Grove were also informed of the project, and never mounted any real challenge--possibly because they saw the benefit of the freed time in patrol.

The only potential outside threat, which never materialized, was the fiscal crisis and subsequent city personnel layoffs in Toledo. In fact, Toledo was able to use DPR, as described in Chapter 7, to lessen the negative impact of the layoffs on the department.

Perhaps because these key factors enabled DPR to run so smoothly, and because the project was evaluated as a success, the chiefs at all three sites have fully institutionalized DPR into the departments.

Cost of Alternatives

One of the areas for evaluation enumerated in the NIJ Test Design Program document was the cost of alternative response techniques: are the alternatives less costly than the traditional response of sending out a mobile unit to all calls for service? To answer this question, the evaluation team conducted a special analysis of the costs of the alternatives compared to mobile response. In general, the findings show that the costs are less for the alternatives. Moreover, the productivity levels are much higher for the alternatives in comparison to traditional mobile patrol.

Another way of viewing the issue is that the benefits derived from implementing alternatives can be measured in terms of the amount of work relieved from patrol units. This savings in labor can then be translated into "saved" dollars. These benefits are really a "cost avoidance" rather than a "cost saving" because they represent patrol resources in monetary terms which can be applied to other activities (such as directed patrol, community service, increased on-scene investigation by patrol, and other activities) rather than actual surplus in the budget.

Thus, the traditional call for service function of patrol can be cheaper and more productive when handled by the alternatives, and patrol time for other activities can be increased. Some examples will be helpful.

During May 1983, the Garden Grove expeditor unit completed 541 call reports. A sample of 200 expeditor call reports for disturbances, suspicious activities, property-related events (burglary, larceny, etc.), and traffic accidents were analyzed for service time and were compared to 350 mobile patrol report calls in the same event categories. Exhibit 8-2 below shows that the total service time for a mobile patrol report call was nearly three times longer than the time required to service a comparable call with the expeditor.

EXHIBIT 8-2

COMPARISON OF SERVICE TIMES FOR GARDEN GROVE EXPEDITOR AND MOBILE PATROL

	Average Service Time per Call*	Average Report Writing Time	Total Service Time
Expeditor	8 minutes	10 minutes	18 minutes
Mobile Patrol	35 minutes	20 minutes	55 minutes

*Includes response time

It is interesting to translate the time differences into a cost comparison. In order to identify the cost of mobile patrol, the sites provided the evaluators with detailed breakdowns of costs. The model for the cost analysis was taken from an article by Williams and Sumrall (1983). Exhibit 8-3 shows how the cost per minute of mobile patrol time in Garden Grove was derived.

EXHIBIT 8-3

COST OF PATROL TIME IN GARDEN GROVE

DIRECT LABOR FOR PATROL OFFICER	
Average patrol officer's salary (5 years on the job) including cash fringe benefits such as pension, health insurance, seniority, education incentive, etc. ($23.26 per hour times 1,861 productive hours per year).	$43,286
Assignment/availability ratio in department to fill a patrol position 365 days a year.	1.6
Average salary multiplied by the assignment/availability ratio to determine salary cost of staffing one patrol beat with one officer for 365 days a year.	$69,257
Labor cost per minute (8-hour day) for patrol beat staffed by one officer.	$ .395
COST OF UNIFORM PATROL ADMINISTRATION	
Salaries of sergeants, lieutenants, civilian personnel, etc., assigned to field operations (includes fringes).	$1,333,320
Total number of officers assigned.	96
Cost per officer.	$13,888
Cost per minute.	$.026
OVERHEAD COSTS FROM SUPPORT UNITS	
Includes all units which provide support or assistance to uniformed operations including:	
Chief's Office (public information, research, legal opinions, inspections, intelligence, internal affairs, community relations, etc.).	$194,860
Service Divisions (communications, records, detention, training, personnel, evidence processing, building maintenance, etc.).	$338,891
Total of above categories.	$533,751
Percentage of above personnel resources which are assigned or can be allocated to support uniformed operations.	50%
Overhead from above categories allocable to uniformed operations.	$266,875
Total number of officers in uniformed operations.	96
Allocable overhead represented on a per-officer basis.	$2,779
Allocable overhead represented on a cost per minute basis	$.005

COSTS OF UNIFORMS AND EQUIPMENT

Value of annual uniform allowance or actual uniforms furnished patrol officers.	$512
Cost of equipment furnished each patrol officer (includes leather goods, weapons, badge, handcuffs, and such items that last more than one year). Annual share of equipment expected to last five years. ($521 ÷ 5 = $104)	$104
Total cost of uniforms and equipment on an annual basis.	$616
Costs of uniforms and equipment represented on a daily basis.	$1.69
Costs of uniforms and equipment represented on a per-minute basis.	$.001

COST OF PATROL CARS

Number of new cars added to the fleet each year.	14
Average cost of each new car.	$10,000
Cost of package added to each new car (includes radio, screens, lights, etc.). Projected four-year life of package results in 25 percent of package cost added to this annual cost ($4,000 x 25% = $1,000).	$1,000
Average cost paid for each new patrol car including 25 percent of patrol car package.	$11,000
Total annual fleet replacement cost (number of cars times cost).	$154,000
Total annual patrol fleet maintenance costs (includes gas, oil, replacements, and repairs).	$168,000
Total fleet cost.	$322,000
Fleet cost on a per car basis.	$23,000
Fleet cost on a daily basis.	$63
Fleet cost on a per-minute basis.	$ .044

	Per-Minute Costs
Direct Labor	$.395
Administration	.026
Overhead	.005
Uniforms & Equipment	.001
Vehicle	.044
TOTAL	$.471

Returning to the Garden Grove expeditor workload for May 1983, the unit completed 541 report calls, at an average of 18 minutes per call, for a total of 162.3 hours. For a mobile patrol unit to handle this same workload, at 55 minutes per call, would have required 495.5 hours. Thus, the Garden Grove expeditor "saved" 333.2 hours of patrol time for the month of May 1983.

Exhibit 8-4 compares the per-minute costs of the expeditor service to the per-minute costs for mobile patrol. The patrol costs are the "fully loaded" costs from Exhibit 8-3, and include salaries and fringe benefits, administrative costs, overhead, equipment, and vehicles. The cost for the expeditor service does not include vehicle expenses. Thus, in comparing the May 1983 expeditor workload to the cost of handling the same workload by mobile patrol, the expeditor service resulted in a cost avoidance of $9,798. Traditionally, one-third of these calls would also include a backup patrol unit which, if it were not involved in report writing, might stay on the scene half the time. If one assumes this occurred in Garden Grove, then the cost avoidance figure increases to $11,266.

EXHIBIT 8-4

COMPARISON OF COSTS FOR GARDEN GROVE EXPEDITOR AND MOBILE PATROL

	Minutes of Service Time	Cost per Minute	Total Cost
Expeditor	9,738	$ .43	$ 4,187
Mobile Patrol	29,755	.47	13,985
Backup Patrol	3,124	.47	1,468

In addition to lower costs, the efficiency of the alternatives is evident in higher productivity when compared to mobile patrol. To determine this productivity factor, the evaluators compared the unit utilization of the Toledo TRU with the mobile patrol. Unit utilization is a ratio of time spent on work to available time. As presented in detail in Chapter 7, the unit utilization of the four-officer TRU was 71.6 percent, while the unit utilization for patrol units was 19.6 percent. Thus, the Toledo TRU was over three times more productive per officer than mobile patrol in handling report calls.

In summary, the cost analysis found that the alternatives were less costly and more productive in handling report calls than traditional mobile response. The most efficient alternatives were TRU, civilian evidence specialists, civilian cadets, the accident hit-and-run drive-in, and the communications callback. In addition, as a result of the analysis for DPR, the elimination of police escort and ambulance services in Greensboro resulted in a significant cost avoidance for patrol.

So that the reader will not be misled, there are some additional costs to the alternatives. For example, there are training costs for the telecommunicators. However, if these three sites were typical of most police

departments, the telecommunicators were in need of in-service training regardless of whether or not a new call system was implemented. As noted in Chapter 10, training for telecommunicators has been overlooked by many police departments. Thus, the primary cost of the alternatives is the staffing. At all three sites, however, staffing for the alternatives was less costly than handling the same workload by mobile patrol.

FUTURE IMPLICATIONS

The greatest implications for police departments resulting from the DPR research are in the areas of policy and personnel development. For years, police departments have geared policy toward a rapid emergency response. The DPR results, confirming prior research, suggest that such an emergency response may occur in less than one out of twenty calls for service.

Thus, while it makes sense to rethink the policies dealing with the bulk of the non-emergency calls, the quick identification of true emergencies is still essential. For this reason, there is a need to reduce the total volume of calls into the emergency communications call takers. At all three test sites, nearly half of all calls into the communications centers were for information only. These information only calls also come in on the 911 emergency lines.

In order to screen information only calls from calls requiring police assistance which may be emergency assistance, departments may need to mount a public education program to teach the public to distinguish between police telephone numbers for information, non-emergency assistance, and emergency assistance. A catchy number such as "830-INFO" would be helpful. Furthermore, call takers should admonish callers who misuse the emergency lines.

Once such a call screening system and policy has been established, it would be possible to divert all information only calls from the telecommunicators in the communications center to a less qualified receptionist at a lower salary. Such a position may only be needed from 9:00 a.m. to 5:00 p.m., and might be combined with a visitors check-in desk in the entrance lobby of the police building. Obviously, the volume of information only calls, and the interference these calls cause in the communications center, should be analyzed before determining the cost-effectiveness of such a position.

One of the most significant implications of DPR for the future is the control which management will gain over the previously autonomous telecommunicators. Through a combination of DPR written procedures for call classification and alternative response, and new monitoring techniques and procedures developed under DPR, police management will be able to introduce more uniformity, standardization, and accountability into the communications centers. This control greatly broadens the future utility of the communications center.

This point was recently proven in Toledo. About eight months after the completion of the field test there, the city experienced some serious

violence associated with a local union strike. This situation received nationwide media attention. Since Toledo had institutionalized DPR after the experiment, the Chief decided to reassign the majority of the patrol force to help contain the violence, while only responding with a patrol unit to emergency calls. The rest of the calls were diverted to alternatives such as the telephone report unit and walk-in reports. The department was able to increase the workload to these alternatives because of the procedures that existed. For several days, call takers informed citizens of the reason for the diversion of so many calls, and very few complaints were received.

Significant personnel development implications are also derived from the DPR test. In communications, the evaluation results, although based on a small sample, showed many advantages to using civilian telecommunicators. These advantages are described in detail in Chapter 10.

The continued proliferation of computer technology for call taking and dispatching, the sophistication of a DPR system, and improvements in the pay, promotional opportunities, and esthetic working conditions for telecommunicators, will lead to better qualified and better educated personnel applying for these positions in police departments. With more talented personnel resources, departments can expand the use of DPR, and the communications centers in general, to greater levels.

By studying the operations in the communications centers and developing new procedures for call classification, intake processing, and alternative response, departments should simultaneously be able to identify the knowledge, skills, and abilities required of telecommunicators. The identification of these job characteristics and qualifications should enable departments to develop more effective personnel selection criteria, promotion tests, and training materials. The use of computers and simulations should also play a greater role in future telecommunicator selection, promotion, and training.

The DPR test also has implications for the future of patrol officers. One of the historic problems in policing is the control of backup units. Because of the uncertainty of situations where responding officers receive calls with little descriptive information other than the "10-code," patrol officers often have informal policies of backing up responding units on many types of calls. These backups may include more than one additional unit, and often occur without the knowledge of the dispatcher. Such backups clearly have cost implications.

The results of the patrol officers survey, as part of the evaluation of DPR, found that most officers felt they received more and better information on calls under DPR, which enabled them to be better prepared when they arrived at the scene of the call. Such improvements in call information may lead to better management and control of patrol backup.

Another implication for patrol officers is that under DPR, officers have an opportunity for more free time, since a significant number of calls for service are being diverted to alternatives. This phenomenon may have hiring and training implications for the future. Rather than having one's work dictated by the dispatcher, patrol officers and patrol supervisors will have the freedom to involve themselves in more self-initiated activities.

This may lead to the recruitment of officers who are more self-confident, assertive, and resourceful, rather than those who display characteristics associated with discipline, regimentation, and control.

Finally, DPR has interesting legal implications. Many police chiefs will probably ask themselves the question: Can the police be held negligent for not responding to a citizen call for service with a patrol unit in a timely fashion?

Historical caselaw indicates that the police are not negligent for not responding at all. Most courts have held that the decision to respond to a public call involves the discretionary allocation of public resources and is a matter clearly within the discretion of the executive and legislative branches. Thus, diverting calls to alternatives is permissible. In addition, DPR only diverts non-emergency calls. Calls involving potential harm to the public, even under a DPR system, should still receive emergency police responses by mobile units.

What if the dispatcher promises a unit, but one does not respond? This situation, unlike DPR, could result in a negligence finding and, depending on the circumstances and the law of the state, vicarious liability to the department and city. Both the New York Court of Appeals (DeLong v. County of Erie, 469 N.Y.S. 2d 611, 457 N.E. 2d 717 (1983)) and the Washington Supreme Court (Chambers-Castanes v. King County, 100 Wash 2d 275, 669 P. 2d (1983)) have recently held that where citizens call the police special emergency telephone line and are promised a rapid response, and such response is not forthcoming, the police may be liable for any resulting harm done to the person.

In the DeLong case, a woman called the 911 number and requested police assistance in connection with a potential assault. The dispatcher assured her a police officer would be there "right away." In this situation, the court held that the police elevated themselves from the duty owed the public in general, for which no legal responsibility requires service to an individual, and created a special duty of care to the caller so as to be accountable for negligence in the performance of that duty. This voluntary assumption of a duty to act carried with it the obligation to act with reasonable care.

In this case, unfortunately, the call taker took down the wrong address, police were not dispatched to the woman's home, and she was fatally stabbed by an intruder. The jury awarded her estate $800,000, which was upheld by the Court of Appeals.

Prior to DPR, the evaluators listened to tape recorded conversations of calls for service and found call takers promising units to nearly all calls "right away." A review of the dispatch tickets showed that response time to some of these calls was over 30 or 45 minutes. As discussed in Chapter 3, the DPR model advocates informing callers of any delays associated with the servicing of their calls, whether by a patrol unit or an alternative.

CHAPTER 9

EVALUATION APPROACH FOR THE DPR FIELD TEST

BACKGROUND

Project Initiation

As with other field tests sponsored by NIJ, there was a desire to have a major evaluation of the DPR program. In December 1980, a solicitation was issued by NIJ requesting interested firms to submit proposals for an evaluation of the DPR projects at all three sites. The major evaluation objectives were enumerated in the solicitation:

- Assess the impact of the differential response system on police practices;
- Assess the impact of the differential response system on citizens; and
- Assess the transferability of the program.

As stated in the solicitation announcement,

> The evaluation is designed to generate knowledge of the impact of the program for both the practitioner community and the research community, and technical descriptions of the development/implementation process for those jurisdictions which might undertake a similar program.

Through its normal review process, NIJ assessed all the proposals submitted and selected RMA to conduct the evaluation. The grant to RMA was subsequently awarded in June 1981.

The timing of the evaluation grant prior to the selection of the sites provided positive long-range benefits for the evaluation. It is well known from the literature that weak evaluation results can occur when the evaluation activities are not introduced until late in the program being examined. Having the evaluation team on board at the start of the project increased the potential for a successful evaluation effort.

Another asset to the evaluation was the relatively long planning period, over eight months, at the start of the project. As discussed in Chapter 2, it was during the planning phase that project personnel from the three sites met on several occasions with the technical assistance contractor and the evaluation team. The evaluation team was particularly active at this time in providing information to the three sites, developing baseline data for later comparisons, working with the project staffs in developing their new call classification systems, and determining what alternatives should be implemented.

Type of Evaluation

With encouragement from NIJ's Office of Evaluation, the evaluation approach was more formative (hands-on) than summative (hands-off). As defined by Rossi and Freeman (1982), a formative approach means that the evaluators are engaged to participate in the actual design of the project in order to increase the success of subsequent intervention efforts and to increase the validity of the evaluation results. A primary reason for the intensive activities by the evaluation team during the planning phase was to assure that a valid and complete evaluation could be performed during the test phase of the project.

Emphasis on the formative approach should not be construed to mean that the summative aspects of the evaluation were ignored. Throughout the project, interim reports in the form of "working papers" were provided to the site project personnel and to NIJ representatives to reflect the progress of the project and to give results on the citizen surveys conducted at the time of the working papers. No recommendations or suggestions on project changes were included in any of the working papers. Instead, the aim was to present the evaluation results in a clear and consistent manner so that project personnel would know the direction of the evaluation and the main topics for the final evaluation report.

With involvement in the planning phase of a project, there is always the potential for the evaluator to become an advocate and partisan actor in the program activities. Obviously, an evaluator has opinions which may be solicited, but the evaluator's main role is to provide information to the program managers for their consideration in forming or changing the activities of the program. The evaluation team was as objective as possible during the entire project in providing information in an unbiased manner. The aim was to ensure that the implemented project activities could be evaluated to give results with a high degree of confidence.

In the next section of this chapter, the main considerations of the project which guided the evaluation design are discussed. The chapter ends with a discussion of the potential threats to the validity of the evaluation design.

EVALUATION CONSIDERATIONS

Two-Phase Process

A unique design characteristic of the DPR Field Test was that it was planned as a two-phase process. The first phase included the development and implementation of a new call classification system, and the second phase involved the introduction of the call alternatives. In many other police departments, alternatives have been implemented either with no changes in call classification, or with changes in call classification being made simultaneously, resulting in limited changes to accommodate the alternatives. Thus, the changes initiated under DPR were more extensive than those made in most other police departments.

An advantage of the DPR Field Test was that the test design document developed by NIJ recognized that the greatest emphasis should be placed on the first step of changes in the communications centers. Success there was viewed as a prerequisite to success with the alternatives. In addition, an aim of the field test was to determine the maximum number of citizen calls that could be diverted from an immediate mobile response and replaced with alternatives. Only by placing emphasis on the call taker activities could this determination be made.

This approach obviously meant that an evaluation was needed for the changes in the communications centers separate from the evaluation of the alternatives. The evaluation results of the new call classification, presented in Chapter 3, represent a process evaluation of the efforts required to establish the new systems. Chapter 10 discusses the role of the telecommunicators and includes an impact evaluation of the changes in the communications centers. Since the changes occurred prior to the introduction or expansion of the call alternatives, there is no confounding of interventions and, subsequently, a higher level of confidence in the overall evaluation results.

In all three sites, there was at least a three-month lag between implementation of the new call classification systems and the actual field tests for the call alternatives. During this period, the call takers determined whether calls were eligible for alternatives, but processed the calls in the normal manner, since the alternatives were not yet in place. The time gap allowed a sufficient period for the communications center personnel to become acclimated to the new procedures. The evaluation of the field test was then able to proceed without having to be concerned about separating the effects of the communications center changes from the effects of the alternatives. The final field test periods represented the combination of the two-phase process.

Randomization Requirement

Another overriding consideration during the evaluation design was the requirement for a randomized test of the alternatives. Use of a randomization procedure was discussed in the field test design, and all three departments stated in their grant applications that they would conduct a field test with a randomization procedure. However, actual agreement on the use of randomization came only after resolving many concerns expressed by the three chiefs and the project staffs. A portion of every cluster conference during the planning phase was devoted to this topic. The primary concern was that the departments would be providing different services for the same types of calls. That is, under the proposed randomization procedure, citizens in the experimental group would have their calls handled by the alternatives, while citizens in the control group calling about exactly the same types of incidents would receive immediate mobile responses. Such an approach ran counter to the general philosophy of police departments to provide equal services to all citizens. On the other hand, the departments could cite other operational programs which had been started on a test basis in only one area of the city. After considerable discussion, it was agreed that the best way to have a high degree of confidence in the final evaluation results, particularly on citizen satisfaction, was to use a randomization process.

The primary advantage of randomization was that it allowed comparisons to be made on control and experimental groups during the same time period. In addition, there was a desire to make some comparisons with the results of the surveys conducted during the baseline period. These "before/during" comparisons, as presented in Chapter 15, showed several positive changes in citizen satisfaction between the two periods. However, as discussed in the evaluation literature, citizen opinions can be affected in the short term by influences such as the passage of time between the baseline and test period, the effects of seasonal weather differences, and the changes in general economic conditions. The randomization process eliminated the effects of the outside influences by having control and experimental groups during the same time period. The combination of performing before/during comparisons and comparisons under the randomization procedure offered the strongest possible evaluation design for the DPR Field Test.

After the details of the randomization procedures were established, the cooperation of the three sites was excellent. As described in Chapter 5, the CAD system at the Garden Grove Police Department was reprogrammed so that half the eligible calls went to the expeditor unit and half were dispatched. The automatic nature of this procedure insured the validity of the randomization. Manual procedures were established at the other two sites and monitoring activities were implemented to assure that these procedures were followed.

It is recognized that these procedures do not produce true randomization in the statistical sense, and that it is better to term them "quasi-randomization" or "pseudo-randomization" experiments. For example, the Greensboro design took advantage of the work schedule of the telecommunicators in the communications center to establish experimental and control conditions. This approach gave a nonequivalent group design, since the groups were naturally formed rather than randomly selected. A comparison of the experimental and control group of telecommunicators in Greensboro did not indicate any differences in characteristics such as age, sex, years of experience, and other variables. Implementing true randomization would have been virtually impossible in the experimental setting of this test, and there is no reason to believe that a true randomization procedure would have produced different results.

One exception to the randomization procedures was made with the alternative of delayed mobile responses. Randomization would have meant that the dispatcher would have had to intentionally delay dispatches to patrol units even though the units were available to handle the calls. Project personnel from the three sites believed that such a procedure would have been very difficult to sell to the general public and to patrol officers. For this reason, it was agreed that delayed mobile responses would not be part of the randomization procedures. Instead, the policy was established at all three sites that calls would be delayed in dispatch only when the unit in the area of responsibility was busy on another assignment. As it turned out, this policy achieved the desired effect of providing a sufficient number of delayed calls for evaluation purposes.

No Other Major Changes

Another requirement under the terms of the grants was that the police departments would not introduce any major programs during the course of the project. In particular, patrol programs, such as directed patrol programs, which could have resulted in changes in citizen satisfaction, were discouraged. The three sites agreed to this stipulation and did not attempt any new programs during the grant period. The evaluation results on citizen satisfaction were thus a result only of changes due to the DPR project, and the possible confounding effects of other programs were not present as competing reasons for improved citizen satisfaction.

Demographic Differences

A final consideration in the evaluation design was the demographic differences across these three sites, as discussed in Chapter 2. While many of the same alternatives were implemented at all three sites, this evaluation report does not attempt to make extensive comparisons of results across sites. Instead, the evaluation highlights how a DPR approach to managing calls for services actually operated in three different environments. The fact that there were many project successes is a tribute to the efforts of the three sites and to the versatility of the DPR approach.

EVALUATION DESIGN

Development of Project Objectives

In forming the evaluation design, one of the first tasks was to develop project objectives with the sites that could be used for assessing the worthiness of the changes. The evaluation literature gives two schools of thought on objectives and evaluations, goal-oriented evaluations and goal-free evaluations. With goal-oriented evaluations, advocated by Rossi and Williams (1972) and Weiss (1972), evaluation questions are stated in terms of formal goals and objectives of a program. Rossi and Williams state that "a social welfare program (or for that matter any program) which does not have clearly specified goals cannot be evaluated without specifying some measurable goals." Weiss summarizes evaluation efforts by stating that "the goal must be clear so that the evaluator knows what to look for. . .Thus begins the long, often painful process of getting people to state goals in terms that are clear, specific, and measurable." This approach implies that the objectives of a project should be expressed in quantitative terms so that the evaluation results can indicate the extent to which the desired results were achieved.

The goal-free school of thought on evaluations, advocated by Patton (1980) and Scriven (1972), is defined by Patton as "gathering data on a broad array of actual effects and evaluating the importance of these effects in meeting demonstrated needs." With this approach, objectives are not discussed with the project personnel. Instead, the evaluator gathers data on as many program effects as possible and determines the value of the program by analyzing the most relevant information. The evaluator is not tied to a specific set of hypotheses to be tested.

In formulating its evaluation design, RMA selected a course of action between these two extremes. On the one hand, it was believed that stated objectives were needed in order to identify the key areas of evaluation at the three sites and to let the sites know what areas would be examined. This was particularly important since a formative approach to the evaluation was being followed. On the other hand, the research nature of the project made it difficult for the personnel at the three sites to quantify their objectives with any precision.

For example, one of the aims was to determine how many calls could possibly be diverted to the alternatives. There was no reliable information on which to estimate in advance what the number of eligible calls would be. Without this information, it was not possible to develop other quantitative objectives for the impact on unit utilization, decreases on average travel time, or several other related measures. For these reasons, the site personnel were reluctant to tie themselves to specific objectives.

Exhibit 2-6 in Chapter 2 showed the list of objectives which served as the basis for the evaluation design. The list covers all the critical areas of the project from objectives on call classification to objectives on alternative responses. Many of these objectives were process-oriented as, for example, the objective of implementing a training program in each site on the new system. Other objectives, such as those for alternative responses, were stated without quantitative values. In the evaluation, these values were calculated from the actual experiences of the sites and in some cases, comparisons were made with previous performance.

Measurement Periods

Exhibit 9-1 summarizes the planning and test periods for the three sites. As with most multi-site tests, it was difficult for all three sites to maintain exactly the same schedule. This did not create a problem during the planning phase since coordination was easiest at the start of the project, and since there were activities, such as the call classification system, which required the cooperation of all three sites.

EXHIBIT 9-1

SUMMARY OF PLANNING AND TEST PERIODS

Phase	Garden Grove	Greensboro	Toledo
Planning	Sep 1981-May 1982	Sep 1981-Jun 1982	Sep 1981-Apr 1982
Call Classification	Jun 1982-Aug 1982	Jul 1982-Dec 1982	Sep 1982-Dec 1982
Implementation Test	Sep 1982-Mar 1983	Jan 1983-Jul 1983	Jan 1983-Apr 1983

After the planning phase, however, there were occurrences at each site which dictated when the sites were able to implement the call classification systems and the call alternatives. For example, the economic problems in Toledo required the police department to make changes in its telephone report unit in May 1982 when civilians in the unit were laid off by the city. While contrary to the DPR schedule, the department felt that it had to expand the TRU. Four officers replaced the three civilians, and the hours of operation and types of calls handled were expanded.

In Greensboro, the Advisory Board was established to review the progress of the project and to discuss in greater detail the types of calls which could be handled by each alternative. While the Advisory Board was a success in terms of gaining long-range support for the project, it resulted in an implementation delay of the alternatives for the field test. The Garden Grove project personnel were able to move faster than the other two sites in implementing both the call classification system and the alternatives.

Even though different schedules were followed at the three sites, there were no adverse effects on the evaluation activities. If the evaluation aim had been to make extensive cross-site comparisons, then a more rigorous schedule would have been beneficial. Such comparisons, however, were not an aim of the project. Instead, the evaluation design was developed to measure the effects of a DPR project under different settings.

The important feature of the schedules in all three sites was that the main project phases--the planning phase, the changes in the communications centers, and the implementation of alternatives--were clearly delineated. By adhering to this approach, the evaluation activities could be planned so that definitive statements could be made on each project phase.

Exhibit 9-2 highlights the measurement periods during the DPR project along with the total volume of citizen surveys, structured interviews, questionnaires, and other data sources which were analyzed during the evaluation. All of the data listed in this figure were analyzed by the evaluation team.

Citizen Surveys

Surveys were conducted throughout the project of citizens at all three sites who had called the police department and received some type of service for a non-emergency incident. During the baseline period, the primary aim of the surveys was to determine the level of citizen satisfaction with the call takers, and to estimate what percentage of citizens would have been willing to accept some type of alternative service other than the immediate dispatch of a patrol unit. In Greensboro and Toledo, where telephone report units were already taking some reports of a minor nature over the phone, a sample of citizens was surveyed to determine their satisfaction levels with this service.

During the field tests, the citizen surveys were aimed at determining the levels of satisfaction with the variety of service alternatives that were implemented. Opinions of citizens in the experimental group receiving

EXHIBIT 9-2

SUMMARY OF EVALUATION ACTIVITIES

	Garden Grove	Greensboro	Toledo
A. Planning Phase			
1. Planning Meetings (3 meetings were held in Washington, D.C.)	1	1	0
2. Citizen Surveys for Baseline Data			
--Mobile Response Surveys	1,990	1,235	1,558
--TRU Surveys	(No Unit Yet)	798	1,770
3. Telecommunicators 1st Survey	14	30	37
4. Field Operations 1st Survey	70	132	260
5. Analysis of Calls for Service	Yes	Yes	Yes
6. Analysis of Call Classification Systems	Yes	Yes	Yes
B. Call Classification Test Phase			
1. Implementation Analysis	Yes	Yes	Yes
2. Analysis of Training			
--Telecommunicators Training	Yes	Yes	Yes
--Field Operations Training	Yes	Yes	Yes
3. Analysis of New Call Classification Systems	Yes	Yes	Yes
4. Analysis of Calls for Service	Yes	Yes	Yes
5. Analysis of Citizen/TRU Conversations	(No Unit Yet)	93	(Not Recorded)
6. Telecommunicators 2nd Survey	13	28	(NA)
C. Field Test Phase			
1. Implementation Analysis	Yes	Yes	Yes
2. Citizen Surveys			
--Mobile Response (Control)	293	729	217
--Delayed Mobile Response	104	112	122
--Telephone Report Unit	338	503	437
--Other Alternatives	93	73	No
3. Analysis of Calls for Service	Yes	Yes	Yes
4. Analysis of Alternatives	Yes	Yes	Yes
5. Telecommunicators 3rd Survey	13	29	40
6. Field Operations 2nd Survey	56	125	254
7. Analysis of Officer Schedules	Yes	Yes	Yes
8. Analysis of UCR Statistics	Yes	Yes	Yes
9. Cost Analysis	Yes	Yes	Yes
10. Technology Transfer Meetings	Yes	Yes	Yes

EXHIBIT 9-2 (Cont.)

D. On-Going Activities

1. Site visits by RMA personnel were made throughout the duration of the project for the purposes of collecting data, observing project operations, and other evaluation activities.

2. On-site monitoring was achieved by hiring a person for each site on a part-time basis. The on-site personnel were responsible for administering the citizen surveys and other special data collection/analysis as needed. On some occasions, they attended key planning meetings as observers.

3. Citizen/call taker conversations were analyzed throughout the project. RMA personnel listened to these conversations as recorded in the communications center to determine the degree of implementation of the new call classification procedures and to qualitatively judge the performance of the call takers during the baseline and field test periods.

4. Interviews with key department management personnel were conducted throughout the evaluation. These personnel included the chiefs of police, field operations commanders, commanders of units used for alternatives, and other personnel affected by the project.

the alternative services were compared to opinions of citizens in the control group receiving immediate mobile responses. In addition, some comparisons were made with the surveys conducted during the baseline period.

Consideration was given to conducting a general citizen survey, using a random digit dialing approach, to determine whether citizens would be willing to accept alternatives. Citizens could have been asked about accepting an alternative if, for example, they were to experience a particular type of incident. However, this approach was rejected because it was believed that citizens would have difficulty in relating to a scenario which they had not experienced. Instead, as discussed in Chapter 11, citizens who had called the police departments for non-emergency calls and had received immediate mobile responses were the target groups for these surveys at all three sites.

The dispatch records were the source documents for selecting the citizens to be surveyed. In Toledo, the selection process was manual, using the dispatch tickets, while at the other two sites, daily lists of calls from the CAD systems served as the sampling frame. The RMA on-site person at each site was responsible for selecting the sample. The first step in the selection process was to take a day's worth of dispatch records and eliminate all emergency calls. The dispatch records for the remaining non-emergencies indicated whether the callers had received alternatives or immediate mobile responses. A sample from each group was then taken by the on-site person.

Having the telephone number on the dispatch record was, of course, a necessity in order to conduct the survey. In Garden Grove and Greensboro, it was standard policy prior to the project for call takers to record the telephone number of the caller as part of the dispatch record. However, in Toledo, asking for the telephone number was not a standard policy in the communications center. During the planning phase, the evaluation team requested that the telephone number be recorded by the Toledo call takers so that the citizen surveys could be conducted. Surprisingly, there was considerable opposition to this request, particularly from the call takers, but also from other communications center personnel. They claimed that citizens would not give their telephone numbers and that it took too much additional time to ask for the numbers. While agreement was reached on recording the telephone numbers, there was a problem throughout the project on adhering to the policy. For the first few months of the planning phase, more than half the dispatch tickets did not have telephone numbers. As time passed and it was found that no problems were being encountered, the number of dispatch tickets with telephone numbers reached eighty percent, but at no time during the project was there total compliance.

The persons actually conducting the telephone surveys were local students or other persons from the city. They were supervised by the on-site person, who monitored the volume of calls being made by each caller and reviewed all surveys for accuracy. The sampling procedure insured that citizens were contacted usually only two or three days after the incident. In some instances, reaching the citizen required several attempts over a one or two-week period. The instructions for the callers were to attempt to reach citizens a total of five times, and the survey form allowed for recording all attempts.

It was found through experience that the most productive time to reach citizens was from 5 p.m. to 9 p.m., Monday through Friday. Survey callers were scheduled primarily during these periods, although other times of the week were used to try to maximize the number of citizens surveyed. During the entire evaluation period, approximately 17 to 20 percent of the citizens selected for the sample were not surveyed because they could not be reached within the five attempts, the telephone number was incorrect (not recorded correctly by the call takers), or the telephone number had been disconnected.

Once citizens were reached, it was rare for them to refuse to be surveyed, and the completion rate at this point was over 97 percent. While the reasons for the high rate cannot be known precisely, it is probably due to the non-emergency nature of the original calls and the desire on the part of citizens to express their opinions about the police department. The introductory remarks by the survey callers indicated that all responses would be kept confidential and that the aim of the surveys was to improve police services to the community.

One of the responsibilities of the RMA on-site personnel was to select a sample of the completed surveys and recontact the citizens to verify the information. Approximately five percent of the surveys at each site were randomly selected and checked in this manner. The on-site person called the citizens, stated that a check on the information was being made, and then asked the key questions in the survey again. The procedure insured that the survey callers were careful in recording all information from the citizens.

A problem peculiar to Garden Grove was encountered because of the relatively large percentage of Asian residents in the area. In some instances, a language barrier between the survey caller and the Asian resident prevented the completion of the survey. This problem was evident not only with the evaluation effort but also with the use of the alternatives in Garden Grove. The language problems made it difficult for the expeditor unit personnel to take some reports over the telephone, with the result that a patrol unit had to be dispatched to the incident. Based on the experience in Garden Grove, it can be concluded that alternatives such as telephone reports and mail-in reports have to take language barriers into account.

In the opinion of the evaluation team, the key to the conduct of the citizen surveys was the on-site personnel. In two of the sites, the same on-site person stayed through the duration of the project, while at the third site, the on-site person was with the project for approximately 75 percent of the time. There was more turnover with the survey callers; the average employment period of a survey caller was about six months. When callers were hired, they received training by the on-site person on how to ask each question and how to elicit the most accurate responses possible.

Analytical Methods

As seen in this report, a variety of analytical methods were employed in this evaluation. The method selected depended on the nature of the topic being analyzed. For example, questionnaires to communications center

personnel and patrol officers were administered during the planning phase of the project and again during the field test. The same set of topics was covered on both surveys so that changes could be identified. Since the DPR project was the only major operational intervention, it is assumed that changes in responses to the questionnaire were due to the project. Statistical tests in the form of t-tests at the 90 percent confidence level were used to determine the significance of these changes.

In addition, there were questions during the last survey to determine opinions about the alternatives which were introduced, and several open-ended questions allowed the respondents to state their opinions about the project. Analysis of the individual questionnaires allowed the evaluation team to tabulate the responses to the questions and make evaluation statements of a general nature about the opinions of the communications center personnel.

As previously discussed, the analysis of the citizen surveys was on two levels. The first level was a comparison of experimental and control groups during the field tests, and the second level was before/during comparisons. In either case, the questions on the survey instrument were the same so that valid comparisons could be made.

Another major analysis was with the dispatch ticket data from the three sites. The aim of this analysis was to measure the impact of the alternatives on the workload of the patrol units and the units providing the alternatives. Decreases in patrol unit workload and compensating increases in the other units have been shown in this report.

In making these comparisons, a key measure has been the percent of non-emergency calls for service which could be handled by the alternatives. In the literature on telephone report units and other alternatives, the usual measure has been the percent of crime reports handled by the alternatives. Since the majority of calls do not result in crime reports, this latter measure gives an artifically high percent of workload relief. It measures the decrease in report workload of patrol officers rather than the decrease in total workload. The decision of the evaluation team was to emphasize the decrease in total call for service workload of patrol officers as a more reflective measure of the worthiness of the project.

THREATS TO THE VALIDITY OF THE EVALUATION

In conducting an evaluation of a major field test, there must be continuing concern about problems that can affect the validity of the evaluation results. These validity threats were first recognized by Campbell and Stanley (1966) who categorized what they considered to be 12 major sources of problems that can affect any evaluation. Tien (1979) expanded on these sources to identify a total of 20 threats. These are listed in Exhibit 9-3 and can be summarized from Tien's study as follows:

- Internal Validity refers to the extent that the statistical association of an intervention and measured impact can reasonably be considered a causal relationship.

EXHIBIT 9-3
VALIDITY THREATS to EVALUATION DESIGN

Threats to Internal Validity

1. Extraneous events (i.e., history) may occur during the period of evaluation, inasmuch as total test or experimental isolation cannot be achieved in social experimentation.

2. Temporal maturation of subjects or processes (e.g., growing older, growing more tired, becoming wiser, etc.) -- including cyclical maturation -- may influence observed impacts.

3. Design instability (i.e., unreliability of measures, fluctuations in sampling units or subjects and autonomous instability of repeated or equivalent measures) may introduce biases.

4. Pretest experience, gained from a response to a pretest measurement (e.g., questionnaire, test, observation, etc.) may impact the nature and level of response to a subsequent post-test measurement.

5. Instrumentation changes (e.g., changes in the calibration of a measuring instrument, changes in the observers or evaluators used, etc.) may produce changes in the obtained measurements.

6. Regression artifacts may occur due to the identification of test or control subjects (or periods) whose dependent or outcome measures have extreme values. These extreme values are artificial and will tend to regress toward the mean of the population from which the subjects are selected.

7. Differential selection -- as opposed to random selection -- of subjects for the test and control groups may introduce biases.

8. Differential loss (i.e., experimental mortality) of subjects from the test and control groups may introduce biases.

9. Selection-related interaction (with extraneous events, temporal maturation, etc.) may be confounded with the impact of the intervention, as, for example, in the case of a self-selected test group or in test and control groups which are maturing at different rates.

Threats to External Validity

10. Pretest-intervention interaction (including "halo" effect) may cause a pretest measurement to increase or decrease a subject's sensitivity or responsiveness to the intervention and thus make the results obtained for a pretested population unrepresentative of the impacts of the intervention for the unpretested universe from which the test subjects are selected.

11. Selection-intervention interaction may introduce biases which render the test and/or control groups unrepresentative of the universe from which the test subjects are selected.

12. Test-setting sensitivity (including "Hawthorne" and "placebo" effects) may preclude generalization about the impact of the intervention upon subjects being exposed to it under non-test or non-experimental settings.

13. Multiple-intervention interference may occur whenever multiple interventions are applied to the same subjects, inasmuch as the impacts of prior interventions are usually not erasable.

Threats to Construct Validity

14. Intervention sensitivity may preclude generalization of observed impacts to different or related interventions. Complex interventions may include other than those components responsible for the observed impacts.

15. Measures sensitivity may preclude generalization of observed impacts to different or related impact measures. Complex measures may include irrelevant components that may produce apparent impacts.

Threats to Statistical Conclusion Validity

16. Extraneous sources of error (including "post hoc" error) may minimize the statistical power of analyses.

17. Intervention integrity or lack thereof may invalidate all statistical conclusions.

Threats to Conduct Conclusion Validity

18. Design complexity (including technological and methodological constraints) may preclude the complete and sucessful conduct of the evaluation.

19. Political infeasibility (including institutional, environmental and legal constraints) may preclude the complete and successful conduct of the evaluation.

20. Economic infeasibility (including hidden and unanticipated costs) may preclude the complete and successful conduct of the evaluation.

Source: Tien, 1979

- External Validity refers to the extent that the causal relationship can be generalized to different populations, settings, and times.

- Construct Validity refers to the extent that the causal relationship can be generalized to different interventions, impact measures, and measurements.

- Statistical Conclusions Validity refers to the extent that an intervention and a measured impact can be statistically associated.

- Conduct Conclusion Validity refers to the extent that an intervention and its associated evaluation can be completely and successfully conducted.

Each of these represents a potential problem area for any evaluation design. The evaluation design for the DPR project was developed with the aim of eliminating or minimizing their effects. In this section, each area is discussed and examples are provided on specific problems which could have had a substantial effect on the evaluation results. In most instances, the design elements alleviated any problems posed by these threats. However, in any evaluation, it is not possible to completely overcome all threats which can affect the evaluation results. The areas which continued as problems throughout the evaluation period are so noted.

The internal validity of a design is concerned with whether the project interventions are the cause of the evaluation results, or whether other changes are responsible for the results. For example, if the departments had been allowed to introduce a new patrol program, such as a beat redesign or directed patrol activities, then citizen satisfaction could have been changed as a result of these programs. However, since no new programs were permitted, this threat was averted. Other evaluation design features which helped insure internal validity were (1) the use of experimental and control groups during the field test; and (2) the use of the same basic set of questions on the citizen surveys throughout the project. Similarly, no major changes were made to the questionnaires completed by communications center personnel and patrol officers.

The fiscal problems in Toledo during early 1982 probably posed the greatest threat to the evaluation results in any of the sites. Since many city employees were laid off during this period, negative reactions on the part of citizens to all city government agencies could have resulted. These negative reactions might have been reflected in the baseline surveys indicating that Toledo citizens had a lower level of acceptance of alternatives than the other two sites. However, the Toledo citizen surveys reflected a high level of satisfaction with call takers, and a high level of satisfaction with the use of the telephone report unit.

In terms of external validity, the evaluation design presented advantages and disadvantages for generalizing from these test sites to other populations. The main advantage is that the three sites were different, with each representing a particular type of police department in terms of organization, style of policing, and technology. The Toledo police

department represents the large, older, traditional department in an industrial setting; Garden Grove, the medium-sized, younger, modern department in an urban setting; and Greensboro strikes a middle ground. Many police departments in the United States fall into one of these three categories.

The disadvantage of the evaluation design in terms of external validity is that the generalizations are being made from a sample of one site from each category. The design tradeoff is that if three similar sites had been selected, then the external validity would have been higher (assuming there were consistent results across the sites), but would be applicable to a limited number of police departments.

Another key type of external validity problem applicable to the DPR project was the possibility of a Hawthorne effect on the personnel in the communications centers. A Hawthorne effect means that improvements occur because of a group's awareness of the attention from a study, rather than as the result of project activities. In all three sites, the DPR project was the first time in many years that the department management had paid any significant amount of attention to their communications centers. The situations in the communications centers changed from receiving virtually no attention prior to the project to being examined in considerable detail during the project. Receiving this attention obviously had an impact on the call takers and dispatchers. The evaluation results on the telecommunicators, as presented in Chapter 11, may be due to a combination of a Hawthorne effect and the changes made during the DPR project.

With regard to construct validity, the interventions at the three sites were not of sufficient complexity to create problems of intervention or measures sensitivity. The two-stage process of first introducing changes in the communications centers, followed several months later by the introduction of the alternatives, simplified the field test and the evaluation design. Further, the citizen surveys were intentionally kept relatively simple, with the primary emphasis on satisfaction with the call takers and the type of service delivered.

The statistical conclusion validity was also believed to be high for the evaluation of the DPR project. Particular attention was paid by the evaluation staff to the implementation process at all three sites. The on-site personnel were particularly beneficial in this regard. The statistics provided by the dispatch ticket information and other sources of data clearly indicated that the interventions were implemented in the proper fashion. In Greensboro, for example, there were clear differences in the use of the alternatives between the experimental and control days.

One regret which the evaluation team had with the citizen surveys was that a wider Likert scale was not used to measure citizen satisfaction. It was believed that such a scale would have been more difficult to use in a telephone survey than the scale of "very satisfied," "satisfied," "dissatisfied," and "very dissatisfied." As discussed in this report, the percentage of citizens who were dissatisfied or very dissatisfied was low throughout the study. The primary variations resulted from a lower percentage of persons stating that they were "very satisfied" with the alternatives as compared to immediate mobile responses. A seven-point Likert scale, for example, may have highlighted these differences to a

greater degree of specification. However, the main results on the objective of maintaining citizen satisfaction with the alternatives remain valid with the four point scale.

Finally, threats to conduct conclusion validity did not play a major part at any of the sites in this project. The field test design was kept as simple as possible and there were sufficient funds and sufficient time to conduct a thorough evaluation.

The fact that there were only a few threats to the validity of the evaluation results can be attributed to several design factors in this field test. Chief among these was the use of the randomization procedures to obtain experimental and control groups which provided reliable comparisons on citizen satisfaction. Effective use of randomization procedures minimized the impact of the threats to validity. None of the three departments introduced other major operational changes during the project, which also enhanced the validity of the evaluation results. The project was also fortunate that there were no changes in the key positions. The chiefs of police remained with the projects throughout their duration, as did the project directors for the sites and the supporting staff personnel. Finally, the two-stage implementation process provided a means of obtaining valid evaluation results on the changes in the communications centers, followed by other results on the application of the alternatives.

CHAPTER 10

ROLE OF THE TELECOMMUNICATOR

INTRODUCTION

The procedural and policy changes to implement the DPR project had their greatest impact on the telecommunicators in the communications centers. This chapter reviews the impact on the role of the telecommunicators, both the call takers and the dispatchers. The first section examines relevant research that has been conducted on the telecommunicator role in policing, and the state of the art in telecommunicator training. The second section looks at the turnover rates at each of the sites during the period of the project, and presents the advantages and disadvantages of civilianization versus sworn personnel in communications. Third, a description of the training programs each of the sites developed for their communications personnel is presented. Finally, this chapter presents the findings of the surveys of telecommunicators and patrol officers, and a special study of citizens who had calls handled by the telephone report unit in Greensboro.

Telecommunicators at each site were surveyed at the beginning of the grant, at the end of the call classification development phase, and toward the end of the field test implementation. Each survey included over fifty questions on operations, job satisfaction, interpersonal relations, and the effect of the changes in call intake, policies and procedures, training, and other DPR changes. Over 80 telecommunicators participated in the first and third round of surveys. These included approximately 40 telecommunicators from Toledo, 14 from Garden Grove, and 30 from Greensboro. Due to scheduling conflicts, it was not possible to survey the Toledo telecommunicators at the end of the call classification test phase. The second and third surveys included questions on training for the DPR project and training in general that were not included in the first survey.

Patrol officers were surveyed on two occasions, and survey findings pertaining to changes in their relationship with communications personnel are discussed. Results of a citizen survey which determined the most effective communicator style are also presented. The chapter concludes with a discussion of barriers to successful implementation of alternatives, and recommendations for effective changes in a communications center.

THE RESPONSIBILITIES OF THE TELECOMMUNICATOR

The call taker or complaint operator traditionally plays a key role in police operations, yet generally occupies a low position in the police organizational hierarchy. Call takers are usually the first contact, and in many instances, the only contact citizens have with the police department. Scott's (1981a) study of over 26,000 calls for service in three metropolitan areas encompassing 24 departments found that in 50 percent of all calls for service, the communications personnel completely handled all calls. This role of "information broker" was accomplished by referral of the call, transferral, or taking information from or providing information

to the caller. The three DPR sites experienced similar high percentages of "information only" calls.

The discretion used by call takers on their jobs is nearly as great as that of officers in the field. Prior to DPR, call takers at all three sites were relatively free to decide how to classify a call, whether to dispatch a patrol car, to whom to refer the call, and what sort of information to provide the caller. Scott (1981a) noted in his study that even though supervisory personnel may be present, they seldom change or question the call taker's categorization or request for a patrol car or monitor the work of the call taker.

Decisions made by call takers also influence the actions taken by the responding officer, as seen in Pepinsky's (1976) study of 373 responses to calls in Minneapolis. He found that, to a large extent, "Patrolmen's decisions as to whether to report offenses were determined by the terms of the calls they had received from the dispatcher." If an offense was not named by the dispatcher, it was highly unlikely that the officer would report an offense.

Civilianization of the call taker position has been found to lead to increasing overclassification of calls. For example, in order to insure that a unit responds, the call taker will classify the calls as more serious than they might really be. Maxfield (1979) examined discretionary decision-making by complaint operators in the San Francisco Police Department, and found substantial increases in dispatched calls for service following civilianization. Antunes and Scott (1981) also noted overclassification of calls. One reason for this could be a desire of call takers to shift away from themselves the responsibility of making a mistake or using bad judgment.

Several studies have shown that the people who become call takers and dispatchers often are not of the highest caliber, since the position is considered clerical and held in low esteem by most police departments (Farmer, 1981; Scott and Percy, 1980; Scott, 1981a). Many times, when sworn officers are used, the positions are filled by those on light duty due to disability, or who are otherwise not fit for street duty. When the positions are held by civilians, they may be filled by people who are unfamiliar with police operations (Schnelle et al., 1981).

Telecommunicator Training and Supervision

Regardless of who fills the position of call taker, it is characterized nationally by a lack of supervision and training. Farmer found that over half of the departments in areas with populations over 500,000 had no dispatch supervisors; 31 percent provided no training for operators; and 25 percent provided no training for dispatchers. Of those that did train, the median level of basic operator training did not exceed 80 hours in any department. In-service training did not exceed a median of 40 hours.

The Florida Chapter of the Associated Public-Safety Communications Officers (APCO) surveyed 500 service agencies throughout the state and found that, other than on-the-job training, training was non-existent in all but a few areas of the state (Brandt, 1982b). Sixty-five percent of the respondents reported training was inadequate and was generally provided

on the job, and 82 percent felt standard basic training and certification was needed. Brandt contends that not only is on-the-job training time-consuming, and therefore the least cost effective training method, it is also the least efficient way to learn. The level of efficiency reached by the on-the-job trainee will seldom exceed that of the trainer.

The need for supervision and training has been noted by many authors, especially the need for call takers to inform citizens when to expect a patrol car to arrive. Schnelle et al. (1981); Percy (1980); Pate et al. (1976); Cahn and Tien (1980); Scott (1981) and others have noted poor call taker telephone habits. They stress the importance of having operators tell citizens when to expect the police to arrive, and caution that citizens may be discouraged from calling the police in the future if they did not receive a satisfactory response from police during a previous interaction.

Scott recommends that the call taker position be upgraded, and that stricter supervisory control be placed on operators through selective monitoring of calls and recording of incoming calls. He also suggests that improved hiring and selection procedures be used. Scott and Percy highly recommend that telephone operators receive formal training prior to commencing work, and stress the importance of reducing the degree of self-training that is currently the norm.

In the past few years, states have started to recognize the importance of the public safety telecommunicator and the need for standardization and training programs. Florida has been a forerunner in this area, and recently submitted legislation that would establish a state office of telecommunicator training. This office would implement a voluntary program and provide uniform standards and curricula for telecommunicator training and certification. It would also develop criteria for testing and certifying trainees. The law would assist schools and agencies in the development of programs and training.

Several schools around the country offer specialized telecommunicator training programs. The Florida Institute of Criminal Justice, administered by Central Florida Community College, provides state-mandated law enforcement and correctional training courses. In 1976, the Institute began a 40-hour communications seminar, which has developed into an innovative simulator training program (Chete, 1980). Based upon the simulator training program used by the Orlando, Florida Police Department, the Institute's training program was established through the combined efforts of business, service agencies, and the college.

Since 1971, the University of Delaware Continuing Education Department has offered three-day Public Safety Telecommunicator Training Seminars geared to medium and small-sized departments. One unique feature of these seminars is that they can be contracted out by local communities at a sizable cost savings. There is also a similar series of modules designed for supervisors.

The Communications Service of the Texas Department of Public Safety operates 32 communications facilities throughout Texas, and has developed a modular four-month on-the-job training program for supervisors and new employees (1980a-c; 1981). The basic training outline consists of 14 phases, similar to those in Delaware and Florida. The Texas program offers a 40-

hour training program twice a year for all operators with less than one year's experience. Telecommunicators are also required to attend a 40-hour in-service school once every two years for the remainder of their employment.

The curriculum used in a three-week program to train 911 emergency operators at the New York Police Academy is considered one of the best in the nation (Alexander, 1982). The program includes an introduction to transactional analysis, victimology, crisis intervention, and handling suicide, and uses a simulation as well.

The training programs undertaken by the three sites for the DPR project were also well developed, and will be discussed in detail later in this chapter.

CIVILIANIZATION OF TELECOMMUNICATOR POSITION

The use of civilian and sworn telecommunicators at the three DPR sites included the full range of possibilities, from complete use of sworn personnel to complete use of civilians. Exhibit 10-1 summarizes the personnel differences of each communications center:

EXHIBIT 10-1

COMMUNICATIONS CENTER STAFFING AND ORGANIZATION

Staffing	Garden Grove	Greensboro	Toledo
Call Takers	Civilians	Civilians	Officers
Dispatchers	Civilians	Civilians	Sergeants
Supervisors	Sergeants/Civilians	Civilians	Lieutenants
Administrators	Lieutenant	Civilian	Captain

The typical staffing per shift in Garden Grove was two call takers, one or two dispatchers, and one supervisor; in Greensboro, two call takers, three dispatchers, and one supervisor; and in Toledo, four or five call takers, three dispatchers, and one supervisor. Garden Grove created the civilian position of lead dispatcher to provide supervision during the shifts when the lieutenant was not on duty. In Toledo, the officers assigned to communications were not permanently assigned, and officers on light duty frequently were temporarily assigned to serve as call takers.

The extensive use of civilians at two of three DPR sites reflects the trend seen nationally toward the civilianization of police call taker and dispatcher positions, as well as the civilianization of other positions within the department, such as community service officers. Use of civilians has gone from 7.5 percent nationally in 1950, to 13.2 percent in 1972. The latest figures show that nearly two-thirds of police departments in

areas with populations of over 100,000 use civilian operators predominantly (Farmer, 1981). Farmer also found that 49 percent of police departments used civilian dispatchers, 33 percent used a combination of civilian and sworn, and 18 percent used only sworn dispatchers.

There are numerous arguments for and against the use of civilians in communications. Civilians are generally thought to have a higher attrition rate than sworn staff, due to the classification of telecommunicator jobs as clerical, the lack of training provided, little job security, and poor pay. However, civilians are thought to be cheaper to train than officers, potentially better skilled to perform the necessary tasks, and less expensive to use than sworn staff.

In order to determine the degree to which these issues were found in the use of civilians at the three DPR sites, the turnover rates in each communications center were examined during the entire project period. The evaluation staff examined the pay scales of each site, and through surveys of all communications staff, examined their satisfaction with pay and other aspects of the job. Officers were also interviewed and questioned on their relationships with telecommunicators as a result of DPR changes. Exhibit 10-2 presents a summary of the advantages and disadvantages pertaining to civilianization found at the three sites. Following the exhibit is a brief discussion of the advantages and disadvantages based on the findings from these several sources of data.

EXHIBIT 10-2

SUMMARY OF ADVANTAGES AND DISADVANTAGES OF CIVILIAN TELECOMMUNICATORS BASED ON FINDINGS FROM THE THREE DPR SITES

Advantages	Disadvantages
1. Higher retention rates with civilians.	1. Civilians may lack familiarity with police work and criminal laws.
2. More economical with civilians--salaries and training costs less with civilians than officers.	2. Civilians tend to overclassify calls.
3. Improved officer morale over not having to perform routine tasks, i.e., clerical, dispatching.	3. Increased officer concern that use of civilians may threaten their job security.
4. Increased availability of officers for other tasks, i.e., directed patrol, community relations.	
5. Civilians are often better educated to perform the job since they are hired based on skills and abilities to perform telecommunicator tasks.	
6. Civilians are more satisfied than officers with the career potential of the job.	

Retention Rates in Communications During Project

The time span examined to determine the retention rates was from July 1981 to December 1982. All call takers and dispatchers (excluding supervisory personnel and administrators) were included if they had been hired as of July 1, 1981, or were hired during the time period under study.

The overall retention rate was 98.3 percent in Garden Grove and 91.5 percent in Greensboro. In Toledo, the rate was 82.6 percent for officers and sergeants excluding light duty officers, and 76.6 percent if light duty officers were included. Contrary to some findings (e.g., Schwartz, 1975), civilians in communications had a lower turnover rate than sworn staff. The retention rate in Garden Grove was the highest of the three sites, where in actual turnover, only one telecommunicator terminated during the study period. Greensboro's data shows that it retained 88.5 percent of the communications personnel who could have worked for the entire study period, as compared to Toledo, where only 71 percent of the personnel were retained by the communications center for the entire project.

Toledo also experienced high turnover in the captain and lieutenant positions in communications during the study period. Five of the seven lieutenants who served in communications retired or transferred out during the study period, and the position of captain was filled by three individuals, two of whom retired during the study. This high turnover of the management staff was noted by many telecommunicators during their interviews as causing inconsistency, lack of leadership, and morale problems. There was no turnover in the administrative positions in the communications centers in Garden Grove and Greensboro during the study period.

Salaries and Other Costs

At the end of calendar year 1981, the average pay for a telecommunicator with three years' experience at each of the sites was: $17,600 in Garden Grove, $14,000 in Greensboro, and $21,000 for the officers in Toledo ($24,000 for sergeants). During the course of the project, telecommunicators at all of the sites received pay raises and changes in the job rates, so that by the end of 1982, salaries for telecommunicators with three years' experience at each of the sites were: $18,240 for a Telecommunicator I in Greensboro, $19,320 for a dispatcher (Level D) in Garden Grove, and $22,500 for an officer in Toledo ($25,898 for sergeants). Even with the changes in the pay rates, the civilian telecommunicators at each of the two sites were paid less than the officers in Toledo.

In addition to the actual salary costs, there were a number of other costs associated with officers that did not apply to civilian communications personnel, such as pensions, recruiting costs, and officer training academy costs. The telecommunicators at each of the sites, prior to improvements under DPR, were trained on the job. In Greensboro, the Telecommunicator II's served as trainers and new employees received trainee salary during their training period of six months. In Toledo, training was more haphazard and not routinized. In Garden Grove, the lead dispatchers served as trainers.

Regardless of the salaries, three-quarters of all telecommunicators surveyed, whether civilian or sworn, were satisfied with their pay. Garden Grove telecommunicators exhibited the highest level (86.4 percent) of satisfaction. In Greensboro, 69 percent were satisfied with their pay, and in Toledo, 75 percent of both officers and sergeants reported they were satisfied.

Civilian Versus Sworn Satisfaction with Telecommunicator's Job

The telecommunicator surveys included several questions on the degree of satisfaction experienced with telecommunicator work activities. A number of questions on their satisfaction with the career potential of the job and with their progress in the department were included. Exhibit 10-3, which presents the results, shows that civilians were more satisfied with the activities of the job, with their chances for getting ahead, and with their progress in the department than were their sworn counterparts. Civilian telecommunicators were also nearly twice as likely to regard their job as a career position as were the sworn officers and sergeants in Toledo.

EXHIBIT 10-3

TELECOMMUNICATOR JOB SATISFACTION

	Garden Grove Total	Greensboro Total	Toledo Officers	Toledo Sergeants	Toledo Total
Satisfied with work activities	77.3 %	93.0 %	57.7 %	64.3 %	60.0 %
Satisfied with chances for getting ahead	77.0	55.1	26.9	57.1	37.5
Satisfied with progress in department up until now	92.4	89.6	57.7	85.7	67.5
Regard job as career position	72.7	86.2	53.8	35.7	47.5

Educational Level of Telecommunicators

The educational level of the telecommunicators at the three sites differed greatly between sworn and civilian workers. In general, civilian telecommunicators were considerably better educated than sworn personnel. Exhibit 10-4 shows that one-third of the telecommunicators in Greensboro had completed four years of college, compared to 10.5 percent of the sworn staff in Toledo. Over three-quarters of the telecommunicators in Garden Grove had attended some college, compared to one-third of the officers in Toledo.

EXHIBIT 10-4

EDUCATIONAL LEVEL OF TELECOMMUNICATORS

	Garden Grove Total	Greensboro Total	Toledo Officers	Toledo Sergeants	Toledo Total
High School	23.1 %	34.5 %	58.4 %	7.1 %	39.5 %
Some College	76.9	34.5	33.3	78.6	50.0
B.A./B.S. Degree	---	31.0	8.3	14.3	10.5
	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %

In summary, a comparison between civilian and sworn telecommunicators shows that civilians had higher retention rates, were more satisfied with the job, and were better educated. In addition, salaries, fringe benefits, training costs, and other support costs for civilians were cheaper than for sworn personnel. Further, the use of civilians in the communications centers allowed more sworn personnel to be available for field work. The disadvantages of using civilian telecommunicators can be minimized with improved personnel selection and training.

TELECOMMUNICATOR TRAINING FOR THE DPR PROJECT

Each of the three sites in the DPR project developed a training package prior to the field test phase of the project. Since implementation took a different form at each of the sites, the training programs also differed. In Greensboro, for example, there was a training program at the end of the planning stage to familiarize the telecommunicators with the new call intake system. Later, a second training program was held on the new alternative responses prior to implementation. Just prior to implementation, Toledo provided one three-day training program in which all of the changes were presented. Nearly one day was also spent in practice sessions. In Garden Grove, one half-day training session was held prior to implementation, and was supplemented with monthly problem-solving meetings.

All of the sites also developed training and orientation programs for other personnel, such as the field officers, telephone report unit staff, members of other departments, administrators, and various members of city government. These additional training programs were geared to the degree of involvement these groups would have with the project. For example, Garden Grove's session with the patrol officers consisted of two half-hour briefing sessions to familiarize them with the DPR process and what effect it would have on them.

Each department developed procedure manuals and easy-to-use flip charts for communications personnel to use as reference material during the project. These materials, which were introduced and used at the training sessions, also proved quite valuable and effective in training programs for new hires after the project ended.

Training in Toledo

The program developed in Toledo was more intensive than at the other two sites, and contained some unique features, including:

- Use of outside professionals from the University of Toledo to conduct several sessions;
- Nearly eight hours of practice sessions, including standardized testing for comprehension; and
- Formal evaluation of the training program by participants.

Toledo's three-day (24 hours) curriculum had three objectives: (1) increased understanding of the importance of recording complete and accurate information; (2) increased ability to comprehend the factors involved in data entry; and (3) increased knowledge of calls for service reports and how they may be used for efficient deployment of personnel and assignment of resources.

To achieve these objectives, the training was divided into eleven sessions. Sixty-four officers attended the training, including officers regularly assigned to communications, as well as some alternates from field operations who occasionally filled in as call takers. The training was designed and conducted by the DPR project staff. Two professors from the University of Toledo, Department of Communications, were primarily involved in teaching the sessions on general communications skills, listening, and specialized telecommunicator skills. They also assisted in practice sessions.

The curriculum developed by Toledo consisted of the following topics and time frames:

I. First Day:

Morning
Orientation to training; Introduction to DPR project; Prior research on differential response; Role of communications and police service; DPR goals and scope of the test project; Pre-test and test schedule of project.

Afternoon
Changes on dispatch cards; New event coding series; New event descriptors and discussion.

II. Second Day:

Morning
Call classification characteristics (discussion of matrix, call intake prompter, response and event codes).

Afternoon
General listening skills: model for communications, examples of ineffective communications, dimensions of communications, what to listen for;
Specific listening skills for telecommunicators: what to elicit from callers, cueing and prompting, public relations, avoiding use of police jargon.

III. Third Day:

Morning
DPR Model; Review of response and event codes; Discussion of sample dispatch cards and common errors; Practice session on coding.

Afternoon
Communications skills; Adaptation of listening skills to DPR project; Dispatch and coding exercises; Coding test; Evaluation of training.

To illustrate points on appropriate and inappropriate handling of calls, the professors played tape recordings of telephone conversations between callers and call takers from Greensboro and Garden Grove. This strategy of using tapes from one of the other sites was also used by Greensboro, which used tapes from Toledo for its training sessions. However, during all the practice coding sessions in Toledo, actual calls taken from Toledo police tapes were utilized, and the telecommunicators were required to code the calls according to the new event and response codes, as well as to choose which priority dispatch card would be appropriate. Some of the calls ranged from one line items, such as: "I'd like to report wood being burned on a grill and making a nuisance at 2804 Piddock," to more complicated calls with callbacks and additional information which necessitated changes in coding. An example of this type of call was: "Please come to 408 Smith Street. I had my husband charged with assault and battery last Monday, and I haven't been home, but I stopped by to see my little girl, and he grabbed me and started knocking me around. He's still there; I've locked myself in the bedroom to call you."

As a result of the practice coding sessions, one interesting finding that became apparent to the telecommunicators was the need to ask enough questions to classify the call and choose the appropriate response. After coding over thirty practice calls, the importance of call takers asking all pertinent questions became clear. The final quiz for the training consisted of choosing the event code, response code, and appropriate dispatch card for ten actual calls. Out of a possible 30 points, the median score was 25.

At the end of the training, the officers filled out an evaluation of the training session. The evaluation included 14 questions for which the participants rated the training components from one to five (one indicated excellent, three was average, and five was very poor). A total of 42 participants filled out the evaluation. The results in Exhibit 10-5 show that on nearly all aspects of training, the average score was approximately 3.0, or average.

EXHIBIT 10-5

TELECOMMUNICATOR EVALUATION OF TOLEDO TRAINING

Program Area		Average Score*
Content of the Program:		
The Manual		3.1
Listening Skills		2.8
Practice in Differential Response		2.7
Final Evaluation		2.9
Organization of the Program:		
The Manual		3.1
Listening Skills		2.9
Practice in Differential Response		2.8
Final Evaluation		3.0
Presentation:		
The Manual		3.0
Listening Skills		2.9
Practice in Differential Response		3.0
Final Evaluation		3.1
Overall Effectiveness of the Training Session		3.0
Were the various parts of the overall program:		
organized effectively?	Yes 92.9%	
	No 7.1%	
weighted in the right proportion?	Yes 78.0%	
	No 22.0%	

* Scale: 1 = Very Poor 2 = Below Average 3 = Average
4 = Above Average 5 = Excellent

Training in Greensboro

In Greensboro, the training program was handled through two distinct sessions. The first was a ten-hour session on the new call classification system and call intake procedures. It took place in May 1982, six months prior to the actual full field implementation of the alternative responses. The session included several hours of practice coding and classifying calls with the new system. The major areas covered during this initial training were:

- Introduction to DPR
- Goals of the project
- Operations requirements
- Importance of citizen satisfaction
- Review of call types
- Practice review and classification of taped calls
- Call intake procedures
- Selection of responses
- Practice coding simulated calls

The second training session took place just prior to the implementation of the alternative responses in January 1983. It consisted of a half day of training on the alternative responses, and a review of the changes in call classification and the call intake procedures. The telecommunicators and officers who staffed the telephone report unit were trained together. They used 25 practice calls for which they coded the proper classification. Additional briefings were provided to selected other police divisions that would be involved in or affected by the implementation phase. For example, the lab identification section received a full day's training, consisting of a morning on DPR and an afternoon on report writing. The session on report writing was necessitated because this unit and others, such as the youth division, vice squad, and animal control, would be dispatched and would now be taking original incident reports under the new use of the alternative responses.

Training in Garden Grove

In Garden Grove, a formal two-hour training program was conducted in the pre-implementation phase. The program was for telecommunicators and for the staff of the expeditor unit. The two-hour training consisted of a brief background on the DPR project, review of the DPR matrix and incident codes, and a hands-on test. This test was conducted by the lieutenant in communications and several dispatchers. The test simulated various calls and required the telecommunicators to select the appropriate response. The other city department heads, city manager, mayor, and members of city council received an orientation session on the project. The management staff of the police department received a more detailed briefing.

Another interesting feature in Garden Grove was that during the implementation phase, training was supplemented by monthly small group sessions which generally lasted from one to two hours. In these sessions, the telecommunicators were brought up to date on the progress of the project, and discussed problems they were having in coding and classifying calls

under the new system. Minor modifications on the call intake procedures and classification system were made as a result of specific problems raised in the sessions.

Survey Findings on Training

The final telecommunicator survey included questions on the training the call takers and dispatchers received for the DPR project. With regard to whether training had been timely and beneficial, 83 percent in Greensboro, 50 percent in Garden Grove, and 69 percent in Toledo felt that it had been. Since Greensboro was the only site to give two training sessions (one during planning and one just prior to implementation), the telecommunicators were most enthusiastic that this training had been given at the best times.

In supplementary open-ended questions, the telecommunicators offered suggestions for improvements on the DPR training they had received, as well as changes they would like to see on training in general. In Toledo, telecommunicators suggested that follow-up sessions were needed, including expanded use of the flip charts and more practice coding calls. They also suggested that DPR training was needed for new personnel, and that operators and dispatchers should have been used in training. In Garden Grove, telecommunicators cited the need for more follow-up, more expert trainers, and more fine tuning of materials prior to training. In Greensboro after the first training session, the telecommunicators expressed some confusion with the new call intake system and other procedural changes. However, after the second training session, in which the changes were again explained, the telecommunicators expressed much greater satisfaction with the training. While many felt that training had been adequate, other telecommunicators felt that additional and continued training was needed, and that training should be more individualized with more role playing and simulation.

EFFECT OF DPR CHANGES ON TELECOMMUNICATORS

During the planning phase, project personnel from the sites discussed the potential impact of DPR on the telecommunicators. It was anticipated that for many of the telecommunicators their reaction would be less than positive. The problem was that the project placed a heavy burden on the telecommunicators without any accompanying direct benefits for them. The benefits were primarily for patrol in the form of reduced workload.

The DPR project required telecommunicators to quickly train and learn new procedures. It also increased the detail and complexity of their work. But more importantly, DPR introduced new standards, structure, and consistency to the job of telecommunicator. At all three sites, written operations manuals were prepared and disseminated. These new standards and structure allowed supervisors to monitor and evaluate telecommunicators more closely. For example, supervisors routinely evaluated recorded citizen calls on a random basis. Telecommunicators came under new scrutiny for their decisionmaking. To a certain degree, some telecommunicators resented this new scrutiny and examination.

Moreover, some telecommunicators expressed the feeling that they

should have been more involved in the planning and implementation of a project which had the greatest direct impact on them. This point may be verified by the fact that the Greensboro telecommunicators accepted the project more readily than the other two sites. Greensboro was the only site that had a telecommunicator on its project staff and who was significantly involved on the Advisory Board.

Exhibit 10-6 presents the opinions of telecommunicators in regard to several aspects of the DPR project. One of the interesting findings evident from this exhibit is that the experimental group of telecommunicators in Greensboro was consistently more positive about the DPR project than the control group.

It is also interesting to see how rapidly the telecommunicators learned to adapt to the new DPR system. Exhibit 10-7 shows that within several months, over 70 percent of all telecommunicators felt as confident handling calls under the new DPR system as they did with the previous system. Moreover, the new manuals were found to be helpful by the majority of telecommunicators in carrying out the new job.

EXHIBIT 10-7

TELECOMMUNICATOR REACTIONS TO NEW CALL INTAKE PROCEDURES

	Garden Grove	Greensboro		Toledo	
	Total	Control	Experimental	Sergeants	Officers
As confident handling calls using new call intake procedure as before	63.7%	80.0%	85.7%	66.6%	56.0%
New procedures require paying more attention to the caller	46.2	80.0	100.0	80.0	73.1
New communications manual helpful in carrying out job	76.9	80.0	85.7	64.3	88.5

In summary, before another police agency implements a DPR system in communications, it should anticipate the possibility of a less than enthusiastic response from telecommunicators. However, as these data indicate, even though some of the telecommunicators reacted negatively to the changes and the increased detail and complexity in call processing and dispatching, the majority of telecommunicators still adapted well to the system, learned the new procedures, and performed effectively.

Despite the effect the project had on some of the telecommunicators, most were enthusiastic about many of the changes. The most positive bene-

EXHIBIT 10-6

TELECOMMUNICATOR ATTITUDES TOWARD THE DPR PROJECT

	Garden Grove	Greensboro			Toledo		
	Total (N = 13)	Control (N = 15)	Experimental (N = 14)	Total (N = 29)	Sergeants (N = 14)	Officers (N = 26)	Total (N = 40)
Since DPR, the department is continuing to meet citizen needs	69.3% agree	73.4% agree	85.7% agree	79.3% agree	71.4% agree	53.8% agree	60.0% agree
DPR interfered with my ability to carry out my normal job duties	58.3	46.7	50.0	48.2	35.7	52.0	62.0
DPR has not improved the operations of communications	83.3	66.6	64.3	65.5	69.2	48.0	55.3
DPR assignments were clearly defined and logically structured	61.6	66.7	85.7	75.8	69.2	69.2	93.1
I have a good understanding of purposes and objectives of DPR	76.9	80.0	100.0	89.7	92.9	80.8	85.0
I have a good understanding of changes in policies and procedures caused by DPR	63.7	66.7	85.7	75.9	100.0	80.8	87.5
Supervision and monitoring under DPR have been adequate	69.3	80.0	78.5	79.3	42.9	73.1	62.5
While dispatching under DPR, I feel I can give more complete and better information to patrol officers than before	30.8	73.4	85.7	79.3	53.9	56.5	55.6

fits they saw in the DPR project were the use of the telephone reporting units, and the new standardized procedures. Telecommunicators also said they liked the new discretion afforded by the project, such as the opportunity to distribute calls to different departments. They thought that the use of the alternatives freed patrol units for other important law enforcement activities, giving patrol officers more time to investigate serious crimes. The telecommunicators also cited as an improvement the fact that they were able to provide more information to patrol as a result of DPR.

When asked to discuss things they disliked about the DPR project, telecommunicators at each site mentioned different things. In Greensboro, they were most opposed to the delayed calls required under the new response codes, since they felt citizens did not like the delays. They also felt that the new procedures put additional responsibility and a heavier workload on them.

In Toledo, officers and sergeants were also displeased with the delayed calls, but their primary concern was that they had not been involved enough with the DPR changes. They were also displeased with having to learn all of the new codes and with the heavier workload. In Garden Grove, telecommunicators felt that the patrol officers did not know enough about the telecommunicator's job, and they feared the citizens would not like the expeditor unit, but would want to see an officer in person.

Physical Environment in Communications Centers

One of the most important findings in the study concerning telecommunicators was the importance that the work environment played in morale and job satisfaction. For the most part, telecommunicators were not satisfied with their work environments. Less than one-third at each site felt their work environments were as pleasant as possible. They cited a variety of problems in the general esthetic work conditions including poor lighting, glare from the computer screens, poor ventilation (no attempts were made to separate smokers from non-smokers), inadequate temperature regulation, outdated and uncomfortable furniture, high noise level, and infrequent maintenance and cleaning.

It was clear from the beginning of this project, and from prior research with other departments, that the working conditions and environment in communications centers has received little attention. Many centers are physically located below the ground floor of the police building. Historically, the rationale for this location has been for security reasons. Such a location allows for no natural lighting from the outside (windows) and often has poor temperature control and ventilation.

Temperature control, ventilation, noise, and cleanliness were also problems because of the open space atmosphere of the centers. The layout generally involved numerous work stations placed a certain distance apart in a large room. Additionally, these problems, particularly the wear on furniture, were exacerbated due to the continuous use of the centers (24 hours a day, 365 days a year).

As a reaction to both the job and the working conditions, all three sites experienced higher than normal absenteeism with the telecommunicators.

The telecommunicators, as a whole, used a greater percentage of their accumulated sick leave than other department personnel. As a result of this, Garden Grove instituted a special attendance control policy in communications which helped to reduce absenteeism during the DPR project.

During the course of the DPR project, department management gained an awareness of the problems with the workplace conditions and the impact they had on telecommunicator morale and job satisfaction. As a result, several significant improvements were made during the project, including the following:

- Individually controlled lights were placed at each work station;
- Portable air filters were placed next to the smokers;
- Routine cleaning schedules were increased;
- New chairs were purchased that were specifically designed for such heavy usage; and
- Plans were under way in Garden Grove to install a large 8' x 10' window in the center, which was on the ground floor of the police building.

CHANGES IN TELECOMMUNICATOR ATTITUDES DURING PROJECT

There were a number of changes in attitudes, displayed primarily by the civilian telecommunicators, from the time of the first survey until the third survey. Improvements in interpersonal relationships, communications, and organizational procedures were seen in Garden Grove and Greensboro, and to a lesser extent in the officer call takers in Toledo. Exhibit 10-8 presents these findings. In the exhibit, the second survey in Toledo serves the same "before-after" purpose as the third survey at the other two sites because there was no mid-project survey in Toledo.

Most telecommunicators felt that their co-workers were more supportive by the end of the project than in the beginning. During the final survey, over 90 percent of the telecommunicators in Greensboro and Garden Grove and the officer call takers in Toledo said their co-workers were supportive. Similarly, approximately 90 percent of the Greensboro and Garden Grove telecommunicators felt they were a part of a well-functioning team. Among the Toledo officer call takers, the figure increased from 33 percent on the first survey to 50 percent on the final survey.

In the first survey, the responses to several questions pinpointed feelings among telecommunicators that they were seldom asked for their ideas when decisions were being made, and that their supervisors were not as helpful as they could have been. Both these areas showed improvement during the project, perhaps as a result of telecommunicators' involvement in DPR and the feedback they gave to supervisors during testing phases of the project. In the first survey, only 10 percent in Greensboro said they were asked at least sometimes for their ideas when decisions were being made. This increased to 31 percent in the third survey. In Garden Grove,

EXHIBIT 10-8

CHANGES IN TELECOMMUNICATOR ATTITUDES DURING DPR PROJECT

	Garden Grove		Greensboro		Toledo (Sergeants)		Toledo (Officers)	
	1st Survey (N = 14)	3rd Survey (N = 13)	1st Survey (N = 30)	3rd Survey (N = 29)	1st Survey (N = 12)	2nd Survey (N = 14)	1st Survey (N = 25)	2nd Survey (N = 26)
Majority of my co-workers are supportive (% agree)	93.0 %	100.0 %	90.0 %	93.1 %	91.6 %	64.3 %	88.0 %	92.4 %
Feel I am a member of a well-functioning team (% agree)	85.8	92.3	90.0	86.2	88.0	65.4	33.4	50.0
To what extent are persons asked for their ideas when decisions are made (% sometimes/often)	30.8	46.1	10.0	31.0	25.0	29.0	36.0	35.0
How often do supervisors offer new ideas for solving job-related problems (% sometimes/often)	64.3	46.2	60.0	72.4	33.3	85.7	36.0	57.7
Assignments are clearly defined and logically structured (% agree)	50.0	69.3	56.6	69.0	50.0	35.7	64.0	50.0

the percentage of positive responses on this question increased from 31 percent in the first survey to 46 percent in the third survey. Similar changes were not evident for the sworn telecommunicators in Toledo. However, Toledo sergeants and officers both showed large increases in the degree to which they felt their supervisors offered new ideas for solving job-related problems. In the first survey, one-third of the sergeants said supervisors at least sometimes offered new ideas for solving job-related problems. This increased to 86 percent in the final survey among sergeants, and went from 36 percent to nearly 58 percent among the officers. In Greensboro, this went from 60 percent to 72.4 percent.

One effect on organizational policy and procedures brought about by the DPR project was that the civilian telecommunicators felt there was an improvement in the degree to which assignments were clearly defined and logically structured. In Greensboro, this went from 56 percent in the first survey to 69 percent in the third survey, and in Garden Grove, the proportion agreeing went from 50 percent in the first survey to 69 percent in the third survey.

PATROL OFFICER SATISFACTION WITH NEW ROLE OF TELECOMMUNICATORS

To determine the assistance the new call procedures provided the field officers, RMA conducted two surveys of patrol officers. The first, conducted during the initial planning phase of the project, provided baseline information on the relationships and flow of information between the telecommunicators and the field officers. The second survey was distributed during the field test phase of the project, after the field officers had a chance to experience the results of the project efforts. A few questions were deleted and a few new questions were added to the second survey. The sample size included approximately 75 percent of the field officers at all three sites.

In general, based on the results of the first survey, the accuracy and quality of the dispatched information was good. Interestingly, during the DPR implementation period, dispatching accuracy and quality improved even more, as reflected in the officers' responses. In both surveys, about 90 percent of the officers felt that they generally received accurate enough information about the location of a call to enable them to rapidly find the call address.

Call categorization and description showed some improvement during the project. In Greensboro, the percentage of officers agreeing that what they found at the scene was generally reflected in the dispatcher's initial description of the crime or situation increased from 80 percent to 87 percent. In Garden Grove, this figure went from 77 percent agreement to 90 percent. In fact, the number in Garden Grove who "strongly agreed" on this point increased from 12 percent to 31 percent.

In the first survey, nearly 80 percent of the respondents indicated that they were generally able to locate the caller based on the dispatcher's information. In the second survey, during DPR implementation, the agreement on this point increased 13 percent in Greensboro, 9 percent in Toledo, and remained constant in Garden Grove. In Garden Grove, the

number who "strongly agreed" on this point increased from 17 to 50 percent. The sergeants in all three sites also believed there had been marked improvement in this area.

One question assessed whether the detail of radio transmissions was sufficient to provide officers with a good idea of what to expect before they arrived at the scene of a call. In the first questionnaire, five call types were listed: in-progress Part I crimes, suspicious activity calls, domestic disputes, traffic accidents (property damage only), and property crimes (such as burglary) which were cold. Since there was universal agreement that the information was good on traffic and property crime calls, these items were deleted from the second round. However, it was also clear from the first survey that the majority of officers were not satisfied with the level of detail provided on the other three call types. The responses to the second round survey showed that, during the implementation period, this trend reversed and more officers were satisfied with the dispatch detail provided on Part I calls, suspicious activity, and domestic disputes.

The exhibit below shows the percentages of increase in positive responses which occurred during implementation. Across all three sites, during DPR implementation, field officers were more satisfied with the detail of information being dispatched on serious in-progress calls, suspicious activity calls, and domestic disputes.

EXHIBIT 10-9

PERCENTAGE OF OFFICERS FINDING ENOUGH DETAIL IN RADIO TRANSMISSIONS

	Greensboro		Garden Grove		Toledo	
	1st	2nd	1st	2nd	1st	2nd
In-Progress Part I Crimes	66%	82%	80%	83%	71%	81%
Suspicious Activity Calls	38	64	50	75	44	61
Domestic Disputes	65	74	67	83	50	72

Thus, as a result of the project, officers were more satisfied with the accuracy of the dispatching, call categorization, and description of the situation supplied by the call taker. Improvements were also seen in officers' satisfaction with the level of detail provided on in-progress Part I calls, suspicious activity calls, and domestic disputes.

COMMUNICATION STYLE AND CITIZEN SATISFACTION

A special study was conducted in Greensboro to determine how important the communication style was in contributing to citizen satisfaction with taking reports over the telephone rather than dispatching a patrol unit. The special study was conducted in Greensboro because it was the only site

which recorded the conversations on tape between the TRU officer and the citizen. A total of 86 reports taken by the TRU during April and May 1982 served as the basis for this special study.

The background for this study is found in the general literature on styles of communication which has been developed by Watzlawick, Beavin, and Jackson (1967) and, more recently, by Norton (1978). In particular, Norton developed several operational measures for communication style in general settings. The variables of style examined in the special study were as follows:

- Friendly--The friendly communicator demonstrates kindly interest and good will toward others, is encouraging, acknowledges others' contributions, and expresses appreciation and admiration.
- Precise--The precise communicator tries to be strictly accurate and unambiguous, insists on very precise definitions, and insists that other people document or present some kind of evidence for what they are saying.
- Dominant--The dominant communicator talks frequently, takes charge of situations, comes on strong, and controls the flow of conversations.
- Attentive--The attentive communicator listens very carefully to others, shows interest in what others say, can repeat back to others what was meant, and deliberately reacts in such a way that others know that they are being listened to.
- Flexible--The flexible communicator is willing to adjust his or her behavior to the needs of the situation, can accurately communicate what he or she is thinking or feeling in a variety of ways, and can relay a message through a variety of means.
- Argumentative--The argumentative communicator is quick to challenge others, is often contentious, gets wound up in heated discussions and has trouble dropping disagreements that are not resolved.
- Relaxed--The relaxed communicator does not have nervous mannerisms in his or her speech, is calm and collected in interaction, and remains at ease under pressure.
- Communicator Image--An effective communicator finds it easy to interact on a one to one basis, can easily maintain conversation with strangers, is able to express himself or herself well, and is able to produce mutual understanding in conversations.

These measures were considered important for TRU personnel in their interactions with citizens when taking reports over the telephone. They provide a framework to study the relationship between officer communicator style and citizen satisfaction.

To conduct the special study, the citizens in the sample were contacted by the RMA on-site representative in Greensboro and asked if they would agree to be interviewed in person. The on-site staff then interviewed each citizen. The citizens read the descriptions of each style variable and indicated on a seven-point scale how well the measures described the

officers who handled their calls. These scores served as the basis for the subsequent analysis.

The overall satisfaction scores were divided in three groups, with one group including approximately the lowest 30 percent, a middle group comprised of approximately 40 percent, and the third group consisting of the highest 30 percent. Exhibit 10-10 shows the overall satisfaction for the seven communicator style variables and the overall communicator image, along with the results of an analysis of variance and regression conducted on the data. The exhibit shows that overall communicator image was more closely related to overall satisfaction than any of the individual variables. This is an expected result, since overall communicator style should be highly correlated with most of the individual style variables.

EXHIBIT 10-10

COMMUNICATOR STYLE AND OVERALL SATISFACTION

Style Variable	Overall Satisfaction Low	Moderate	High	F-value	Beta
Friendly	5.00	5.43	6.28	6.74**	.19
Precise	4.95	5.85	6.44	9.94**	.42
Dominant	2.91	3.10	2.72	0.38	.02
Attentive	5.57	5.95	6.48	6.36**	.07
Flexible	4.81	5.43	5.72	3.50*	.05
Argumentative	2.05	1.90	1.36	2.69	-.13
Relaxed	5.62	5.58	6.72	8.27***	.13
Good Communicator	4.91	6.00	6.72	23.52***	---
	(n=21)	(n=40)	(n=25)		

* significant at the .10 level
** significant at the .05 level
*** significant at the .01 level

The study results suggest that the best predictors of citizen satisfaction are communicator styles which are precise, friendly, non-argumentative, and attentive. Telephone report unit personnel with these attributes tended to make citizens more satisfied with having their reports taken over the phone.

The second important implication confirmed by this special study is that how the TRU officer converses with the citizen is as important to satisfaction as the actual service provided. It indicates that the personnel for a telephone report unit should receive formal training on how to improve the manner in which they handle calls; that is, training on how to improve their communicator styles. Finally, as with the communications centers, the selection of personnel for a telephone report unit is particularly important.

CONCLUSIONS ON THE ROLE OF THE TELECOMMUNICATOR IN DPR

The conclusions from the analysis of the role of the telecommunicator in a DPR project can be summarized as follows:

- The use of civilian call takers and dispatchers had many more advantages than disadvantages. Based on the experiences of the three sites in the DPR project, the results showed that the civilian call takers and dispatchers had higher retention rates, were better educated, and were hired for lower costs than sworn personnel.

- A DPR project imposes standards, uniformity, and consistency on telecommunicators, which may initially be resisted. Such resistance should be anticipated in the planning stages, and telecommunicators should be included extensively in the planning and design of the project. Telecommunicators should also be used to develop and deliver the DPR training. Departments must also anticipate the "human factor" in telecommunicators. That is, in certain instances they may empathize with callers and manipulate the DPR system to provide the callers with what they feel is a more suitable alternative. For example, there was considerable call taker reluctance to using the delayed response.

- The telecommunicator position at all three sites lacked a comprehensive career development plan. In many police departments, these call taker and dispatch positions need to be upgraded to reflect the importance of the decisionmaking involved in the position, the impact the position has on the utilization of other police resources, and the routine involvement with high technology equipment. Once the positions are upgraded financially, selection standards can be upgraded in order to recruit higher quality candidates. However, in order to retain such qualified personnel, the promotional picture must be improved. Police departments need to create more civilian mid-level and upper-level management positions in the communications centers.

- While all three sites developed and implemented excellent training programs for communication personnel during the project, training historically lacked emphasis. As a result of the training developed to implement the DPR project, each of the sites decided to upgrade its regular recruit and in-service training for telecommunicators. The best training relied on use of interactive simulations and easy-to-use flip-charts. Training programs are particularly important when there is high turnover in

a communications center or when light duty personnel are assigned for short periods of time.

- Prior to DPR, the environmental working conditions in the communications centers received little attention. Extensive improvements were made at all three sites, which resulted in positive changes in the morale and job satisfaction of many of the telecommunicators.

- Patrol officer satisfaction with telecommunicators improved as a result of the DPR project in these three sites. Measured in terms of changes over the two surveys, officers believed that there had been significant improvements in the detail of information on in-progress Part I crime calls, suspicious activity calls, and domestic disputes.

- Communicator style for TRU personnel was important in citizen satisfaction with this alternative. The special study in Greensboro showed that the most important communicator style attributes were being precise, friendly, non-argumentative, and attentive.

- Monitoring was a very useful tool for communications center managers to assess call takers. All three departments developed monitoring forms and procedures during the project. The procedures called for frequent sampling of the calls for each call taker and a formal assessment of how well the call takers handled the calls.

CHAPTER 11

ANALYSIS OF BASELINE CITIZEN SURVEYS

INTRODUCTION

A major objective of the DPR Field Test was that citizen satisfaction be maintained or improved with the implementation of alternative responses. To assess this impact, RMA conducted two sets of extensive telephone surveys of citizens. The first set of citizen surveys was conducted during the planning phase of the DPR project, and the second set during the test phase.

In the planning or pre-implementation phase, telephone interviews were conducted at all three sites with persons who had called the police departments and received service by mobile patrol units for non-emergency incidents. In Greensboro and Toledo, where selected reports were taken over the phone prior to the DPR project, citizens receiving this service were also surveyed.

The purposes for surveying citizens during the planning phase were (1) to determine whether citizens would accept responses other than the immediate dispatch of a patrol car, including having their reports taken over the phone, accepting appointments with officers, coming to the department to report incidents, or completing reports to be mailed back to the department; (2) to determine a baseline level of citizen satisfaction with police services which could later be compared to citizen satisfaction with alternative services during full field implementation; and (3) to determine a baseline demographic profile of citizens who called the police, and assess the importance of demographic and regional differences in citizen acceptance of alternatives. The findings from the citizen surveys on acceptance of alternatives were also valuable in assisting the three sites to determine which alternatives would work and be accepted by their callers.

The citizen surveys were implemented during the planning phase in September 1981 in Toledo, and November 1981 at the other two sites. A total of 7,351 citizens were surveyed during the pre-implementation phase. At each site, a random sample of dispatch records was taken to serve as the basis of sampling. The dispatch records contained the caller's name, address, telephone number, and other basic information about the incident. The person listed on each dispatch record was contacted by RMA personnel at each site and interviewed over the telephone. The RMA personnel were screened, trained, and monitored by an RMA on-site manager, and all calls were made between 4:00 p.m. and 9:00 p.m. A copy of the survey instrument is found in the Appendix.

Exhibit 11-1 below shows the number of surveys administered at each site, the types of services sampled and the dates the surveys were administered.

EXHIBIT 11-1

CITIZEN SURVEYS CONDUCTED DURING PLANNING PHASE

Types of Services Sampled	Number Surveyed	Dates Administered
Garden Grove		
Mobile Response	1,990	Nov. 1981-Jan. 1983
Greensboro		
Mobile Response	1,235	Nov. 1981-Oct. 1982
Telephone Report Unit	798	Nov. 1981-Oct. 1982
	2,033	
Toledo		
Mobile Response	1,558	Sept. 1981-June 1982
Telephone Report Unit	1,770	Sept. 1981-Sept 1982
	3,328	
Total Surveyed	7,351	

ANALYSIS OF MOBILE RESPONSE SURVEYS

Demographic Characteristics

Since the citizen surveys administered during the pre-implementation phase were exploratory in nature, it is interesting to begin the analysis with an examination of the differences found among the citizens across the three sites. It should be noted that the characteristics of the sample of citizens surveyed during the planning or baseline phase and the test phase did not differ significantly from the characteristics of the population in general in each city as reported in the 1980 U.S. Census.

Exhibit 11-2 shows that there are major differences in the characteristics of persons at the three sites. Residents of Garden Grove are considerably wealthier and more transitory than the citizens of either Toledo or Greensboro. In Toledo, 73 percent of the respondents had lived in the city for over 20 years, which is in sharp contrast to Greensboro, where 50.5 percent had lived in the city 20 years, and Garden Grove, where only 14.6 percent had been there 20 years. Toledo and Greensboro thus reflect more stable areas compared to Garden Grove, where 46.1 percent of the respondents had lived in the area less than five years. Regarding income, over half of the respondents in Garden Grove stated that their family incomes exceeded $20,000, compared to 34.4 percent in Greensboro and 27.6 percent in Toledo.

With regard to age, the sites showed no major differences, a surprising finding due to the marked differences in length of time living in the jurisdictions.

While Garden Grove and Greensboro reflected a more equal distribution of male and female respondents, nearly two-thirds of the respondents in Toledo were female.

EXHIBIT 11-2

CHARACTERISTICS OF MOBILE RESPONSE SURVEY RESPONDENTS

	Garden Grove	Greensboro	Toledo
Number of Respondents	1,990	1,229	1,558
Years in Jurisdiction			
Less than 1 year	15.1%	5.6%	2.2%
1 - 2 years	12.5	5.9	2.9
3 - 5 years	18.9	9.3	3.3
6 -10 years	17.1	10.0	5.4
11-20 years	21.8	18.7	13.2
21-30 years	12.8	21.1	25.0
More than 30 years	1.8	29.4	48.0
Age			
Less than 25 years	23.5	21.4	18.8
25-35 years	29.4	31.3	30.0
36-45 years	19.7	19.5	21.7
46-55 years	14.3	11.2	11.7
More than 55 years	13.1	16.6	17.8
Income			
Less than $10,000	17.6	32.5	42.0
$10,000 - $20,000	26.2	33.1	30.4
More than $20,000	56.2	34.4	27.6
Sex			
Male	49.1	42.5	36.2
Female	50.9	57.5	63.8

Examining the reasons that citizens called the police in these three sites presented some problems. Even though the three sites used similar call classification systems as developed during the planning phase, there were enough differences in these systems that a direct comparison across the sites by type of call was not possible. For purposes of consistency, each of the possible calls for service in all three cities was aligned into one overall event code list. The list used was actually Toledo's new call classification series. For example, all of the types of incidents that made up Toledo's suspicious circumstances events code were used to define suspicious circumstances at all three sites. The event code lists from Greensboro and Garden Grove were aligned, incident by incident, into

Toledo's call classification codes. Further, in order to reduce the number of categories and eliminate those which had low volumes, the categories of medical problems, dependent persons, public morals, and internal police operations were combined into one miscellaneous category.

The analysis by type of call shows differences across the three sites. Exhibit 11-3 shows that in Garden Grove, 77.7 percent of the respondents called because of crimes against property incidents, compared to 29.3 percent in Greensboro, and 31.3 percent in Toledo. The second largest category in Greensboro and Toledo was traffic accidents, which accounted for 19.2 percent of the calls in Greensboro and 16.8 percent in Toledo. The third most common reason for calling the police in Greensboro was public nuisance (14.3 percent), followed by suspicious circumstances (13.3 percent), and interpersonal conflict (10.2 percent). In Toledo, the third largest category of calls to the police was interpersonal conflict (14.2 percent), followed by suspicious circumstances (11.9 percent), and public nuisance (10.4 percent).

EXHIBIT 11-3

CITIZEN SURVEYS BY TYPE OF CALL

Type of Call	Garden Grove (N=1,990)	Greensboro (N=1,235)	Toledo (N=1,558)
Crimes Against Persons	2.8%	3.1%	6.9%
Interpersonal Conflict	5.0	10.2	14.2
Crimes Against Property	77.7	29.3	31.3
Traffic Accidents	4.3	19.2	16.8
Public Nuisance	2.0	14.3	10.4
Suspicious Circumstances	1.3	13.3	11.9
Assistance	2.8	7.3	6.0
Other (dependent person, public morals, medical problems, internal problems)	4.1	3.3	2.5

Citizen Satisfaction with Mobile Response and Response Time

Over 90 percent of all citizens were satisfied with the manner in which the police telephone operator handled their initial calls for service. Exhibit 11-4 presents these data below. There were no differences in the levels of satisfaction based on the site; however, there were differences in the proportion of respondents who said they were "very satisfied" compared to those who said they were "satisfied." Respondents in Toledo and Greensboro were less inclined to say they were "very satisfied" with the call taker than were those in Garden Grove.

EXHIBIT 11-4

SATISFACTION WITH CALL TAKERS

Level of Satisfaction with Call Taker	Garden Grove (N=1,990)	Greensboro (N=1,235)	Toledo (N=1,558)
Very Satisfied	50.9%	39.9%	28.2%
Satisfied	43.5	55.2	65.3
Dissatisfied	5.2	4.0	4.9
Very Dissatisfied	0.4	0.9	1.6

Those citizens who were dissatisfied with the way in which the call takers handled their calls were asked to explain why. The most frequent reasons for dissatisfaction are shown in Exhibit 11-5 below.

EXHIBIT 11-5

REASONS FOR DISSATISFACTION WITH CALL TAKERS

Reasons for Dissatisfaction with Call Takers	Garden Grove (N=112)	Greensboro (N=60)	Toledo (N=100)
Call taker was uncaring/had a bad attitude/impersonal	27.4%	22.4%	36.8%
Asked too many questions	12.3	31.0	10.2
Had to argue to get response wanted/did not get response wanted	13.7	12.0	16.3
Transferred call/given run-around/had to call back	12.3	12.1	16.3
Police did not arrive quickly enough	9.6	8.6	8.2
Rang long time before answered	9.6	10.3	- -
Put on hold	15.1	1.7	2.0
No reason given	- -	1.9	10.2

Citizen satisfaction with the response time by the police was nearly as high as satisfaction with the call taker. As Exhibit 11-6 shows, 90 percent of the respondents in Garden Grove and Greensboro, and 85 percent in Toledo, said they were either "very satisfied" or "satisfied" with the police response time to their calls for service. Respondents in Toledo and Greensboro were less positive in their degree of satisfaction, with over half indicating they were "satisfied" compared to "very satisfied."

EXHIBIT 11-6

SATISFACTION WITH RESPONSE TIME

Level of Satisfaction with Response Time	Garden Grove (N=1,990)	Greensboro (N=1,235)	Toledo (N=1,558)
Very Satisfied	45.8%	36.6%	33.1%
Satisfied	43.9	53.4	51.5
Dissatisfied	8.9	8.8	12.0
Very Dissatisfied	1.4	1.2	3.4

Before examining the length of police response time in the dissatisfied sample, two questions need to be addressed: (1) how quickly did the citizens call the police; and (2) how accurately did they judge the response time? Many authors have noted that citizens are inclined to report satisfaction with response time if the police arrive when they expect them to arrive (Pate et. al., 1976; Percy, 1980; Spelman and Brown, 1981; Kansas City, 1977). These authors have also reported that police response time has little impact on the chances of arrest except in cases where the victim called the police within three to five minutes and the crime was in-progress or had just occurred. Since all of the calls in this survey were non-critical calls for service, the police response time would have had little impact on chances of arrest of a perpetrator in most cases.

How Quickly Citizens Called Police

Citizens called the police more quickly than expected, considering that the largest percentage of calls were for non-critical crimes against property. In Garden Grove, 25 percent of the citizens reported that they called the police within 5 minutes, and 50 percent within 10 minutes. In Greensboro, 25 percent called the police within 2 minutes, and 50 percent within 5 minutes. In Toledo, 25 percent called the police within 3 minutes, 50 percent within 5 minutes, and 75 percent within 30 minutes.

The average length of time it took citizens to call police is considerably longer, since it is skewed by the inclusion of those calls where citizens waited several hours or called basically for insurance purposes. In Garden Grove, the average length of time citizens waited before they called the police was 12.7 hours; in Greensboro, 17.3 hours; and in Toledo, 10.8 hours. The fact that 50 percent of the citizens in Greensboro and Toledo called the police within five minutes, despite longer average times, shows prompt reporting for incidents where rapid police response is not a critical factor. These response times show a great deal of similarity to the citizen reporting times found in the Kansas City Response Time Analysis (Caron, 1980). In Kansas City, half of the calls were reported to police within 6 minutes (median), consistent with medians of 5 minutes and 10 minutes in the DPR sites.

Accuracy of Citizen Perception of Response Time

A comparison between citizen perception of police response time to the actual response time shows that the citizens recalled quite accurately the amount of time it took for the police to arrive. In Garden Grove, the actual average mobile response time to all calls for service was 22.3 minutes, with half of the responses taking less than 16 minutes and half longer than 16 minutes. Respondents' perception of police response time was an average of 22.9 minutes, a half minute longer than the actual response time. Respondents reported that half of the calls were answered within 15 minutes, and half longer than 15 minutes, just one minute less than the actual median response time of 16 minutes.

In Greensboro, the actual average mobile response time to all calls was 9.9 minutes, with half of the calls responded to within 8 minutes (median), and half longer than 8 minutes. Citizen perception of police response time in Greensboro was longer--an average of 13.6 minutes, but the median response was closer. Citizens reported that half of the calls were handled within 10 minutes, and half longer than 10 minutes.

The average police response time to all calls in Toledo was 19.1 minutes, with a median of 12 minutes. Citizen perception of response time was as accurate as in Garden Grove. Citizens in Toledo reported that the average response time was 19.7 minutes, and that the median response time was 15 minutes.

Those 10 to 15 percent of the citizens who were dissatisfied with the response time by police were asked how long they thought it should have taken for the police to respond. On the average, they wanted the police there five minutes sooner than they had arrived. In Garden Grove, where citizens said the average response time was 22.9 minutes, those who were dissatisfied said it should have taken an average of 17.6 minutes. In Greensboro, where citizens said the average response time was 13.6 minutes, dissatisfied citizens said it should have taken 10.4 minutes; and in Toledo, where 19.7 minutes was the average response time cited by citizens, 13.6 minutes was the average time desired.

Citizen Acceptance of Alternatives and Delay

A key question in the survey was whether the respondents would have been willing to accept any of the following alternatives:

1. Giving a report over the telephone rather than having an officer come out in person;

2. Arranging an appointment for an officer to come at a later time;

3. Completing a report and mailing it back to the department; or

4. Coming to the police department in person to file a complaint.

A summary of responses to this question indicated an overall high willingness on the part of the public to accept alternatives other than the

immediate dispatch of a patrol unit to non-emergency calls. The most acceptable alternatives were (1) arranging an appointment for an officer to come later; and (2) having the report taken over the telephone. The least acceptable alternatives were (1) filling out a mail-in report; and (2) coming to the police department to report the incident. Exhibit 11-7 illustrates the level of acceptance of each alternative across all three sites.

EXHIBIT 11-7

WILLINGNESS TO ACCEPT ALTERNATIVES

	Garden Grove (N=1,990)	Greensboro (N=1,235)	Toledo (N=1,558)
At Least One Alternative Acceptable	61.8%	42.4%	29.2%
Level of Acceptance:			
Telephone Report	30.7	19.5	18.5
Arranging an Appointment	46.1	29.1	23.7
Mail-In Report	23.0	16.4	10.0
Come to Police Department	26.8	17.3	10.2

Respondents were also asked whether they would have been willing to wait for a period of time before the dispatch of a patrol unit. The question was phrased, "would you have been agreeable to a delay in their (patrol officers) arrival for a longer period of time?" This question was not asked of respondents who had previously stated that they were "dissatisfied" with the response time for the obvious reason that they would not have agreed to further delays.

The results in Exhibit 11-8 show that nearly three out of four callers were willing to wait for a response, and about half the respondents in Garden Grove were willing to wait more than an hour before the police arrived at the scene. The results were less favorable in Toledo, but 55.6 percent stated that they would have waited longer than they actually did.

EXHIBIT 11-8

CITIZEN ACCEPTANCE OF DELAYED MOBILE RESPONSES

Delay Time	Garden Grove (N=1,990)	Greensboro (N=1,235)	Toledo (N=1,558)
More than an hour but on the same day	48.1%	28.0%	23.8%
Up to an hour more	8.9	3.3	4.0
Up to 30 minutes more	11.9	17.1	9.3
Up to 15 minutes more	9.3	24.2	18.6
Would not wait any longer	21.9	27.3	44.4

The results from the last two exhibits can be combined to show that, with the inclusion of the alternative of a delay for no more than one hour, the percentage of respondents willing to accept at least one alternative increases to 75.2 percent in Garden Grove, 49.9 percent in Greensboro, and 38.9 percent in Toledo. These results are particularly noteworthy because the respondents had recently received mobile responses, yet indicated their willingness to be served in an alternative manner.

Another way of viewing the alternatives is to divide them into alternatives which relieve officer workload versus alternatives which only delay the workload. The relief alternative category is comprised of the alternatives of telephone reports, mail-in reports, and asking the citizens to come to the police department, while the delay alternative category is comprised of officer appointments and delaying a mobile response for up to an hour. Viewing the alternatives in this manner revealed that in Garden Grove, 48.2 percent of the respondents who were amenable to alternatives would accept a relief alternative, as compared to 67.6 percent who would accept a delay alternative. In Greensboro, the results were 33.3 percent for a relief alternative and 41.1 percent for a delay alternative, while in Toledo, the results were 22.3 percent and 35.0 percent, respectively. In summary, there was an obvious difference between the acceptance of relief versus delay alternatives in each site, and the delay alternative was always more acceptable.

The acceptance of alternatives was also related to the type of call and to the demographic characteristics of the respondents. Exhibit 11-3 gave the breakdown of the types of calls for the respondents to the baseline surveys. A preliminary analysis of the acceptance of alternatives with these call types revealed that it was beneficial to reduce the call type categories to four specific groups as follows:

Group	Call Types
Person Events	Crimes Against Persons Interpersonal Conflict
Property Events	Crimes Against Property Traffic Accidents
Potential Threat Events	Suspicious Circumstances Public Nuisance
Assistance Events	Assistance Other (medical problems, dependent persons, public morals, etc.)

Exhibit 11-9 shows the percentage of acceptance for at least one alternative (telephone report, appointment, mail-in, come to police department, or delay of one hour) for these four major categories. In each city, the highest level of acceptance of alternatives was with the assistance events. Garden Grove respondents showed 84.7 percent acceptance in this category, Greensboro 70.1 percent, and Toledo 53.4 percent. The lowest levels of acceptance were with the person events and potential threat events. In

Greensboro, only 30.1 percent of the respondents agreed to an alternative for the potential threat events and 46.3 percent for the person events. Similar results occurred in the other two sites.

EXHIBIT 11-9

CITIZEN ACCEPTANCE BY EVENT CATEGORY

Respondents Accepted at Least One Alternative in Following Categories	Garden Grove	Greensboro	Toledo
Person Events	57.7 %	46.3 %	23.7 %
Property Events	76.3	57.8	49.6
Potential Threat Events	69.8	30.1	24.7
Assistance Events	84.7	70.1	53.4

The finding that person events have a lower acceptance for alternatives should come as no surprise, since they include domestic arguments, threats of physical injuries, robberies, simple assaults, and other similar call types. In these instances, the citizens calling the police usually believe that police presence is needed to settle the problem and maintain order. Potential threat events, which include drunks, disorderly persons, juvenile problems, suspicious persons, prowlers, and others, have similar characteristics, and the potential to escalate to more serious incidents. Callers may believe that police presence is needed before these events become more serious. On the other hand, assistance events such as transport of persons, animal problems, and disabled vehicles, generally have the characteristic that the immediate presence of an officer is not needed. Property events have often occurred a considerable time prior to reporting, and are classified as "cold" calls, so that the alternatives are applicable to these calls.

As seen in Exhibit 11-10 for Toledo, this same pattern holds true when analyzed for relief versus delay alternatives. With each type of alternative, there is less acceptance in the person events and potential threat events. For the relief alternatives, the percentages were 12.5 percent and 14.7 percent for these two event groups, as compared to 29.7 percent and 24.8 percent for the property events and assistance events. The same pattern is true with the delay alternatives. With few exceptions, similar results were obtained in the other two sites.

EXHIBIT 11-10

TOLEDO CITIZEN ACCEPTANCE BY EVENT CATEGORY

Respondents Accepted at Least One Alternative in Following Categories	Accept Relief Alternative	Accept Delay Alternative
Person Events	12.5 %	19.8 %
Property Events	29.7	45.1
Potential Threat Events	14.7	22.1
Assistance Events	24.8	50.4

In summary, the type of call was a very important indicator of the acceptance of alternatives. Citizens who were calling about events which involved only property were more likely to be receptive to alternatives, while citizens who called about other events were less likely to be receptive to alternatives. In this latter category, the potentially threatening nature of the call was important in the citizen's determination of whether an alternative was acceptable.

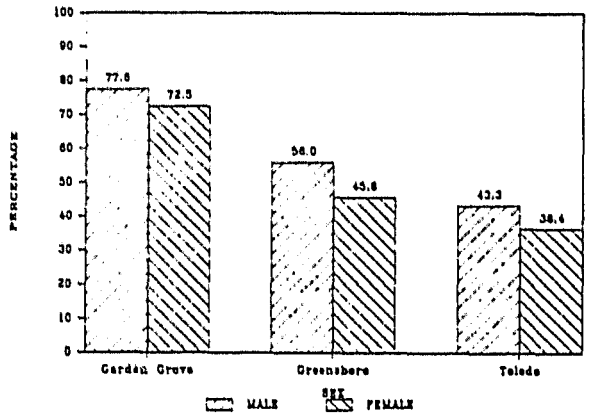
Acceptance of Alternatives and Demographics

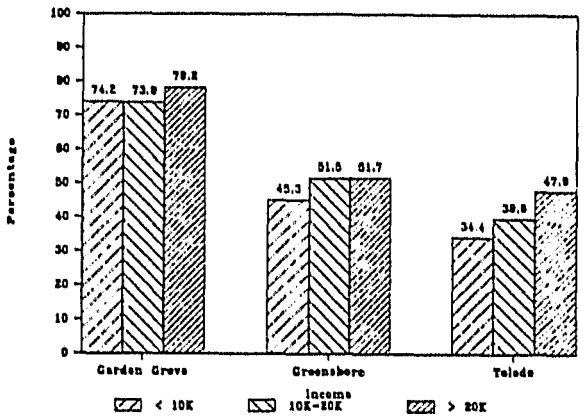
Exhibit 11-11 shows the percent of respondents who were willing to accept at least one of the alternatives (telephone report unit, appointment, mail-in, walk-in, or delay of one hour) by several demographic characteristics obtained as part of the survey. The demographic characteristics included sex, income, age, whether the respondent had called the police within the last year, and number of years in the jurisdiction. Chi-square statistics were calculated to determine whether there were statistically significant differences. For example, in Greensboro, 56.0 percent of the male respondents agreed to at least one of the alternatives, compared to only 45.6 percent of the females. The chi-square statistic was calculated in this case to be 12.56, which is significant at the .01 level and means that a statistically significant greater number of males than females agreed to an alternative. As seen in Exhibit 11-11, significant differences were also found in the other two sites. In all three sites, significantly more male respondents than female respondents agreed to an alternative.

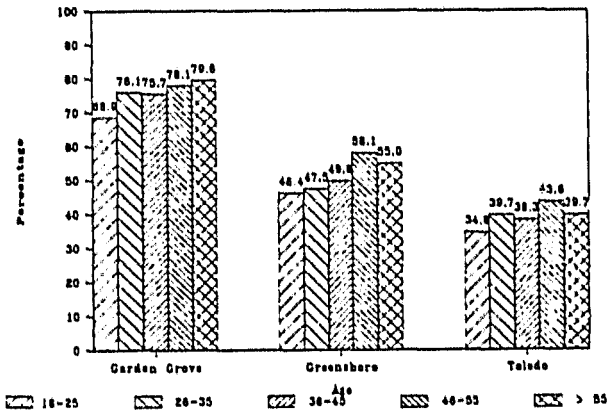
Other significant differences are reflected in the data from Exhibit 11-11. For example, income in Toledo was found to be important, with greater acceptance of alternatives as income increased. A total of 47.9 percent of the Toledo respondents making more than $20,000 would have accepted an alternative, as compared to only 34.4 percent of respondents

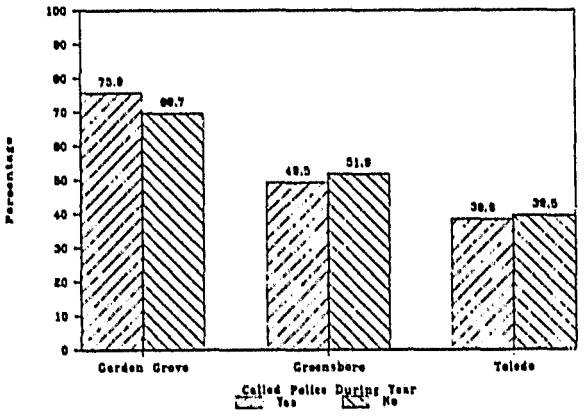
EXHIBIT 11-11

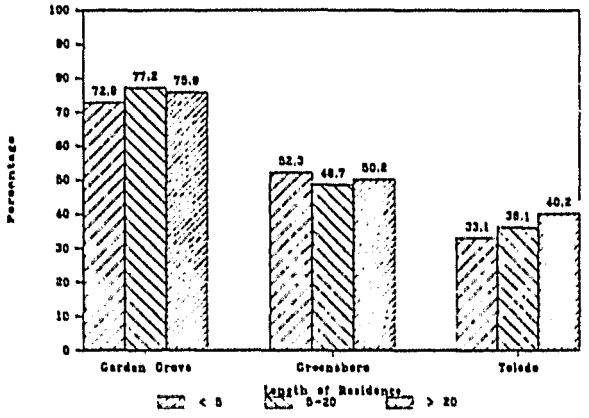
PERCENT OF RESPONDENTS WILLING TO ACCEPT AT LEAST ONE ALTERNATIVE











Chi-Square Statistics

	Garden Grove	Greensboro	Toledo
Sex	6.58***	12.56***	6.81***
Income	3.58	3.92	17.49***
Age	14.01***	7.87*	3.87
Called Police During Year	4.89**	0.36	0.10
Length of Residence	4.21	0.78	3.66

making less than $10,000. However, differences in acceptance by income were not found with the other two sites.

With the age variable, significant differences were found in Garden Grove and Greensboro, but not in Toledo. In the former two cities, the degree of acceptance generally increased with age. On whether respondents had called the police on another incident within the last year, a significant difference was found in Garden Grove, but not at the other two sites. In Garden Grove, there was greater acceptance of the alternatives with respondents who had called the police within the last year than with respondents who had not.

Exhibits 11-12 through 11-16 relate demographic characteristics to the percent of respondents willing to accept each individual alternative. The calculated chi-square values are shown along with indications of their statistical significance. A review of these exhibits shows that the variables important in Exhibit 11-11 are not consistently important with the individual alternatives. For example, in Exhibit 11-12 on the willingness to have a phone report, there are no longer significant differences between males and females in Garden Grove and Toledo. The results in these exhibits mean that the importance of the demographic variables is dependent on the particular alternative being considered.

Loglinear Analysis of Citizen Acceptance

While the above analysis offers insight into demographic characteristics and citizen acceptance, it does not reflect how these characteristics might interact to influence acceptance. For example, in Garden Grove, the interaction of age and sex may explain citizen acceptance better than each of these variables considered individually. In this section, the results are given for a multivariate analysis of the variables.

A loglinear analysis approach was used for this analysis. Loglinear models are appropriate when the variables under consideration are presented in the form of cross-classified tables of counts, commonly known as contingency tables. With the baseline survey data, all key variables, such as sex, age, and income, are categorical. Further, the response variable for this analysis is whether citizens were willing to accept one of the responses and this variable is also categorical (either yes or no).

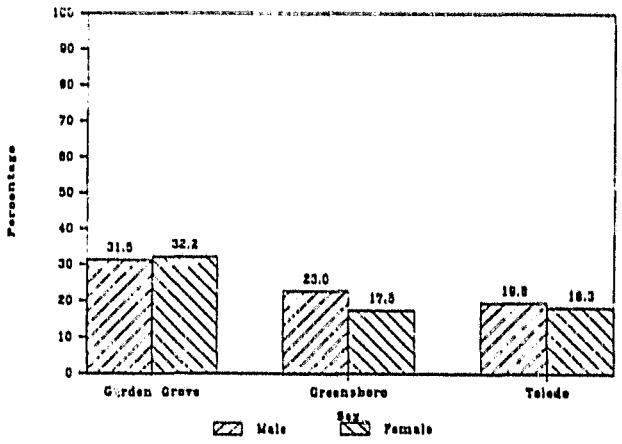
The logit model is a special case of the general loglinear model in which one variable is considered as the dependent variable and other variables are treated as independent (Bishop et al., 1975). In the following examples, the dependent variable is citizen acceptance and is, therefore, a dichotomous variable. The independent variables were selected as those variables in Exhibit 11-11 which were found to be statistically significant. Further, the analysis was performed only on the category of property events, since this category included the most likely types of calls to be handled in an alternative fashion during the test phase of the project.

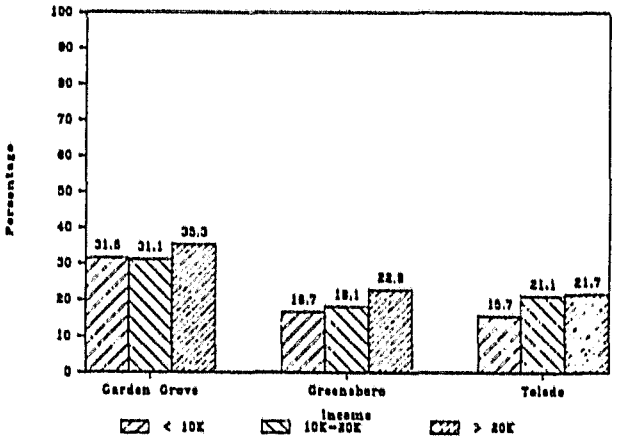
A summary of the model results for the three sites is as follows:

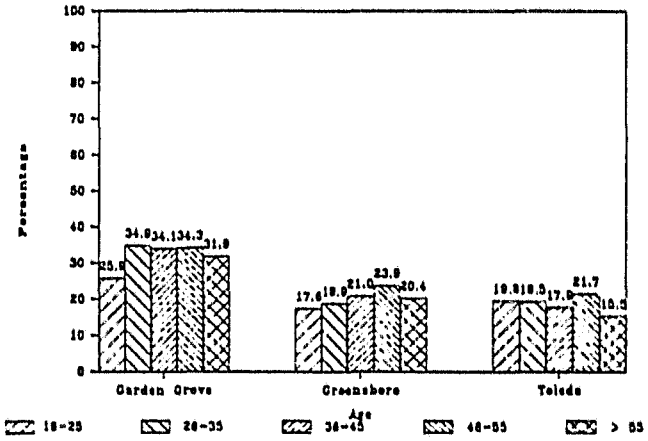
- In Greensboro, the variables of sex and age each have an effect on citizen acceptance and there is no

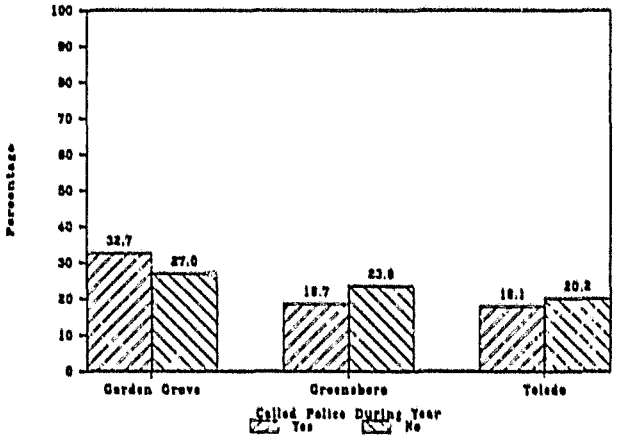
EXHIBIT 11-12

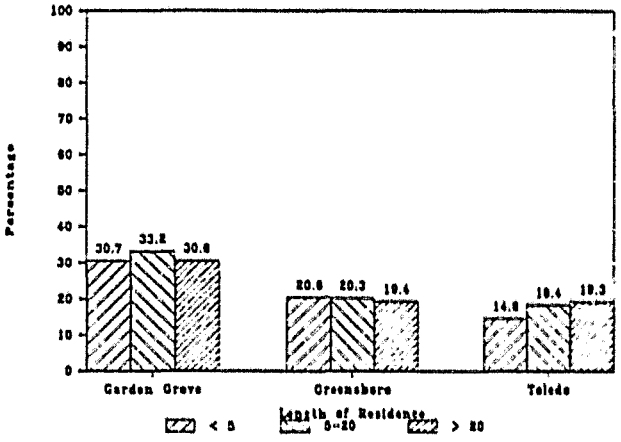
PERCENT OF RESPONDENTS WILLING TO HAVE REPORT TAKEN BY TELEPHONE









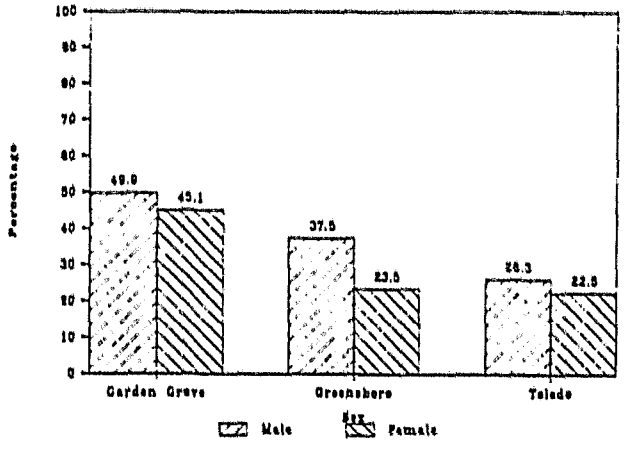


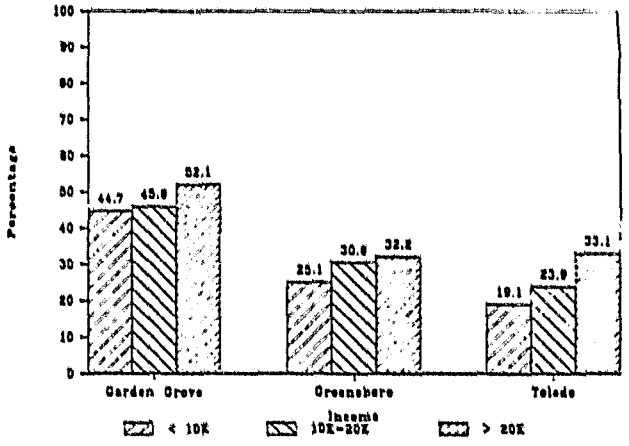
Chi-Square Statistics

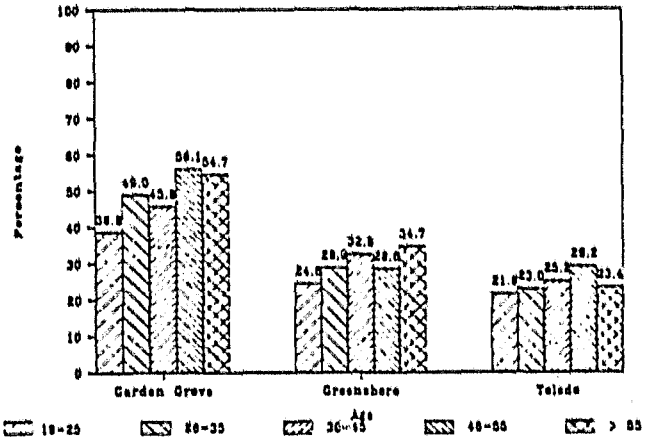
	Garden Grove	Greensboro	Toledo
Sex	0.08	5.31**	0.44
Income	2.51	4.83*	6.83**
Age	11.01**	2.62	3.21
Called Police During Year	3.28*	2.86*	0.78
Length of Residence	1.33	0.18	1.65

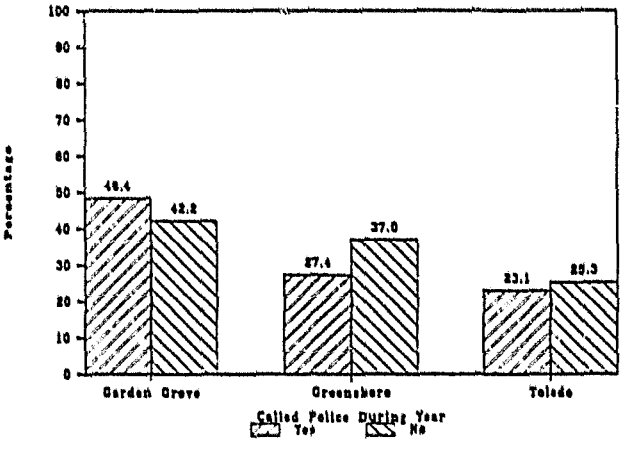
EXHIBIT 11-13

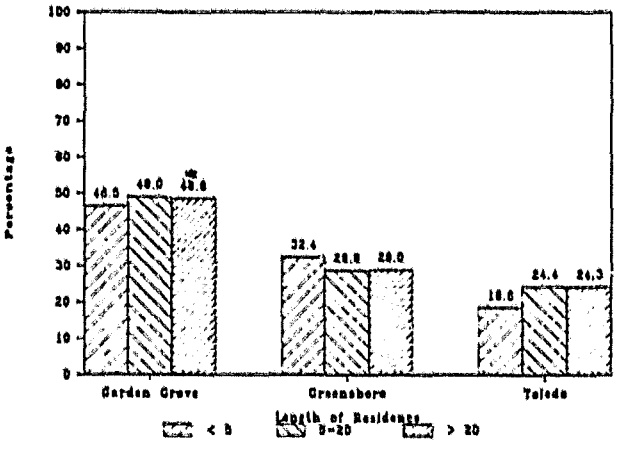
PERCENT OF RESPONDENTS WILLING TO ACCEPT APPOINTMENTS









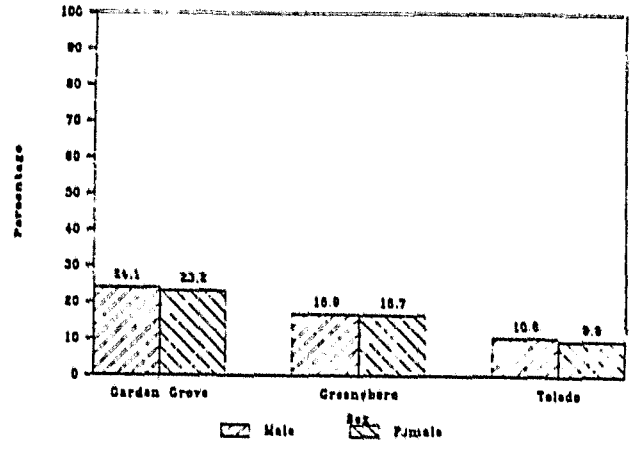


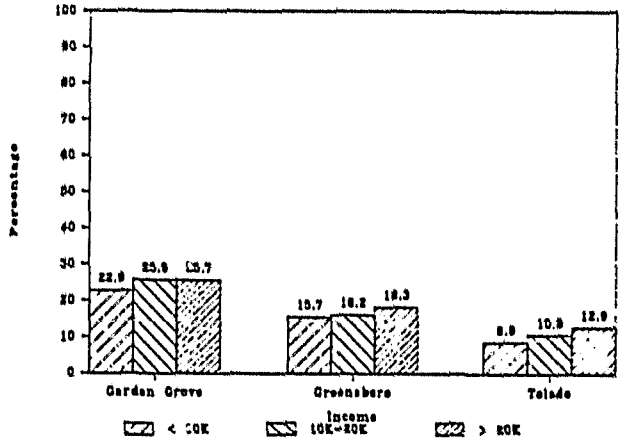
Chi-Square Statistics

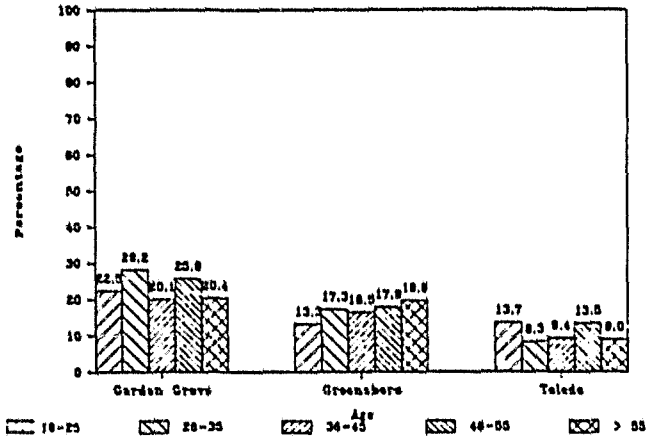
	Garden Grove	Greensboro	Toledo
Sex	4.31**	27.52***	2.67*
Income	6.48*	4.80*	24.34***
Age	27.34***	6.73	3.93
Called Police During Year	3.50*	8.93***	0.82
Length of Residence	1.04	1.15	1.12

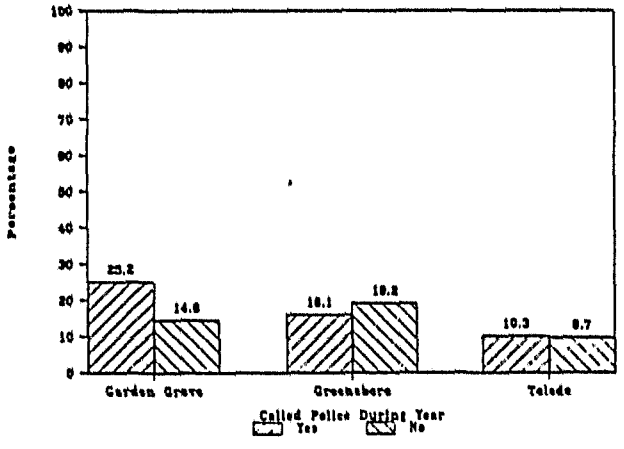
EXHIBIT 11-14

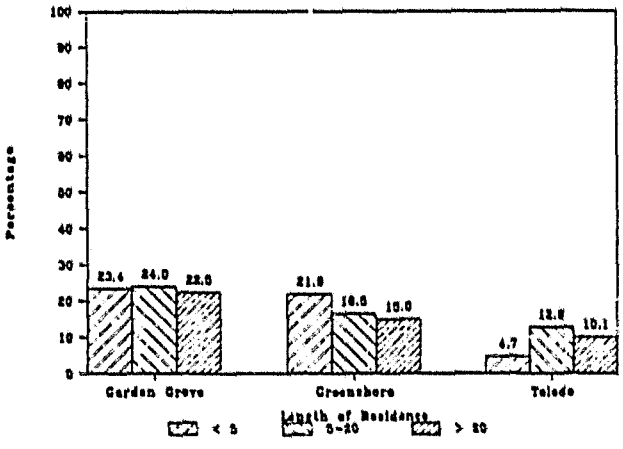
PERCENT OF RESPONDENTS WILLING TO ACCEPT MAIL-IN REPORT









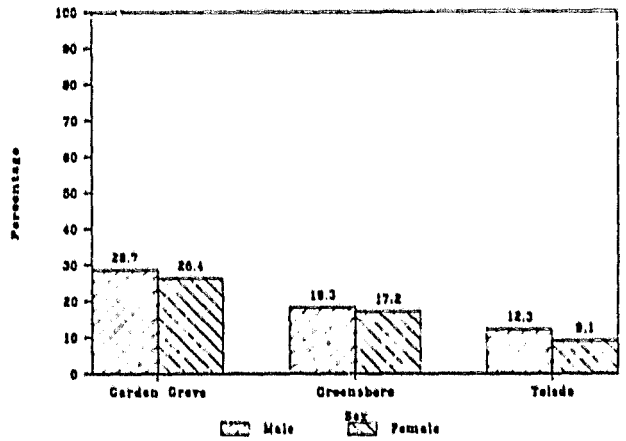


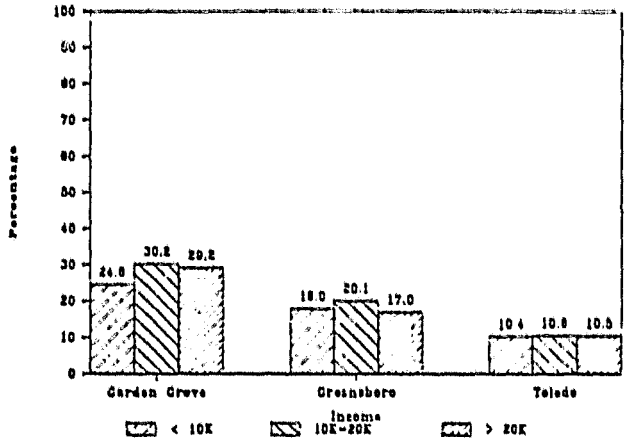
Chi-Square Statistics

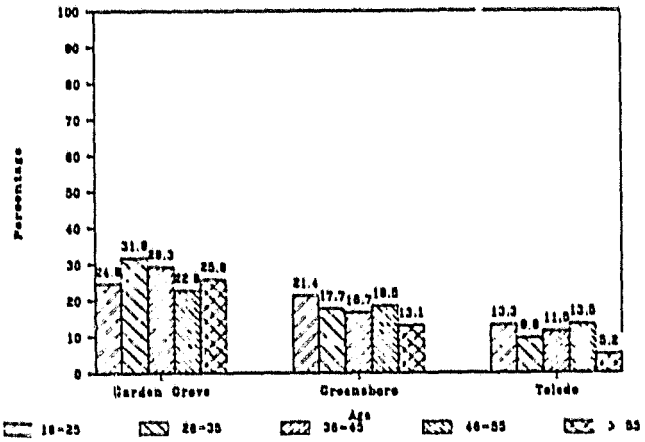
	Garden Grove	Greensboro	Toledo
Sex	0.17	0.01	0.14
Income	0.92	1.01	3.99
Age	11.16**	3.74	8.38*
Called Police During Year	14.18***	1.26	0.05
Length of Residence	0.25	6.12**	6.59**

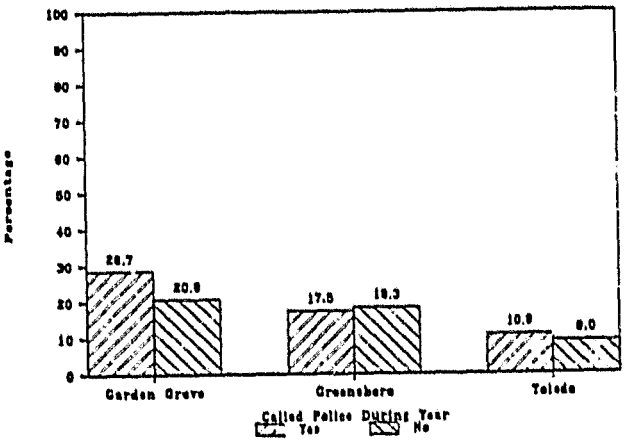
EXHIBIT 11-15

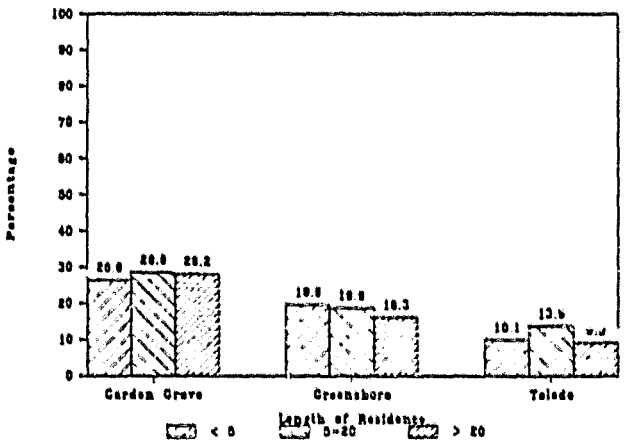
PERCENT OF RESPONDENTS WILLING TO COME TO POLICE DEPARTMENT









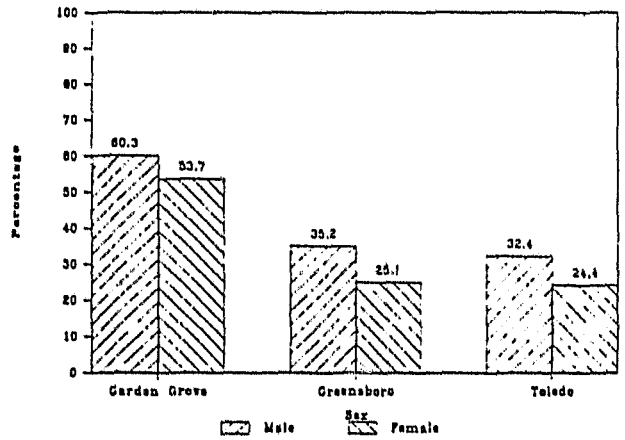


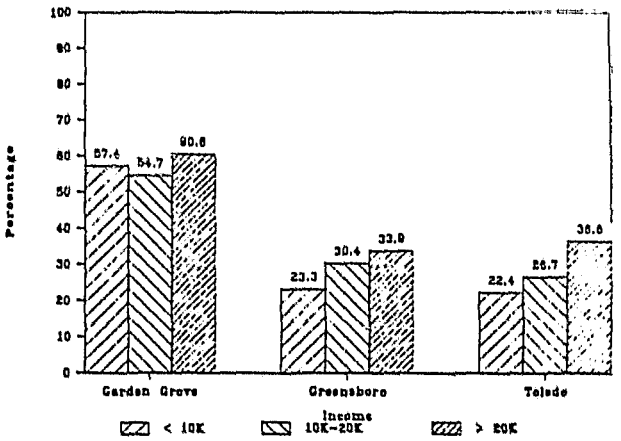
Chi-Square Statistics

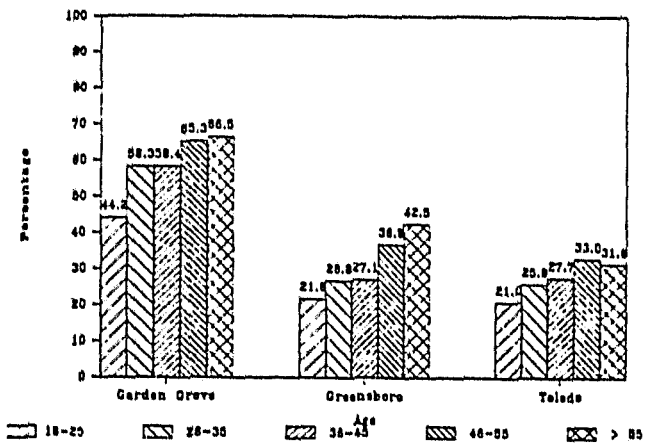
	Garden Grove	Greensboro	Toledo
Sex	1.15	0.18	3.61*
Income	2.66	1.19	0.01
Age	10.82**	5.47	12.72**
Called Police During Year	7.10***	0.05	1.16
Length of Residence	0.87	1.89	5.18*

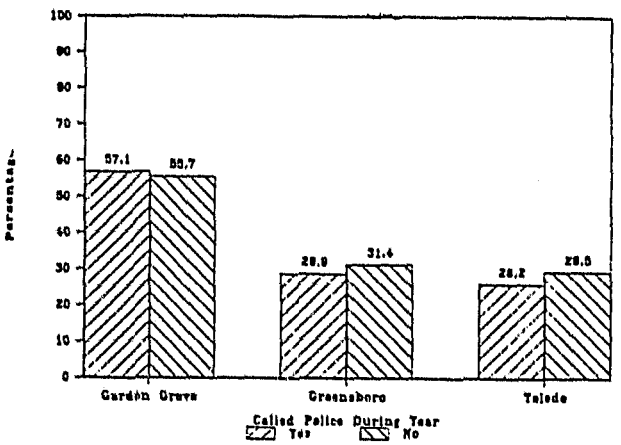
EXHIBIT 11-16

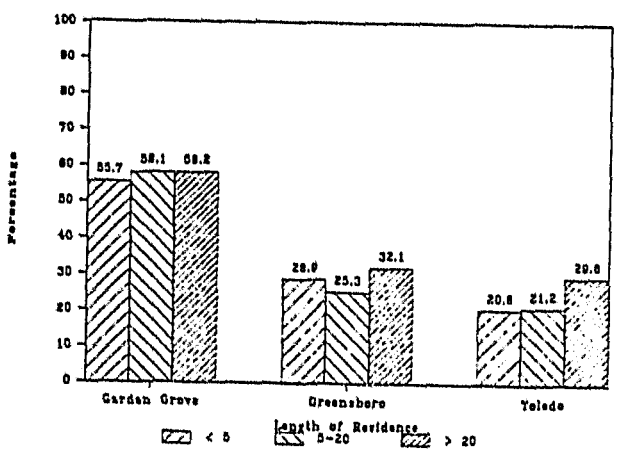
PERCENT OF RESPONDENTS WILLING TO ACCEPT ONE-HOUR DELAY











Chi-Square Statistics

	Garden Grove	Greensboro	Toledo
Sex	8.57***	14.41***	11.42***
Income	4.03	10.17***	23.73***
Age	48.41***	28.99***	11.68**
Called Police During Year	0.16	0.53	1.66
Length of Residence	1.17	5.05*	11.23**

interaction effect. Similarly, in Toledo, the variables of sex and income each had an effect on citizen acceptance and there is no interaction effect.

- In Garden Grove, the variables of sex, age, and whether the respondents had called the department within the last year each had an effect on citizen acceptance, and there is a two-factor interaction effect from age and whether the respondents had called the department before.

Details on the reasons for these results are provided in the remainder of this section.

Exhibit 11-17 is a contingency table for the baseline survey results from Greensboro on acceptance of alternatives for property events. The table is subdivided into sex and age categories, which serve as the independent variables since they were the variables from Exhibit 11-11 which were statistically significant. Since there are only two independent variables in this case, the logit model is a test of whether the two variables operate independently to influence citizen acceptance, or whether interaction exists between the two which also influences citizen acceptance.

The logit model results were that no interaction exists. Treating age and sex as independent variables, the likelihood ratio chi-square for the logit model was 1.37, which indicates a good fit of the model to the data at the 5 percent level of confidence. The expected counts with this model are also given in Exhibit 11-17. In no cell is there a difference greater than four between the observed and expected values. In summary, for the Greensboro data, the variables of age and sex are significant variables in determining citizen acceptance, and operate independently in influencing citizen acceptance.

An advantage of the logit model is that the model allows the calculation of the odds of citizen acceptance. These odds, shown at the bottom of Exhibit 11-17, are the ratios of the expected values. With males 18-25 years old, the odds are 1.5 to 1 of accepting an alternative, and the odds increase to 2.27 to 1 for males over 45 years of age. With females, the odds are against accepting an alternative, except for the age category of over 45 years.

With Toledo, the significant variables from Exhibit 11-11 are sex and income. Exhibit 11-18 gives the results of a logit model in which these two variables are included but have no interaction effect. Once again, the model provides a good fit with a likelihood ratio chi-square value of .80. The observed and expected values are always within three counts, which also reflects a good fit from this model. The odds ratios shown at the bottom of the table follow the pattern of increasing odds on acceptance as income increases for both males and females. The differences between the odds ratios for males and females at a given salary level are close, indicating that the variable of sex is not as important as income in this model.

With Garden Grove, there were three significant variables--sex, age, and whether the citizen had called the department within the last year.

EXHIBIT 11-17

LOGIT MODEL FOR CITIZEN ACCEPTANCE PROPERTY OFFENSES IN GREENSBORO

Accept At Least One Alternative

Age Category	Survey Results Male	Survey Results Female	Model Results Male	Model Results Female
18-25 Years Old	37	29	36.9	29.1
26-45 Years Old	91	71	94.0	68.0
Over 45 Years Old	64	45	61.1	47.9

Will Not Accept Alternatives

Age Category	Survey Results Male	Survey Results Female	Model Results Male	Model Results Female
18-25 Years Old	24	32	24.1	31.9
26-45 Years Old	61	67	58.0	70.0
Over 45 Years Old	24	38	26.9	35.1

Odds Table

Age Category	Male	Female
18-25 Years Old	1.53	.91
26-45 Years Old	1.62	.97
Over 45 Years Old	2.27	1.36

Logit Model Parameters

Multiplicative Model:

$$R(ij1) / R(ij2) = C \times S(i) \times A(j)$$

where C = 1.38 (Constant Term)
S = 1.29 for Males
= .78 for Females
A = .86 for 18-25 Years Old
= .91 for 26-45 Years Old
= 1.28 for Over 45 Years Old

Likelihood Ratio Chi-Square = 1.37 with 2 degrees of freedom.

EXHIBIT 11-18

LOGIT MODEL FOR CITIZEN ACCEPTANCE PROPERTY OFFENSES IN TOLEDO

Accept At Least One Alternative

Income Category	Survey Results		Model Results	
	Male	Female	Male	Female
Less than $10,000	32	72	33.5	70.5
$10,000-$20,000	62	51	59.3	53.7
More than $20,000	61	59	62.1	57.9

Will Not Accept Alternatives

Income Category	Survey Results		Model Results	
	Male	Female	Male	Female
Less than $10,000	41	88	39.5	89.5
$10,000-$20,000	52	56	54.7	53.3
More than $20,000	46	44	44.9	45.1

Odds Table

Income Category	Male	Female
Less than $10,000	.85	.79
$10,000-$20,000	1.09	1.01
More than $20,000	1.38	1.28

Logit Model Parameters

Multiplicative Model:

$$R(ij1) / R(ij2) = C \times S(i) \times M(j)$$

where C = 1.04 (Constant Term)
S = 1.04 for Males
= .96 for Females
M = .78 for Less than $10,000 Income
= 1.01 for $10,000-$20,000 Income
= 1.28 for More than $20,000 Income

Likelihood Ratio Chi-Square = 1.37 with 2 degrees of freedom.

With three independent variables, more models must be considered, since the variables can be combined pairwise for possible interactions. The competing models and likelihood ratio chi-square values were as follows:

Model	Likelihood Ratio	Degrees of Freedom
1. (Sex, Called)(Age)	19.50	6
2. (Sex, Age)(Called)	20.57	5
3. (Called, Age)(Sex)	2.08	5

These results clearly show that the most appropriate model is the last model. The first two models have high likelihood ratios which mean that these models should be rejected, while the third model has a low likelihood ratio at the 5 percent level of significance. This model is interpreted as indicating that each independent variable has an effect on citizen acceptance of alternatives, with a two-factor interaction effect of age and whether the citizen has previously called the department. The policy implication of this result for Garden Grove is that all three variables should be considered in a program for alternatives, and that the interaction effect should be given greater attention.

Exhibit 11-19 shows the contingency table for Garden Grove along with the results of the third model. The odds ratios at the bottom of the exhibit highlight the importance of the interaction effect. The odds range from 8.35 for males 18-25 years old who had not called the department before, to 1.35 for females 26-45 years old who had not called the department before. Differences in odds can be seen between males and females, between age categories, and between whether the respondents had called the department before.

SURVEY OF CITIZENS WHO RECEIVED TELEPHONE REPORT UNIT SERVICE

Since a telephone report unit was already in effect in Toledo and Greensboro prior to the DPR project, the evaluation team had an opportunity to determine the satisfaction with this alternative during the baseline period. The number of TRU citizen surveys was 798 in Greensboro and 1,770 in Toledo. As Exhibit 11-20 indicates, the main categories of calls taken by the TRU officers in Toledo were car theft, criminal damage to autos, and theft. In Greensboro, the main call types were theft, tampering with autos, car theft, and criminal damage. These call types had been selected at the two sites by the department management when the TRU's were established. At that time, there was little thought given to the impact on citizen satisfaction. Instead, the aim was to select only a few minor types of calls which had high volumes.

EXHIBIT 11-19

LOGIT MODEL FOR CITIZEN ACCEPTANCE PROPERTY OFFENSES IN GARDEN GROVE

Accept At Least One Alternative
Had Called Police Before

Age Category	Survey Results Male	Survey Results Female	Model Results Male	Model Results Female
18-25 Years Old	128	102	126.2	103.8
26-45 Years Old	266	247	268.3	244.7
Over 45 Years Old	155	130	156.8	128.2

Had Not Called Police Before

Age Category	Male	Female	Male	Female
18-25 Years Old	26	17	25.9	17.1
26-45 Years Old	26	30	26.1	29.9
Over 45 Years Old	43	25	40.7	27.4

Will Not Accept Alternatives
Had Called Police Before

Age Category	Survey Results Male	Survey Results Female	Model Results Male	Model Results Female
18-25 Years Old	45	55	46.8	53.2
26-45 Years Old	62	73	49.7	75.3
Over 45 Years Old	37	38	35.2	39.8

Had Not Called Police Before

Age Category	Male	Female	Male	Female
18-25 Years Old	3	3	3.1	2.9
26-45 Years Old	14	22	13.9	22.1
Over 45 Years Old	8	12	10.5	9.7

Odds Table

	Male Called Before	Male Not Called Before	Female Called Before	Female Not Called Before
18-25 Years Old	2.70	8.35	1.95	5.90
26-45 Years Old	4.49	1.88	3.25	1.35
Over 45 Years Old	4.45	3.88	3.22	2.82

Logit Model Parameters

Multiplicative Model:

$$R(ijk1) / R(ijk2) = K \times S(i) \times C(j) \times A(k) \times CA(jk)$$

where K = 3.28 (Constant Term)
S = 1.18 for Males
= .85 for Females
A = 1.22 for 18-25 Years Old
= .75 for 26-45 Years Old
= 1.08 for Over 45 Years Old
CA = .58 for Called Before, 18-25 Years Old
1.53 for Called Before, 26-45 Years Old
1.09 for Called Before, Over 45 Years Old
1.72 for Not Called Before, 18-25 Years Old
.63 for Not Called Before, 26-45 Years Old
.92 for Not Called Before, Over 45 Years Old
C = .98 for Called Before
= 1.02 for Not Called Before

Likelihood Ratio Chi-Square = 2.08 with 5 degrees of freedom.

EXHIBIT 11-20

TELEPHONE REPORT UNIT CALL TYPES

Type of Calls	Greensboro (N=798)	Toledo (N=1,770)
Larceny/Theft	56.1%	22.8%
Tampering with Auto/Car Theft	14.7	49.2
Vandalism/Criminal Damage	8.0	24.0
Harassing	8.0	.0
Dependent Person	6.1	.0
Other (traffic accident, misc.)	7.0	4.0

How Quickly Citizens Called Police and TRU Response Times

In Greensboro, the median time was 60 minutes for citizens to call the police after the discovery of the incident, as compared to a median of 30 minutes in Toledo. However, as in mobile response calls, the reporting time was affected greatly by those persons who waited a considerable length of time to call police. In Greensboro, the average length of time until citizens called police was 28 hours, and in Toledo the average length of time until citizens called police was 13.4 hours.

At the start of the DPR project, the procedure in Toledo was for the dispatcher to give citizens the TRU telephone number, advise them on the hours of operation, and request that they call the TRU directly. In order to ascertain how often citizens called the TRU under this procedure, respondents were asked whether they reached the TRU on the first try or whether they had to call back. Over half (58.4 percent) responded that they reached the TRU on the first try, 36.8 percent stated that they had to call back at least once, and 4.8 percent did not remember. Of those who had to call the TRU back, 52.9 percent reported that they had to call four or more times because the lines were busy. To prepare for a change in this procedure, respondents were asked whether they would have been agreeable to giving out their number and allowing the police officers to return their call by the end of the next day. Nearly two-thirds (62 percent) said they were agreeable to this, 36 percent said they were not, and 2 percent were not sure.

The new procedures, initiated in May 1982, required call takers to record the type of offense, citizen's name, and telephone number on a dispatch ticket. The dispatch tickets were then accumulated each day and physically transported to the TRU. Subsequently, an officer contacted the citizens to record the information about the incident and prepare a report. Under this procedure, the median response time for TRU to contact the caller was 48 hours.

In Greensboro, the median response time for TRU to contact the caller was only 12 minutes. The reason for the shorter median time was that the officers quickly received the information from the communications center

CAD system, and had a much greater chance of immediately reaching the citizen at the telephone number.

Satisfaction with TRU

For over 80 percent of all callers surveyed, this was the first time they had ever had a report taken over the telephone by the police. As seen in Exhibit 11-21, over 90 percent of all respondents at both sites reported that they were either "satisfied" or "very satisfied" with the way their reports were taken over the telephone. As in mobile response, respondents were less inclined to say they were "very satisfied" and more likely to report they were "satisfied."

EXHIBIT 11-21

SATISFACTION WITH TELEPHONE REPORT UNIT SERVICE

Level of Satisfaction with TRU	Greensboro (N=798)	Toledo (N=1,770)
Very Satisfied	25.1%	31.8%
Satisfied	66.2	58.0
Dissatisfied	7.9	7.7
Very Dissatisfied	0.9	2.5

The high satisfaction levels are probably due to the types of calls being handled by the TRU officers. As shown in Exhibit 11-20, most of the call types were minor property offenses, predominantly larcenies and thefts from automobiles. Under the DPR tests, the types of calls were considerably expanded and there were subsequent changes in the satisfaction level. However, an interesting result of these findings is that the long response times for Toledo TRU officers to contact citizens did not have an adverse effect on citizen satisfaction.

As reflected in Exhibit 11-22, the major reasons that respondents were dissatisfied with TRU were they wanted an officer to come out, they wanted more done on the case, or they disliked the officer's attitude.

EXHIBIT 11-22

REASONS FOR DISSATISFACTION WITH TRU SERVICE

Reasons for Dissatisfaction with Telephone Report Unit Service	Greensboro (N=70)	Toledo (N=180)
Did not get response wanted/ wanted someone to come out	33.8%	34.6%
Disliked handling of case/ wanted some investigation or follow-up	29.7	16.0
Disliked officer's attitude/ appeared uncaring or disinterested	18.9	24.7
Had to call back/took too long for TRU to return call	9.5	19.8
Disliked questions asked	6.7	1.2
No reason given	1.4	3.7

Acceptance of Alternatives

Even though these respondents had received the TRU alternative, there was interest in whether they would have been willing to accept some other alternatives for their calls. In this way, the other alternatives could be used and the TRU officers would be free to accept a greater volume of other types of calls.

In Toledo, nearly half (47.4 percent) of those whose report had been taken by phone said they would have agreed to fill out a report and mail it back to the police department. This compared to only 10 percent of those receiving a mobile response who would have been willing to fill out a mail-in report. In Greensboro, about one-quarter of the TRU respondents reported that they would have been willing to fill out a mail-in report, which was also higher than the 16.4 percent from the mobile response group.

The proportion of respondents who reported that they were willing to come to the department was also significantly higher among TRU service recipients than those who received a mobile response. Over one-quarter in Greensboro (26.7 percent), and nearly one-third in Toledo (32.1 percent), reported that they would have agreed to come to the police department to fill out a report or complaint. This acceptance level was nearly twice as high when compared to respondents who had received mobile response in Greensboro, and over three times as high when compared to those who received mobile responses in Toledo.

CONCLUSIONS

The conclusions from the analysis of the baseline citizen surveys can be summarized as follows:

- In terms of demographic characteristics, residents of Garden Grove were wealthier and more transitory than the residents of either Toledo or Greensboro. In Toledo, 73 percent of the citizen telephone survey respondents had lived in the city for over 20 years, in sharp contrast to Greensboro, where 50.5 percent had lived in the city 20 years, and Garden Grove, where only 14.6 percent had been there 20 years.

- Over 90 percent of all citizens surveyed, who had previously received a police mobile response, were satisfied with the manner in which the police telephone operator handled their initial call. Reasons for dissatisfaction included comments such as the call taker was uncaring, had a bad attitude, was impersonal, asked too many questions, and other reasons.

- Citizens who had previously received a mobile response were also satisfied with the response time in which it took the police to arrive. Approximately 90 percent at each site were satisfied. The main reason for dissatisfaction was that these callers had a preconceived expectation that the police should have arrived sooner.

- The citizens surveyed expressed an overall high willingness to accept alternatives other than the immediate dispatch of a patrol unit to a non-emergency call. The most acceptable alternatives were arranging an appointment for an officer to come later, and having the report taken over the phone. The least acceptable alternatives were filling out a mail-in report or coming to the police station to report the incident in person. Also, three out of four callers were willing to accept a delay in the response time of the officer.

- Citizens are more willing to accept alternatives for property-related calls (e.g., burglary, larceny) or assistance calls rather than for calls which involve potential danger or threats to the person, such as assaults or domestic disputes.

- The logit analysis shows that acceptance of alternatives can be dependent on several characteristics acting together. In Garden Grove, the combination of sex, age, and whether the citizens had called the police before influenced the acceptance of alternatives. The odds for acceptance ranged from 8.35 for males 18-25 years old who had not called the police before, to 1.35 for females 26-45 years old who had not called the police before.

- Over 90 percent of the citizens in Toledo and Greensboro surveyed during the baseline period were satisfied with the way their reports were taken over the telephone. Most of these calls were minor property offenses. Many of those citizens who had already received the telephone report alternative response were willing to accept another type of alternative.

CHAPTER 12

ANALYSIS OF CITIZEN SURVEYS DURING GREENSBORO TEST PHASE

INTRODUCTION

The citizen surveys administered during the experimental phase of the DPR project in Greensboro began during the winter of 1983. Citizens who had received mobile responses and alternative responses were surveyed. As discussed in earlier chapters, the three sites developed different methods for randomly assigning non-critical calls for service to either traditional or alternative responses. The analysis of citizen surveys during the test phase considers each site separately, partially because of the differences in test procedures, and partially because of the differences in the types of calls handled and in demographic characteristics. The analysis of the results from Greensboro are presented first since its project implemented the fullest range of alternatives. Shorter analyses of the Garden Grove and Toledo sites are provided in the next two chapters, and Chapter 15 presents a comparison of baseline and test data across all three sites.

As explained in Chapter 6, the experimental/control procedures in Greensboro were based on the work schedules for the telecommunicators, who were split into two groups of two squads each. Squads A and B worked four days in a row on 12-hour shifts and then had the next four days off, while squads C and D worked four days in a row on 12-hour shifts. Squads A and B served as the control group and squads C and D as the experimental group. During the experimental days, the alternatives were in full operation, while during the control days, calls were handled in the traditional manner.

The work schedule had been developed by personnel in the communications center prior to the DPR project and, therefore, was not an operational change associated with the project. Consideration had been given to a randomization procedure using the computer aided dispatch (CAD) system as was done in Garden Grove. However, the Greensboro CAD was developed and installed by an outside consulting firm which no longer supported the system. Since no one locally had sufficient knowledge about the computer programs in the system at the time of the test, the option of an automatic randomization procedure could not be taken.

For the TRU, the test meant that the personnel were busier during the experimental days, since more types of calls were diverted to them. During the control days, the TRU personnel handled only the types of calls which they had processed prior to the project. As presented in Chapter 6, there was a 51.1 percent difference between the volume of calls on experimental versus control days for the TRU.

The civilian responses included services by the animal control personnel, the community service officers, and the evidence technicians. However, only the survey results for evidence technicians are discussed in this chapter, since the volume of calls for the other two groups was not enough on which to base conclusions. Low usage also precluded any analysis of the mail-in response alternative.

With these test conditions in Greensboro, there were several different types of citizen surveys conducted during the test period:

- TRU experimental group--citizens receiving TRU services during the experimental days (503 surveys).
- TRU control group--citizens receiving TRU services during the control days (312 surveys).
- Mobile response experimental group--citizens receiving mobile response services during the experimental days (729 surveys).
- Mobile response control group--citizens receiving mobile response services during the control days (775 surveys).
- Delayed mobile response--citizens receiving mobile response services with response times greater than thirty minutes (112 surveys).
- Civilian mobile response--citizens receiving mobile response services from civilian members of the department (73 surveys).
- Drive-in response--citizens with hit and run accidents who drove to the department to report their problem to the accident squad (16 surveys).

The emphasis in the analysis presented in this chapter is on comparisons of the different alternatives during the experimental days. That is, comparisons are made of citizen satisfaction during the experimental days for the alternatives of immediate mobile responses, delayed mobile responses, civilian mobile responses, and TRU responses. Results from the control days are presented to support the results of the experiment.

The demographic characteristics of the respondents for the control and experimental days were not found to be significantly different. For example, 35.7 percent of the mobile response control group were male, as compared to 33.9 percent of the mobile response experimental group. Similarly, 42.0 percent of the TRU control group were male, as compared to 44.7 percent of the TRU experimental group. With regard to income, the percentage of respondents making less than $10,000 was 38.3 percent in the mobile response control group and 40.2 percent in the experimental group; for respondents making between $10,000 and $20,000, the percentages were 29.8 and 29.0, respectively. With the TRU control group, 31.6 percent of the respondents made less than $10,000, as compared to 30.5 percent of the TRU experimental group. For respondents making between $10,000 and $20,000, the percentages were 28.7 and 28.9, respectively. Similar closeness of characteristics were found with the variables of age and years in the jurisdiction.

CITIZEN SATISFACTION WITH CALL TAKERS AND SERVICE ALTERNATIVES

Satisfaction with Call Takers

Citizens were asked how satisfied they were with the manner in which their initial phone calls to the police department were handled. Exhibit 12-1 shows that with TRU and mobile response services, citizens were equally satisfied with the initial conversation with the call taker. Just over half of the respondents in these groups said they were "very satisfied"

with the call taker's handling of their calls. Less than five percent of the respondents stated that they were "dissatisfied" or "very dissatisfied" with the call taker.

With delayed and civilian mobile responses, the percent of respondents expressing satisfaction totaled 92.0 and 90.0 percent respectively, with the remaining 8-10 percent expressing dissatisfaction with these alternatives. However, fewer respondents stated that they were "very satisfied" as compared to the TRU and immediate mobile alternatives.

EXHIBIT 12-1

CITIZEN SATISFACTION WITH CALL TAKERS
GREENSBORO TEST PHASE

Satisfaction Level	TRU Experimental (N=503)	Mobile Experimental (N=729)	Delayed Mobile (N=112)	Civilian Mobile (N=73)
Very satisfied	50.9%	52.3%	37.5%	43.8%
Satisfied	44.9	42.9	54.5	45.3
Dissatisfied	3.4	3.3	7.1	6.8
Very Dissatisfied	.8	1.5	.9	4.1

For respondents expressing dissatisfaction, the main reason given was that the call taker "appeared disinterested" or "had a bad attitude." Other reasons for dissatisfaction were tied to the specific type of alternative. For TRU service, the most frequent reasons were that an officer did not come out (41.2%), followed by dislike of call taker's attitude (23.5%), and difficulty reaching the unit (the phone rang a long time before it was answered, they had to call back, or the line was busy) (17.6%). For mobile response recipients who were dissatisfied, the major reasons were the call taker was unconcerned (30%), the call taker did not want to send a unit (30%), and the call taker asked too many questions (15%). For civilian mobile recipients, the call taker's attitude was the most frequent reason for citizen dissatisfaction (37.5%), followed by the call taker asked too many questions (25%), and it took too long for a unit to arrive (25%). For delayed mobile response recipients, the call taker's attitude was the most frequent reason (50%), followed by not happy with delay (25%), and the call taker asked too many questions (12%).

The results with the control groups were that 4.1 percent of the mobile response control group expressed dissatisfaction with the initial conversation. This percent of dissatisfaction is about the same as the 4.8 percent from the mobile response experimental group. However, 47.4 percent of these control group respondents stated that they were "very satisfied," as compared to 52.3 percent of the experimental group. Thus, the mobile response experimental group had a higher level of respondents stating that they were "very satisfied" and about the same percentage expressing dissatisfaction as compared to the control group.

For the TRU control group, 43.9 percent stated that they were "very satisfied," which is significantly less than the 50.9 percent from the experimental group. A total of 2.6 percent in the control group expressed dissatisfaction, which is less than the 4.2 percent from the experimental group. Thus, the control group had a lower percentage of persons stating that they were "very satisfied," and a lower percentage expressing dissatisfaction.

Were Citizens Informed of a Delay?

Several studies have shown that satisfaction with delayed or alternative services is dependent upon the expectations of the citizens (Percy, 1980; Pate et. al., 1976; Tien et. al., 1977; Kansas City, 1977). These authors have reported that if citizens expect a delay in response to a call, they will readily accept a delay again, and it will not decrease their satisfaction. As a result of this information, call takers for this project were told to inform citizens who received the alternative delayed mobile or civilian mobile responses that it would be up to an hour before the unit would arrive.

Citizens were asked whether they were advised that there was going to be a delay. Among those who received delayed mobile service, 30.4 percent said that they had not been told that there would be a delay. This percentage is higher than the project personnel expected, since the policy was that call takers always were to advise callers on the possibility of a delay.

In order to determine whether a delay was an obstacle to citizen willingness to use the same type of service again in the future, delayed mobile respondents were asked if they would accept a delay again for the same type of incident. Of the delayed mobile response recipients who were advised of a delay, 75 percent said that they would accept a delay again, and 25 percent said that they would not accept a delay next time. Of those who were not advised that there would have been a delay, only 38.7 percent said that they would accept a delay in the future. Thus, twice as many people who were told to expect a delay were willing to accept a delay again compared to those who were not told. The experiences of the respondents had an obvious impact on whether they would accept delays in the future.

Citizen Satisfaction with Service

Over 60 percent of all respondents who received either TRU experimental response, mobile experimental response, or civilian mobile response said that they were "very satisfied" with the service they were provided. However, as reflected in Exhibit 12-2, those who received a delayed mobile response were less inclined to say that they were "very satisfied" and more inclined to say that they were "satisfied" with service. Thus, while there was no significant increase in the percentage of citizens actually dissatisfied with delayed mobile response, there was a significant decline in the intensity of their satisfaction.

EXHIBIT 12-2

SATISFACTION WITH SERVICE PROVIDED GREENSBORO TEST PHASE

Satisfaction Level	TRU Experimental (N=503)	Mobile Experimental (N=729)	Delayed Mobile (N=112)	Civilian Mobile (N=73)
Very Satisfied	60.4%	69.8%	57.1%	67.1
Satisfied	31.0	24.3	37.5	31.5
Dissatisfied	7.0	3.8	4.5	1.4
Very Dissatisfied	1.6	2.1	.9	.0

An examination of the reasons for dissatisfaction with the service provided shows that the major reasons for dissatisfaction with all alternatives except delayed mobile was that there was no investigation of the case or follow-up assistance offered. The complaints included such comments as "no fingerprints were taken," "I still haven't heard anything," or "they said someone will come out and no one ever has." With TRU and mobile response services, the second most frequent reason was that the officer acted disinterested or uncaring. Among delayed mobile respondents, two-thirds of those who were dissatisfied said that they did not get the situation handled the way they wanted, i.e., a report was not taken or a person was not ticketed.

Another survey question on satisfaction with the service provided asked whether the citizen felt the officer or police specialist expressed interest in what the citizen had to say. For the alternatives, between 88 percent and 95 percent of the respondents reported that they felt the officer or police specialist was interested in what they had to say. Citizens who received experimental TRU service reported they felt the officer showed the lowest level of interest in what they had to say (88 percent), while civilian mobile response recipients said police evidence technicians showed the highest level of interest (94.5 percent).

For the control groups, 7.4 percent of the mobile respondents expressed dissatisfaction with the service provided, which is slightly higher than the percentage for the mobile experimental group. A total of 63.4 percent in the control group stated that they were "very satisfied," which is significantly less than the experimental group. With the TRU control group, 5.4 percent of the respondents stated that they were "dissatisfied" with the service provided, which is significantly less than the 8.6 percent in the experimental group. A total of 56.1 percent in the control group stated that they were "very satisfied," as compared to 60.4 percent in the experimental group. In summary, the results of the control and experimental groups are similar except for the dissatisfaction levels of the TRU groups.

Drive-In Response

Under the DPR project in Greensboro, an interesting service alternative was the drive-in response. Call takers directed automobile hit-and-run victims with property damage only to bring their vehicles into the station and contact the accident follow-up squad. Under the project, the accident follow-up squad became the first unit of response for these types of calls, and completed the incident reports for those victims requested by the call takers to drive to the station.

A total of 83 initial incident reports were completed during the first six months the drive-in alternative was in use (from January to June 1983). A sample of 16 recipients was contacted to determine citizen satisfaction levels.

Eleven of the recipients of drive-in service reported that they were "very satisfied" with the service provided by the officers. Four stated that they were "satisfied," while only one person expressed dissatisfaction. The dissatisfied person took exception to one officer's analysis of the cause of the accident. The officer questioned whether it was really a hit-and-run, which angered the citizen.

The citizens were quite satisfied with the conduct of the officers; over 90 percent felt that the officers expressed interest in what they had to say and were accurate and clear during the conversation. Nearly all of those who used the drive-in service (87.5 percent) said that they would be willing to bring their cars into the police station again if they needed to report the same types of incidents. The two who were not willing to use the service again cited the reasons for this as too long a delay in getting the report back, and too long a wait at the station.

Willingness to Use Alternatives in the Future

A key measure in the survey was whether respondents were willing to accept the same alternative services again and, if they had received a regular mobile response, whether they would have been agreeable to longer delays than they had experienced. The responses to these questions show that the highest willingness to use the same type of service again was among those who received civilian mobile response (94.5 percent), followed by experimental TRU (86.7 percent). Least acceptable as an alternative was delayed mobile response; only 62.5 percent said that they would be willing to be delayed again.

Recipients of regular mobile response were asked whether they would have been agreeable to a delay in the arrival of the police for up to an hour more, or up to 30 minutes more. Nearly half (44.0 percent) of those in the experimental mobile response group said that they would have been agreeable to a delay of up to 30 minutes more, and nearly one-third (29.7 percent) said they would have waited up to one hour more.

TYPES OF CALLS FOR ALTERNATIVES

There were several differences in the proportion of call types handled by each of the experimental responses. As shown in Exhibit 12-3, the types of calls handled by the TRU on experimental days included 43.4 percent larcenies, 5.8 percent burglaries, 16.9 percent property damage crimes, 5.5 percent assistance calls, and 7.1 percent dependent/missing person calls.

The bulk of the calls receiving a delayed mobile response were automobile accidents (30.5 percent), public nuisances (26.6 percent), suspicious activities (14.1), and larcenies (7 percent). Nearly three-quarters of the reports handled by the civilian evidence technicians were for burglaries, and another 13.7 percent were assistance calls, primarily to pick up property.

In comparison, calls handled by mobile response on experimental days were primarily for public nuisances (21.1 percent), suspicious activities (19.8 percent), automobile accidents (10.7 percent), interpersonal conflicts (11.9 percent), larcenies (8.3 percent), and burglaries (8 percent).

EXHIBIT 12-3

TYPES OF CALLS HANDLED BY ALTERNATIVES GREENSBORO TEST PHASE

Types of Calls	TRU Experimental (N=503)	Mobile Experimental (N=729)	Delayed Mobile (N=112)	Civilian Mobile (N=73)
Larceny	43.4%	8.3%	7.0%	5.5%
Suspicious Activities	2.0	19.8	14.1	.0
Criminal Damage	16.9	6.0	3.1	6.8
Assistance	5.5	3.4	2.3	13.7
Public Nuisance	5.0	21.1	26.6	.0
Burglary	5.8	8.0	3.1	71.2
Other Property Crimes	5.8	1.2	.8	.0
Dependent Person	7.1	1.9	1.6	.0
Auto Accident/Traffic Problem	.6	10.7	30.5	.0
Interpersonal Conflict	4.3	11.9	3.9	1.4
Public Morals	2.0	1.5	2.3	1.4
Person Crimes	1.6	5.1	3.9	.0
Other	.0	1.1	.8	.0

SATISFACTION WITH RESPONSE TIME

Citizens were asked to estimate the length of time until the police officer or evidence specialist either called them back or arrived, and how satisfied they were with this length of time. Exhibit 12-4 shows that over

half of the respondents who received TRU or mobile experimental services said they were "very satisfied" with the response times to their calls. However, significantly fewer respondents who had received either delayed mobile or civilian mobile responses, reported that they were "very satisfied" with the response time. More important, overall, significantly more citizens who had TRU experimental service reported that they were either "very satisfied" or "satisfied" with their response times, compared to those who received experimental mobile response.

For calls eligible to be delayed, the callers were to be advised that it might take one hour before a unit arrived. Dispatchers were to hold calls for 30 minutes in order to dispatch the call to the unit in the area of responsibility. If, after 30 minutes, the unit was still not in service, the call was dispatched to the nearest available unit. With civilian mobile response calls, the caller was to be advised of what particular type of unit would be dispatched, and that it might be up to one hour before the unit arrived.

As expected, significantly more citizens who received delayed mobile response reported that they were "dissatisfied" with the response time, compared to those who received regular mobile response. Therefore, those who received delayed mobile response and civilian mobile response were less inclined to say that they were "very satisfied" with the response time, while more of those who received delayed mobile response actually reported dissatisfaction with the response time.

EXHIBIT 12-4

SATISFACTION WITH RESPONSE TIMES
GREENSBORO TEST PHASE

Satisfaction Level	TRU Experimental (N=503)	Mobile Experimental (N=729)	Delayed Mobile (N=112)	Civilian Mobile (N=73)
Very Satisfied	52.1%	51.3%	24.1%	39.7%
Satisfied	44.5	36.2	49.1	45.2
Dissatisfied	2.8	10.3	25.0	13.7
Very Dissatisfied	.6	2.2	1.8	1.4

With regard to satisfaction with response times, the control and experimental groups showed similar results. For the mobile response control group, 11.5 percent expressed dissatisfaction, as compared to 12.5 percent in the experimental group. A total of 47.4 percent in the control group stated that they were "very satisfied," as compared to 51.3 percent in the experimental group. With the TRU control group, 3.6 percent stated that they were "dissatisfied" with the response time, as compared to 3.4 percent in the experimental group. A total of 43.9 percent in the control group stated that they were "very satisfied," as compared to 52.1 percent in the experimental group.

As discussed in Chapter 11 on the results of the baseline surveys, citizens recalled quite accurately the amount of time it took for the police to arrive. The same was true for the test phase results. As shown in Exhibit 12-5, for the TRU experimental group calls, the average actual length of time until police officers called the citizens back was 51.4 minutes; half received responses in less than 9 minutes. Respondents' perception of the length of time until police called them back averaged 21.0 minutes, or 30.4 minutes shorter than the actual response time. Respondents reported that half of their calls were answered within 15 minutes.

For experimental mobile response calls, the actual average mobile response time to calls was 12.6 minutes, with a median of 8 minutes. Respondents reported that a police car arrived in an average of 14.7 minutes, with a median of 10 minutes. In delayed mobile response calls, citizens showed the greatest underestimation in recollecting how long they had waited for the police to arrive. They reported that the average length of time until a unit arrived was 35.8 minutes; 25 percent thought a unit arrived within 25 minutes; 50 percent, within 30 minutes; and 75 percent, within 45 minutes. However, the actual average response time was 84.6 minutes, with 25 percent arriving within 32 minutes, 50 percent within 36 minutes, and 75 percent within 42 minutes.

For calls handled by the evidence specialists, citizens reported that they arrived within an average of 37.0 minutes, with a median arrival time of 35 minutes. Actual arrival time figures showed the average to be 33.2 minutes, with a median of 27 minutes.

A more detailed examination of dissatisfied delayed mobile respondents showed that these citizens had a shorter response time than the overall average for their group, but they estimated the actual time more closely. For those who were dissatisfied with delayed mobile response times (N=30), their calls were actually responded to within one hour on the average, with fifty percent responded to within 36 minutes. These citizens perceived their actual response time to have been 47.3 minutes. However, their desired length of response was 18.7 minutes, with 15 minutes being the modal as well as the median desired response time.

CONCLUSIONS

The results of the citizen satisfaction surveys during the test phase in Greensboro may be summarized as follows:

- Citizen satisfaction levels were high on the initial conversations with the call takers. With call takers, the percentages of respondents expressing satisfaction were 95.2 percent for the mobile experimental group, 95.8 percent for the TRU experimental group, 92.0 for the delayed mobile group, and 89.1 percent for the civilian mobile group.

- High levels of satisfaction were also found with the services provided. For the mobile experimental

EXHIBIT 12-5

RESPONSE TIMES FOR ALTERNATIVES GREENSBORO TEST PHASE

	TRU Experimental (N=503)	Mobile Experimental (N=729)	Delayed Mobile (N=112)	Civilian Mobile (N=73)
Actual Response Time				
Average	51.4 min.	12.6 min.	84.6 min.	33.2 min.
Median	9.0 min.	8.0 min.	36.0 min.	27.0 min.
Percentiles				
25%	3.0 min.	5.0 min.	32.0 min.	19.5 min.
50%	9.0 min.	8.0 min.	36.0 min.	27.0 min.
75%	22.0 min.	13.0 min.	42.0 min.	41.5 min.
Citizen Perception of Response Time				
Average	21.0 min.	14.7 min.	35.8 min.	37.0 min.
Median	15.0 min.	10.0 min.	30.0 min.	35.0 min.
Percentiles				
25%	7.0 min.	5.0 min.	25.0 min.	22.5 min.
50%	15.0 min.	10.0 min.	30.0 min.	35.0 min.
75%	30.0 min.	15.0 min.	45.0 min.	45.0 min.
Desired Response Time for Citizens Dissatisfied with Response Time	(N=15)	(N=90)	(N=30)	(N=11)
Average	13.8 min.	9.9 min.	18.7 min.	22.7 min.
Median	15.0 min.	7.0 min.	15.0 min.	20.0 min.
Percentiles				
25%	5.0 min.	5.0 min.	15.0 min.	15.0 min.
50%	15.0 min.	7.0 min.	15.0 min.	20.0 min.
75%	25.0 min.	10.0 min.	25.0 min.	30.0 min.

group, 94.1 percent expressed satisfaction with the services provided, as compared to 91.4 percent for the TRU experimental group, 94.6 percent for the delayed mobile group, and 98.6 percent for the civilian mobile group.

- The tradeoffs in citizen satisfaction appear to be in the intensity of the satisfaction levels rather than dramatic increases in dissatisfaction. For example, 69.8 percent of the mobile experimental group stated that they were "very satisfied" with the services provided, as compared to 60.4 percent for the TRU experimental group, 67.1 percent for the civilian mobile group, and 57.1 percent for the delayed mobile group.

- The greatest differences in satisfaction were with response times. With the mobile experimental group, 12.5 percent of the respondents stated that they were "dissatisfied" with with the response time. The 3.4 percent dissatisfaction rate with TRU response time is substantially less. The civilian mobile group respondents had a dissatisfaction level of 15.1 percent, and the delayed mobile group had 26.8 percent dissatisfaction. In these two latter categories, the high dissatisfaction levels are related to whether or not the callers were informed that a delay might occur.

- A high percentage of respondents stated that they would be willing to use the same alternative in the future. A total of 94.5 percent of the civilian mobile group stated their willingness to use this alternative in the future and 86.7 percent of the TRU experimental group stated their willingness. Least acceptable as an alternative in the future was the delayed mobile response, where 62.5 percent said they would be willing to have their call delayed on the same type of call in the future. This result was also related to whether or not the caller remembered being told that a delay might occur. Of the delayed mobile response recipients who were advised of a delay, 75 percent said that they would accept a delay again; and, of those who were not advised of a delay in handling their call, only 38.7 percent would accept a delay in the future.

- The drive-in response on hit-and-run property damage to automobiles was very successful. Of 16 recipients surveyed, all but one were satisfied with the service, and 14 of 16 said that they would use the same service again.

CHAPTER 13

ANALYSIS OF CITIZEN SURVEYS DURING GARDEN GROVE TEST PHASE

INTRODUCTION

During the project implementation phase, the new DPR alternatives in Garden Grove included the expeditor unit, delayed mobile response, mail-in report, expanded use of walk-ins, and referrals. As discussed earlier in this report, randomization for Garden Grove's test was achieved automatically. The call takers used the new intake procedures and classified the calls according to the new call classification matrix. After completing the information on the calls and entering it in the CAD terminal, those that met the criteria for an alternative were automatically sent by the computer to either the dispatcher or the expeditor.

Five sets of citizen surveys were undertaken in Garden Grove during the test phase. The alternatives surveyed were: expeditor unit, delayed mobile response, mobile response, and walk-ins. A smaller, fifth survey was conducted of citizens who had been served by cadets. The mobile response surveys were from calls which met the criteria for an alternative but had been sent to the dispatcher. The delayed mobile response surveys were a subset of this group which had actually experienced a delay of more than 30 minutes in response time. Mail-in responses and referrals were not sampled due to their low volume of use. The remainder of this chapter discusses the results of the citizen surveys on satisfaction with the initial conversation with the call takers, satisfaction with service delivered, willingness to use the same service again, and satisfaction with response time.

The demographic characteristics of the different groups of respondents to the survey were very similar. For the mobile response survey group, 54.1 percent were male, as compared to 50.3 percent of the expeditor unit group, 58.7 percent of the delayed mobile response group, and 50.5 percent of the walk-in response group. With regard to the number of years that respondents had lived in the jurisdiction, 36.4 percent of the mobile response group were in the area for less than five years, as compared to 38.4 percent of the expeditor unit group, 39.3 percent of the delayed mobile response group, and 35.6 percent of the walk-in group. Similarities were also found in the characteristics of age and income. The only significant deviation was with income for walk-in respondents, with 23.9 percent of these respondents stating that they made less than $10,000, as compared to 12.2 percent of the mobile response group, 14.2 percent of the expeditor unit group, and 15.7 percent of the delayed mobile response group.

CITIZEN SATISFACTION WITH CALL TAKERS AND SERVICE ALTERNATIVES

Satisfaction with Call Takers

As seen in Exhibit 13-1, citizen satisfaction with the call takers was high for all three main types of service delivery alternatives. For the

mobile response group, 98.0 percent were satisfied with the initial conversation. Of the expeditor unit group, 97.3 percent expressed satisfaction, as did 99.0 percent of those who had experienced a delayed mobile response.

There were differences in the percentages of citizens who stated that they were "very satisfied" with the initial conversation. With the mobile response group, 46.8 percent stated that they were "very satisfied," as compared to 32.2 percent for the expeditor unit group and 34.6 percent for the delayed mobile response group.

EXHIBIT 13-1

CITIZEN SATISFACTION WITH CALL TAKERS
GARDEN GROVE TEST PHASE

Satisfaction Level	Mobile Response (N=293)	Delayed Mobile Response (N=104)	Expeditor Response (N=338)
Very Satisfied	46.8%	34.6%	32.2%
Satisfied	51.2	64.4	65.1
Dissatisfied	2.0	1.0	2.4
Very Dissatisfied	.0	.0	.3

For the respondents who received expeditor service and expressed dissatisfaction, the main reason given was that a patrol unit was not dispatched. For the mobile response group, the main reasons given were that they were asked too many questions, they did not like the call taker's style, and they were put on hold.

Citizen Satisfaction with Service

As seen in Exhibit 13-2, over 90 percent of all respondents said that they were either "very satisfied" or "satisfied" with expeditor unit service, delayed mobile response, and mobile response service. Significantly more respondents were inclined to say they were "very satisfied" with mobile response service than were citizens who had received any of the alternative services.

Citizens who received walk-in service were significantly more dissatisfied with this service; 10.8 percent said they were "dissatisfied." The main reason given for this dissatisfaction was that the officer was not interested in the problem and, in some cases, did not want to take a report. The other major reasons cited for dissatisfaction in walk-in cases were that the citizens felt the police department did not do anything to assist, and that a report was taken with no further investigation. This latter complaint was also heard from citizens who were dissatisfied with expeditor unit responses and delayed mobile responses; half of the dissatisfied expeditor unit respondents were unhappy that the case was not investigated or followed up. Of the 3.9 percent who were dissatisfied with

delayed mobile response, 75 percent were unhappy because the case was not investigated. Of the 3 percent who were dissatisfied with the mobile response service, 62.5 percent were unhappy because there was no investigation or follow-up on their case, and they would have liked fingerprints taken or some assistance offered; 37.5 percent said the officer was rude, unconcerned, or told the citizen something inaccurate.

EXHIBIT 13-2

SATISFACTION WITH SERVICE PROVIDED
GARDEN GROVE TEST PHASE

Satisfaction Level	Mobile Response (N=293)	Expeditor Response (N=338)	Delayed Mobile Response (N=104)	Walk-In Response (N=93)
Very Satisfied	52.6%	31.4%	44.2%	31.2%
Satisfied	44.4	63.3	51.9	58.1
Dissatisfied	2.0	4.7	2.9	6.5
Very Dissatisfied	1.0	.6	1.0	4.3

Another indication of satisfaction with service was whether respondents felt that the officer expressed interest in what they had to say. Approximately 90 percent of all recipients of all services said that the officer did express interest.

Willingness to Use Alternatives in the Future

Respondents were asked whether they were willing to use the same service in the future if they had to report a similar incident. Exhibit 13-3 shows that citizens who received walk-in service and expeditor unit service were most inclined to say that they would use the same type of service again. Nearly 90 percent of walk-ins and 80 percent of those who received expeditor unit service said that they would be willing to use these services again. However, significantly fewer respondents who received delayed mobile response service would have been willing to use the same type of service again; 65 percent said they would not, and 10 percent were undecided as to whether they would use it again.

One reason delayed mobile recipients may not have been willing to use this service again was that they were not all told that the response to their call for service was going to be delayed. Over half of the respondents (51 percent) said that they were not told to expect a delay of up to one hour, and another 6.7 percent could not remember if they had been told.

EXHIBIT 13-3

WILLINGNESS TO USE ALTERNATIVE SERVICE AGAIN
GARDEN GROVE TEST PHASE

Willing to Use Same Service Again	Expeditor Response (N=338)	Delayed Mobile Response (N=104)	Walk-in Response (N=93)
Yes	79.9%	65.4%	87.0%
No	17.5	25.0	12.0
Don't Know	2.6	9.6	1.0

Those who received mobile response service were asked whether they would have been willing to accept a delay in the arrival of a unit, assuming that they had been advised of the delay. Nearly one-half (45.5 percent) said that they would have been willing to wait up to 30 minutes, and 27.4 percent said that they would have been willing to wait up to one hour.

Walk-In Response

Several additional questions were asked of citizens whose reports had been taken at headquarters. Respondents were asked why they decided to walk into the police department to report the incident rather than telephone the police. Nearly three-quarters (71 percent) said that they decided on their own, either because they wanted to report it in person, someone told them they should report it in person, or they did not realize they could report it over the phone. The remainder came to the police department because they called the police department and were told to come in person. These people were told either that reports on the types of incidents they were reporting (such as minor traffic accidents), were taken in person, they had evidence that should be brought in, or that it would be easier if they came in.

Respondents were asked how long it was after discovering the incident before they were finally able to come to the department. The median time was one day. Exactly two-thirds reported that they completed their reports within 24 hours, and 76 percent within two days. Since several people actually took several months to report their incidents, the average time between discovery and reporting was 3.3 days.

Mobile Response by Cadets

A separate sample of citizens who had received mobile response service from cadets was undertaken during May and June 1983 to determine whether citizens were as satisfied with this service as with mobile response from officers. The majority of the calls handled by the cadets did not afford sampling because (1) the citizen simply reported or located found property and did not have direct contact with the cadet; (2) the call was made from

a public telephone; or (3) the phone numbers were not available. In order to be comparable to mobile response, only those calls where cadets were used to either handle a crime against property or a traffic incident have been included. The sample taken totals 16 calls.

The types of calls handled by the cadets were: stolen vehicles or property (37.5 percent), burglaries (31.3 percent), and hit and run property damage traffic accidents (31.2 percent). All citizens who were served by a mobile cadet response reported being satisfied with the service they received; 43.7 percent said that they were "very satisfied" and 56.3 percent said that they were "satisfied."

Nearly all respondents felt that the cadets expressed interest in what the citizens had to say; 87.5 percent said that the cadets appeared interested, and all felt that they were accurate and clear. Only two comments were made by respondents that were less than favorable. One respondent said the cadet appeared inexperienced, and another questioned whether the cadet did all that should have been done on the incident.

The average response time for cadet mobile response calls was 26 minutes; half were answered within 17.5 minutes. The most frequent response time was 15 minutes. All but two respondents reported that they were "satisfied" with the response time. Of the two who were dissatisfied, one had been responded to in 90 minutes and thought 30 minutes would have been better, and the other was responded to within 10 minutes and thought the unit should have arrived within 5 minutes.

Over two-thirds of the respondents (68.8 percent) would not have been agreeable to having someone take their complaints over the phone rather than having someone come out in person. Most of these citizens felt that the incident could only have been handled by in-person contact and someone needed to have come out. However, more than half would have been willing to wait up to an hour more before the unit arrived.

TYPES OF CALLS FOR ALTERNATIVES

There were many similarities in the proportions of the types of calls handled by the expeditor unit, delayed mobile response, and mobile response. These data are presented in Exhibit 13-4. For the expeditor unit, the main types of calls were petty thefts (35.2 percent), residential and commercial burglaries (23.0 percent), thefts from motor vehicles (16.0 percent), grand thefts (9.2 percent), and criminal damages (7.4 percent). Delayed mobile response handled 36.6 percent residential and commercial burglary calls, 24 percent petty theft calls, and 15 percent motor vehicle burglary calls. In mobile response, the largest bulk of calls sampled were for residential and commercial burglaries (27.3 percent), followed by motor vehicle burglaries (23.9 percent), petty thefts (21.5 percent), criminal damages (8.5 percent), and grand thefts (7.5 percent). With regard to walk-ins, the largest categories were property crimes (43 percent), and accident reports (36.6 percent).

EXHIBIT 13-4

TYPES OF CALLS HANDLED BY ALTERNATIVES
GARDEN GROVE TEST PHASE

Types Of Calls	Mobile Response (N=293)	Expeditor Response (N=338)	Delayed Mobile Response (N=104)	Walk-In Response (N=93)
Petty Theft (except from motor vehicle)	21.5%	35.2%	24.0%	.0%
Burglary-resid. and commercial	27.3	23.0	36.6	6.5
Burglary-motor vehicle/theft from motor vehicle	23.9	16.0	15.3	.0
Criminal Damage	8.5	7.4	5.7	.0
Grand Theft	7.5	9.2	5.7	.0
Public Nuisance	2.7	4.1	3.8	.0
Dependent/Missing Person	1.7	3.3	1.9	.0
Suspicious Activities	.3	.6	1.0	.0
Person Crimes	.6	.3	.0	2.2
Interpersonal Conflict	.3	.3	.0	5.4
Public Morals	.0	.0	1.0	1.0
Assistance	.0	.0	.0	4.3
Traffic Accident	2.3	.3	2.0	36.6
Other Property Crime	1.3	.0	2.0	43.0
Other (unknown, self-initiated)	2.1	.3	1.0	1.0

SATISFACTION WITH RESPONSE TIME

As seen in Exhibit 13-5, virtually all of the Garden Grove respondents were satisfied with the response times of mobile response units. A total of 98.0 percent stated that they were "very satisfied" or "satisfied" with the response times. The satisfaction levels decreased to 91.7 percent with the expeditor unit and 83.7 percent for respondents who had actually experienced a delayed mobile response of more than 30 minutes. The intensity of the satisfaction was also significantly different across the three types of services. For mobile response, 42.0 percent of the respondents stated that they were "very satisfied," as compared to only 21.0 percent for the expeditor unit and 13.5 percent for the delayed mobile response.

EXHIBIT 13-5

SATISFACTION WITH RESPONSE TIMES
GARDEN GROVE TEST PHASE

Satisfaction Level	Mobile Response (N=293)	Expeditor Response (N=338)	Delayed Mobile Response (N=104)
Very Satisfied	42.0%	21.0%	13.5%
Satisfied	56.0	70.7	70.2
Dissatisfied	1.7	7.4	13.5
Very Dissatisfied	.3	.9	2.8

Response time data for the expeditor unit as displayed in Exhibit 13-6, shows a large difference in the actual average response time of 40.5 minutes, and the citizens' perceptions of the average response time of 104 minutes. Even the median response time of 30 minutes perceived by citizens was more than twice the actual median response time of 13 minutes. Those citizens who were dissatisfied with the response time in which the police called them back had lengthy callback times, an average of 4 hours. Half of the dissatisfied group wanted to be called back within 30 minutes, and 75 percent would have liked to have been called back within an hour.

Among those who received delayed mobile response, the actual average response time was one hour, with half responded to within 56 minutes, and 75 percent within 70 minutes. Citizens' perceptions of average response time for mobile response was 22 minutes longer than the actual average response time. Those who were dissatisfied with the response time they received would have liked a response in half the time. They would have liked an officer out within an average of 25.8 minutes (75 percent wanted one within 30 minutes).

The average length of time in Garden Grove for a mobile response was 17.3 minutes, with half responded to within 15 minutes, and 75 percent within 23 minutes. The citizens' perception of 20.5 minutes for the average response time for mobile response was quite accurate, and their perception of the median time was the same as the actual median time. The six respondents who were dissatisfied with the mobile response time had an average actual response time of 25.3 minutes, eight minutes longer than the average response time for the rest of the mobile respondents. The desired median response time for those who were dissatisfied with the response time was 12.5 minutes, and 75 percent would have liked someone out within 30 minutes.

EXHIBIT 13-6

RESPONSE TIMES FOR ALTERNATIVES GARDEN GROVE TEST PHASE

	Mobile Response (N=293)	Expeditor Response (N=338)	Delayed Mobile Response (N=104)
Actual Response Times			
Average	17.3 min.	40.5 min.	60.0 min.
Median	15.0 min.	13.0 min.	56.0 min.
Citizen Perception of Response Time			
Average	20.5 min.	104.0 min.	82.2 min.
Median	15.0 min.	30.0 min.	60.0 min.
Desired Response Time for Citizens Dissatisfied with Response Time	(N=6)	(N=29)	(N=17)
Average	16.7 min.	52.1 min.	25.8 min.
Median	12.5 min.	30.0 min.	30.0 min.

CONCLUSIONS

The results of the citizen satisfaction surveys conducted during the test phase in Garden Grove may be summarized as follows:

- On the initial conversations with the call takers, the citizen satisfaction levels were very high. For the mobile response group, 98.0 percent stated that they were "satisfied," as compared to 97.3 percent of the expeditor unit group and 99.0 percent of those who experienced a delayed mobile response.

- Citizen satisfaction levels were also high on the services provided. For the mobile response group, 97.0 percent of the respondents expressed satisfaction; 94.7 percent for the expeditor unit respondents, 96.1 percent for delayed mobile responses, and 89.3 percent for walk-in responses.

- There was also high citizen satisfaction with mobile responses by cadets. Of the 16 citizens surveyed, all were satisfied with the services, and 43.7 percent stated that they were "very satisfied."

- Satisfaction with response times showed the greatest variation across the three main alternatives. A

total of 98.0 percent of the mobile response group were satisfied with the response times, as compared to 91.0 percent for the expeditor unit group and 83.7 percent for the delayed mobile response group. For the "very satisfied" category, 42.0 percent of the mobile response group gave this response, 21.0 percent of the expeditor unit group, and only 13.5 percent of the delayed mobile response group. The primary reason for the higher dissatisfaction level given by this latter group was that they were not told a delay might occur.

- Nearly 90 percent of the citizens who had received a walk-in alternative and 80 percent of those who had received expeditor services said that they were willing to use these services again.

CHAPTER 14

ANALYSIS OF CITIZEN SURVEYS DURING TOLEDO TEST PHASE

INTRODUCTION

During the project implementation phase, the new DPR alternatives in Toledo included expanded use of the TRU, delayed mobile responses, walk-in responses, and communications callbacks. For the purpose of the test, a 75 percent/25 percent randomization process was devised by designating one of the four call taker positions as a control position. Any calls received by this position normally eligible for a telephone report were instead sent forward to the dispatcher to receive a mobile response.

There were problems in establishing the test for Toledo due to the fiscal problems of the city during the project. As discussed in Chapter 7, over 200 city employees were laid off during May 1982, of which 30 were civilian employees from the police department, including the civilians then assigned to the TRU. Four officers were transferred to the TRU to continue the process of taking reports over the telephone. Since the sworn force was approximately 25 percent below authorized strength at that time, the department management decided that the volume of calls to the TRU should be increased immediately. The DPR project was in the planning phase and was beneficial in determining what types of calls should be diverted to the TRU.

The DPR test in Toledo started in January 1983. By that time, the new call classification system had been implemented in the communications center and the TRU was experienced in taking reports over the telephone. Establishing the test resulted in a reduction of the unit's workload, since 25 percent of the calls normally eligible for the TRU received a mobile dispatch. By designating one position in the communications center as a control position, comparisons could be made between citizen satisfaction for TRU and mobile response for the same types of calls for service during the test phase.

The citizen surveys generated during the test phase in Toledo were for mobile responses, delayed mobile responses, and TRU responses. The communications callbacks were not surveyed because of their low volume of use. The remainder of this chapter discusses the satisfaction levels for the three alternatives with regard to the initial conversation with the call takers, response time, and the service delivered. Results presented in this chapter on the mobile response alternative are from calls which were processed by the call takers in the control position and would normally have been eligible for a telephone report response. With this approach, there was greater validity in comparing the two alternatives for the same types of calls and similar characteristics of citizens calling the police.

On the demographic characteristics of the respondents during the test phase, 51.8 percent of the mobile response group were males, as compared to 50.0 percent of the delayed mobile group and 59.0 percent of the TRU group. For the characteristic of how many years the respondents had lived in the

jurisdiction, there were also similarities among the groups, with 71.0 percent of the mobile response group having lived in the area for more than 20 years, 62.0 percent of the delayed mobile response group, and 65.1 percent of the TRU group. The percentages for five years or less in the area were 11.0 percent, 13.2 percent, and 15.3 percent, respectively. Similarly, no significant differences were found with the age and income characteristics of the respondents.

CITIZEN SATISFACTION WITH CALL TAKERS AND SERVICE ALTERNATIVES

Satisfaction with Call Takers

Exhibit 14-1 shows a high level of citizen satisfaction with the initial conversation with the call takers. For the mobile response group, 97.4 percent of the respondents stated that they were either "satisfied" or "very satisfied." For delayed mobile responses, the percentage expressing satisfaction was 96.7 percent, and for the TRU group, 96.5 percent expressed satisfaction. Variations were found on the intensity of the level of satisfaction, since 32.0 percent of the mobile response group stated that they were "very satisfied" as compared to only 14.7 percent of the delayed mobile response group.

EXHIBIT 14-1

CITIZEN SATISFACTION WITH CALL TAKERS
TOLEDO TEST PHASE

Satisfaction Level	Mobile Response (N=272)	Delayed Mobile Response (N=122)	TRU (N=437)
Very Satisfied	32.0	14.7%	
Satisfied	65.4	82.0	96.5%
Dissatisfied	2.6	3.3	2.5
Very Dissatisfied	.0	.0	1.0

Note: Because of coding errors, the breakdown for TRU between "Very Satisfied" and "Satisfied" could not be made.

The main reasons given by dissatisfied respondents from the mobile response and delayed mobile response groups were that the call taker had a poor attitude and appeared unconcerned (50.0 percent), and that the patrol unit took too long to arrive (25.0 percent). For the TRU respondents who were dissatisfied with the initial conversation, the main reason given was that they did not get the response they wanted (50.0 percent), which meant that they wanted a patrol unit to be dispatched to the scene.

Citizen Satisfaction with Service

High satisfaction levels were also found with the services provided by the alternatives. For mobile responses, 95.2 percent of the respondents reported satisfaction with the services provided, as compared to 92.6 percent of the delayed mobile response group and 95.9 percent of the TRU group. Differences were found on satisfaction intensity, with 50.7 percent of the mobile response group stating that they were "very satisfied," as compared to 32.8 percent of the delayed mobile response group.

EXHIBIT 14-2

SATISFACTION WITH SERVICE PROVIDED
TOLEDO TEST PHASE

Satisfaction Level	Mobile Response (N=272)	Delayed Mobile Response (N=122)	TRU (N=437)
Very Satisfied	50.7%	32.8%	
Satisfied	44.5	59.8	95.9%
Dissatisfied	4.8	5.7	1.6
Very Dissatisfied	.0	1.6	2.5

Note: Because of coding errors, the breakdown for TRU between "Very Satisfied" and "Satisfied" could not be made.

Dissatisfied respondents ranged from 4.1 percent for the TRU response group to 4.8 percent for the mobile response group and 7.3 percent for the delayed mobile response group. The primary reason for dissatisfaction given for all three alternatives was that the officers did not seem to care about the problem and considered it a routine matter.

Willingness to Use Alternatives in the Future

Respondents were also asked whether they would be willing to use the same service if they had to report a similar incident in the future. Over 90 percent of those who received TRU service said they would be willing to use this type of service again, and 79.8 percent of delayed mobile respondents said they would be willing to have their calls delayed again. One reason given by the 20 percent who said they would not be willing to use delayed mobile response again was that they were not all told the response would be delayed. Nearly half (46.8 percent) said that they were not told or could not remember being told that a delay might occur.

An interesting comparison can be made with citizens in the delayed mobile response group on whether they recalled being told that a delay might occur and whether they would be willing to accept a delay in the

future. Of the respondents who recalled being told that a delay might occur, 91.8 percent stated that they would be willing to accept a delay in the future for a similar type of incident. Of those who did not recall being told, the percentage dropped to 69.2 percent on willingness to accept a future delay. The experiences of these respondents had an obvious effect on what they would be willing to accept in the future.

TYPES OF CALLS FOR ALTERNATIVES

The types of calls for the survey respondents handled by the mobile response units and the TRU alternatives had about the same percentage breakdown because of the randomization procedure. As seen in Exhibit 14-3, most of the calls handled by each alternative were for thefts from motor vehicles (58.2 percent of the mobile response group and 62.0 percent of the TRU group) and criminal damages (29.6 percent of the mobile response group and 27.5 percent of the TRU group). Because the delayed mobile dispatches were not part of the randomization process, their percentages differ from the other two categories. The main types of calls which received a delayed mobile response were for thefts from motor vehicles (21.3 percent), criminal damages (18.0 percent), burglaries (14.8 percent) and traffic accidents (13.1 percent).

EXHIBIT 14-3

TYPES OF CALLS HANDLED BY ALTERNATIVES TOLEDO TEST PHASE

Types of Call	Mobile Response (N=272)	Delayed Mobile Response (N=122)	TRU (N=437)
Theft from Motor Vehicle/ Stolen Car	58.2%	21.3%	62.0%
Criminal Damage	29.6	18.0	27.5
Petty Theft	6.8	7.4	8.7
Burglary-residential or commercial	4.2	14.8	.2
Traffic Accident	1.2	13.1	.0
Public Nuisance	.0	6.6	.0
Person Crimes	.0	8.2	.0
Interpersonal Conflict	.0	.8	.0
Suspicious Activities	.0	4.1	.0
Assistance	.0	2.5	.0
Dependent Person/Runaway	.0	.8	.0
Public Morals	.0	.8	.0
Other Property Crime	.0	.8	.4
Other (medical, internal)	.0	.8	.4

SATISFACTION WITH RESPONSE TIME

Exhibit 14-4 shows that there were differences in satisfaction with response times for the three alternatives. The greatest satisfaction was with the response times of the TRU, with 95.9 percent of the respondents stating that they were "satisfied" or "very satisfied." The percentages were 95.2 percent for mobile responses and 77.1 percent for delayed mobile responses. The intensities of the satisfaction levels differed between the mobile and delayed mobile responses, with 40.4 percent of the mobile response group stating that they were "very satisfied" with response time, compared to only 7.4 percent for the delayed mobile response group.

EXHIBIT 14-4

SATISFACTION WITH RESPONSE TIMES TOLEDO TEST PHASE

Satisfaction Level	Mobile Response (N=272)	Delayed Mobile Response (N=122)	TRU (N=437)
Very Satisfied	40.4%	7.4%	
Satisfied	54.8	69.7	95.9%
Dissatisfied	3.7	18.9	3.7
Very Dissatisfied	1.1	4.1	.9

Note: Because of coding errors, the breakdown for TRU between "Very Satisfied" and "Satisfied" could not be made.

Those who were dissatisfied with their response times were asked how long they thought it should have taken for the police to respond to their calls, or, in the case of telephone response, for the officers to call them back. These desired response times have been listed in Exhibit 14-5 along with the actual response times and the citizens' perceptions of their response times.

Exhibit 14-5 shows response time information for each alternative. For mobile response calls, 25 percent of the calls were responded to within 7 minutes, 50 percent within 12 minutes, and 75 percent within 20 minutes. For delayed mobile response calls, 25 percent were answered within 46 minutes, 50 percent within 54.5 minutes, and 75 percent within 78 minutes. For TRU calls, 25 percent were called back within 14 hours, half were called within 22.7 hours, and 75 percent were reached within 30.3 hours.

The longer response times for the TRU alternative were due to the manual procedure for getting information from the communications center to the unit. Dispatch tickets with the caller information had to be carried to the TRU in a different building from where the communications center was located. TRU officers then had to contact the citizens to take the reports. These calls could have been returned many hours after the initial contact

by the citizen. At the start of the project, it was hypothesized that long response times would have an adverse effect on the satisfaction of citizens with telephone reports. However, the high level of satisfaction in Exhibit 14-4 indicates that satisfaction for Toledo respondents was not related to rapid response by the TRU officers.

Among the dissatisfied respondents in the mobile response group, 25 percent wanted a response within 7.5 minutes, 50 percent within 15 minutes, and 75 percent within 17.5 minutes. Half of the delayed mobile respondents who were dissatisfied wanted a response within 15 minutes, and 75 percent within 30 minutes. Those dissatisfied with TRU service were called back within an average of 2.4 days, which is more than a day longer than the average time in which all TRU respondents were called back. Though over half would have liked to have been called back within 30 minutes, the average time given was 6.5 hours.

EXHIBIT 14-5

RESPONSE TIMES FOR ALTERNATIVES
TOLEDO TEST PHASE

	Mobile Response (N=272)	Delayed Mobile Response (N=122)	TRU (N=437)
Actual Response Time			
Average	15.3 min.	52.7 min.	25.8 hrs.
Median	12.0 min.	54.5 min.	22.7 hrs.
Citizen Perception of Response Time			
Average	22.0 min.	65.0 min.	29.9 hrs.
Median	15.0 min.	45.0 min.	24.0 hrs.
Desired Response Time for Citizens Dissatisfied with Response Time	(N=13)	(N=28)	(N=20)
Average	13.5 hrs.	22.2 min.	6.5 hrs.
Median	15.0 min.	15.0 min.	30.0 min.

CONCLUSIONS

The results of the citizen satisfaction surveys conducted during the test phase in Toledo may be summarized as follows:

- Citizen satisfaction levels with the initial conversations with the call takers were very high. For the mobile response group and for the delayed mobile response group, 97.4 percent of the respondents

stated that they were "satisfied" or "very satisfied." For the TRU group, 96.5 percent expressed satisfaction.

- On the services provided, there was also high satisfaction with all alternatives. For the mobile response group, 95.2 percent expressed satisfaction with the services provided, as compared to 95.9 percent of the TRU group and 92.6 percent of the delayed mobile response group.

- With regard to response time, 95.9 percent of the TRU respondents stated that they were "satisfied" or "very satisfied" with the response time, as were 95.2 percent of the mobile response group, and 77.1 percent of the delayed mobile response group.

- For the TRU respondents in Toledo, the actual median response time of 22.7 hours was considerably longer than the mobile dispatch and delayed mobile dispatch alternatives, which had medians of 10.0 minutes and 54.5 minutes, respectively. However, the long response time for TRU did not adversely affect citizen satisfaction levels with this alternative.

CHAPTER 15

COMPARISONS BETWEEN BASELINE AND TEST PHASE RESULTS OF THE CITIZEN SURVEYS

INTRODUCTION

In the last three chapters, results of the citizen surveys conducted during the test phase have been presented with emphasis on comparisons between test and control conditions. This chapter presents another view of the program by making comparisons between the baseline and test periods. In general, there were improvements between the two periods on satisfaction with the call taker, satisfaction with response time, and satisfaction with services delivered. It was hypothesized that these improvements should occur because of the changes made in the communications centers and in the delivery of services through alternative methods. Because of the experimental design employed for the entire project, these changes represented the only major intervening variables between the two periods. As a result, the validity of the results was increased.

In the remainder of this chapter, there are sections for each of the three sites. The analysis is restricted to comparisons with the mobile response and TRU alternatives, since these accounted for the greatest volume of services delivered across the three sites. For each site, information is provided to show that the baseline and test conditions were similar. The results of the surveys for the two periods are then presented. In some cases, comparisons were not possible because questions were added for the test phase surveys which were not included in the baseline surveys.

GREENSBORO BASELINE AND TEST COMPARISONS

Introduction

For the test in Greensboro, several practical limitations influenced the manner in which the randomization procedure was carried out. As discussed in Chapter 12, the procedure took advantage of the work schedule for the call takers in the communications center. Two of the shift groups were designated as the control group and the other two as the experimental group.

Before making such an arrangement, the two groups were compared to determine whether there were any differences between them that would adversely affect the test. The survey of the call takers showed, for example, that they were similar on the basis of sex and age. Just over 70 percent of each group were males, and the average age of the control group was 33.8 years, as compared to 35.5 years for the experimental group. In addition, both groups had worked in the communications center for an average of approximately eight years, which meant that there was stability between the baseline and test periods on personnel. The only difference found between the two groups was level of education, with 47 percent of the control

group having bachelor's degrees compared to 14.3 percent of the experimental group. It was not believed that this difference had an impact on the test.

For comparisons between the baseline and test surveys, comparability on the demographic characteristics of the surveyed citizens should also be expected. Exhibit 15-1 shows that the demographic characteristics of the citizens who were surveyed after receiving a mobile response are similar in regard to years living in the jurisdiction, age, income, and sex. With years in the jurisdiction, for example, 20.8 percent of the baseline group had lived in the jurisdiction for less than five years, as compared to 19.1 percent of the control group and 15.7 percent of the test group. Exhibit 15-1 also gives the characteristics for citizens who were surveyed after receiving a TRU response. As with the mobile response comparisons, the groups have similar characteristics.

It is also important to examine the types of calls . Exhibit 15-2 gives the major types of calls for the Greensboro mobile response and TRU survey groups for the baseline and the test phases. With the mobile response group, the types of calls have generally the same percentage distribution between the baseline period and control days. For the mobile response group during the baseline phase, the main types of calls were for crimes against property (29.4 percent) followed by traffic accidents (19.2 percent), public nuisance calls (14.3 percent), and suspicious circumstances (13.3 percent). During the control days, the proportion breakdown of calls is about the same, with the exception of slightly fewer traffic-related calls and slightly more public nuisance calls.

Greater differences can be seen with the breakdown of calls during the experimental days, in which there were a substantially lower proportion of crimes against property (24.6 percent) and a higher proportion of suspicious circumstances calls (19.8 percent) and public nuisance calls (21.1 percent). This difference can be attributed to the impact of the alternatives, which relieved workload and thus changed the percentage distribution of calls handled by mobile responses. This impact is seen in the bottom portion of Exhibit 15-2, which gives the distribution of calls handled by the TRU. The percentages between the baseline period and the control days are very close. For example, the main category of property offenses accounted for 61.4 percent of the baseline surveys and 60.9 percent of the control day surveys. During the experimental days, this percentage dropped to 55.0 percent, since many other types of calls were handled by the TRU; and the percentage of calls in the "other" and "assistance" categories increased substantially to 10.5 percent and 5.5 percent respectively.

Citizen Satisfaction Results

On the mobile response surveys, questions were asked about the conversations with the call takers in both the baseline and test phases. Exhibit 15-3 shows the results of these questions and indicates improvement between the two phases. The percentage of citizens expressing dissatisfaction changed very little from 4.9 percent during the baseline period to 4.1 percent for the control group and 4.8 for the experimental group. However, there were changes in the degree of satisfaction. During the baseline period, 39.9 percent of the respondents stated that they were "very

EXHIBIT 15-1

CHARACTERISTICS OF RESPONDENTS IN GREENSBORO

	Mobile Response			Telephone Report Unit		
		Test Phase			Test Phase	
	Baseline Group (N=1,235)	Control Group (N=775)	Exp. Group (N=729)	Baseline Group (N=798)	Control Group (N=312)	Exp. Group (N=503)
Years in Jurisdiction						
1 - 5 Years	20.8%	19.1%	15.7%	20.3%	23.4%	21.8%
6 - 20 Years	28.7	30.7	29.9	36.2	31.8	36.0
More than 20 Years	50.5	50.2	54.4	43.5	44.8	42.2
Age						
18-25 Years Old	21.4	17.7	18.5	21.2	23.5	21.9
26-35 Years Old	31.3	29.3	29.1	31.5	27.8	31.1
36-45 Years Old	19.5	21.6	19.2	20.3	21.9	18.5
46-55 Years Old	11.2	11.9	13.6	13.5	10.2	15.1
More than 55 Years	16.6	19.5	19.6	13.5	16.6	13.4
Income						
Less than $10,000	32.5	38.3	40.2	23.9	31.6	30.5
$10,000-$20,000	33.1	29.8	29.0	31.1	28.7	28.9
More than $20,000	34.4	31.9	30.8	45.0	39.7	40.6
Sex						
Male	42.5	35.7	33.9	47.4	42.0	44.7
Female	57.5	64.3	66.1	52.6	58.0	55.3

EXHIBIT 15-2

TYPES OF CALLS FOR BASELINE AND TEST PHASES IN GREENSBORO

Mobile Response

Types of Calls	Baseline Group (N=1,235)	Test Phase: Control Group (N=775)	Test Phase: Exp. Group (N=729)
Crimes Against Persons	3.1%	4.0%	5.1%
Interpersonal Conflict	10.2	10.0	11.9
Crimes Against Property	29.4	33.1	24.6
Traffic Accidents	19.2	12.4	10.7
Public Nuisance	14.3	17.3	21.1
Suspicious Circumstances	13.3	13.7	19.8
Assistance	7.2	6.5	3.4
Other (Dependent Person, Public Morals, Misc.)	3.3	3.0	3.4

Telephone Report Unit

Types of Calls	Baseline Group (N=798)	Test Phase: Control Group (N=312)	Test Phase: Exp. Group (N=523)
Crimes Against Property	61.4%	60.9%	55.0%
Public Nuisance	8.0	6.7	5.0
Vandalism	17.5	16.4	16.9
Dependent Person	6.1	9.6	7.1
Assistance	3.5	1.9	5.5
Other (Suspicious Activities, Interpersonal Conflict)	3.5	4.5	10.5

EXHIBIT 15-3

SATISFACTION WITH CALL TAKERS IN GREENSBORO BASELINE AND TEST PHASES

Mobile Response

Satisfaction Level	Baseline Group (N=1,235)	Test Phase: Control Group (N=775)	Test Phase: Exp. Group (N=729)
Very Satisfied	39.9%	47.4%	52.3%
Satisfied	55.2	48.5	42.9
Dissatisfied	4.0	3.2	3.3
Very Dissatisfied	.9	.9	1.5

EXHIBIT 15-4

SATISFACTION WITH RESPONSE TIME IN GREENSBORO BASELINE AND TEST PHASES

Mobile Response

Satisfaction Level	Baseline Group (N=1,235)	Test Phase: Control Group (N=775)	Test Phase: Exp. Group (N=729)
Very Satisfied	36.6%	43.0%	51.3%
Satisfied	53.4	45.5	36.2
Dissatisfied	8.8	9.8	10.3
Very Dissatisfied	1.2	1.7	2.2

satisfied," while during the test phase, this percentage increased to 47.4 percent for the control group and 52.3 percent for the experimental group. Improvement was expected, since the call takers had implemented the new call classification procedures and had received training in the new system. Significant differences between the control and experimental group during the test phase were not expected, since all call takers had received the training during the project and had switched to the new system.

On the mobile response surveys, there was also a question on satisfaction with response times. Exhibit 15-4 shows a slight increase in dissatisfaction, with 10.0 percent of the baseline group expressing dissatisfaction with the response time, compared to 11.5 percent for the control group and 12.5 for the experimental group. However, there were also increases in the percent of respondents stating that they were "very satisfied," with 36.6 percent in the baseline group giving this response, compared to 43.0 percent of the control group and 51.3 percent of the experimental group.

The TRU surveys in both the baseline and test phases included a question on satisfaction with the service provided. As seen in Exhibit 15-5, the percentage of dissatisfaction with service stayed about the same, with 8.8 percent of the baseline group expressing dissatisfaction, 5.4 percent of the control group, and 8.6 percent of the experimental group. However, there was a significant improvement in the "very satisfied" category, with 25.1 percent of the baseline group giving this response, and increases to 56.1 percent of the control group and 60.4 percent of the experimental group.

GARDEN GROVE BASELINE AND TEST COMPARISONS

Introduction

The experiment in Garden Grove differed from Greensboro in two major respects. First, the randomization took advantage of the CAD system, so that there was automatic assignment between the expeditor unit and the mobile response alternatives. Thus, there was no need to divide the call takers into control and experimental groups. Second, the department did not take telephone reports prior to the project. Surveys of this alternative prior to the project were, therefore, not possible. With these differences in mind, the comparisons presented in this section are for the mobile response survey during the baseline and test phases and the expeditor unit during the test phase.

For these three groups, Exhibit 15-6 shows the demographic characteristics of the respondents to the surveys conducted during the evaluation. With regard to years in the jurisdiction, there were some differences, with 46.1 percent of the respondents during the baseline phase in the area for less than five years, compared to 36.5 percent of the mobile respondents in the test phase and 38.4 percent of the expeditor unit respondents. Thus, the respondents during the test phase tended to have been in the area for fewer years than respondents in the baseline phase.

EXHIBIT 15-5

SATISFACTION WITH SERVICE IN GREENSBORO BASELINE AND TEST PHASES

Telephone Report Unit

Satisfaction Level	Baseline Group (N=798)	Test Phase: Control Group (N=312)	Test Phase: Exp. Group (N=503)
Very Satisfied	25.1%	56.1%	60.4%
Satisfied	66.1	38.5	31.0
Dissatisfied	7.9	3.2	7.0
Very Dissatisfied	.9	2.2	1.6

EXHIBIT 15-6

CHARACTERISTICS OF RESPONDENTS IN GARDEN GROVE

	Mobile Response: Baseline Group (N=1,990)	Mobile Response: Test Group (N=293)	Expeditor Unit: Test Group (N=338)
Years in Jurisdiction			
1 - 5 Years	46.1%	36.5%	38.4%
6 - 20 Years	38.9	39.9	42.9
More than 20 Years	14.6	23.6	18.7
Age			
18-25 Years Old	23.5	25.8	23.8
26-35 Years Old	29.4	24.7	29.1
36-45 Years Old	19.7	21.6	18.6
46-55 Years Old	14.3	12.9	15.0
More than 55 Years	13.1	15.0	13.5
Income			
Less than $10,000	17.6	12.2	14.2
$10,000-$20,000	26.2	23.9	24.9
More than $20,000	56.2	63.9	60.9
Sex			
Male	49.1	54.1	50.3
Female	50.9	45.9	49.7

Note: Expeditor unit did not exist during baseline phase.

With regard to the other characteristics of age, income, and sex, fewer differences were found. For example, the percentage distribution of the three sets of respondents on age are very close. With income, 56.2 percent of the baseline phase respondents made more than $20,000; 63.9 percent of the mobile response group in the test phase were in this category; and 60.9 percent of the expeditor unit group. Similarly, males comprised 49.1 percent of the respondents during the baseline phase, 54.1 percent of the mobile respondents in the test phase, and 50.3 percent of the expeditor unit respondents.

In summary, except for the variable of years living in the jurisdiction, the characteristics of the respondents across the three sets of surveys were similar.

Citizen Satisfaction Results

Exhibit 15-7 shows the results of the question on satisfaction with the initial conversation with the call takers. The percentage of respondents expressing dissatisfaction decreased from 5.6 percent during the baseline period for mobile responses, to 2.0 percent during the test phase and 2.7 percent for the expeditor unit respondents. With the category of "very satisfied," the percentages were about the same for the mobile response alternative, with 50.9 percent during the baseline phase and 46.8 percent during the test phase. However, only 32.2 percent of the expeditor unit respondents stated that they were "very satisfied" with the conversation with the call takers.

Exhibit 15-8 shows the changes in satisfaction with response time between the two phases. During the baseline phase, 10.3 percent of the respondents stated that they were "dissatisfied" with the response times of the mobile units. Improvements were made in this area in the test phase, with only 2.0 percent of the test phase mobile response group expressing dissatisfaction. For the expeditor unit alternative, 8.3 percent expressed dissatisfaction with the response times. In the "very satisfied" category, there were 45.8 percent of the mobile response group during the baseline phase, compared to 42.0 percent during the test phase, which represents only a slight decrease in this satisfaction level. However, only 21.0 percent of the expeditor unit group stated that they were "very satisfied" with the response times they received.

An analysis using the test phase data showed that the actual median response times were 15.0 minutes for mobile responses and 13.0 minutes for the expeditor unit. However, the perceived median response times of citizens were 15.0 minutes for mobile responses and 30.0 minutes for the expeditor unit. The perceptions of citizens were very accurate for the mobile responses, but were more than twice as long for the expeditor unit. With the procedure in Garden Grove, the citizens waited for the expeditor unit officer to return the call, and this waiting period may have been exaggerated by the citizens. It should also be noted that the <u>average</u> response time for the expeditor unit was 40.5 minutes, which means that there were occasions in which there was a delay in contacting the citizen.

EXHIBIT 15-7

SATISFACTION WITH CALL TAKERS IN GARDEN GROVE BASELINE AND TEST PHASES

	Mobile Response		Expeditor Unit
Satisfaction Level	Baseline Group (N=1,990)	Test Group (N=293)	Test Group (N=338)
Very Satisfied	50.9%	46.8%	32.2%
Satisfied	43.5	51.2	65.1
Dissatisfied	5.2	2.0	2.4
Very Dissatisfied	.4	.0	.3

EXHIBIT 15-8

SATISFACTION WITH RESPONSE TIME IN GARDEN GROVE BASELINE AND TEST PHASES

	Mobile Response		Expeditor Unit
Satisfaction Level	Baseline Group (N=1,990)	Test Group (N=293)	Test Group (N=338)
Very Satisfied	45.8%	42.0%	21.0%
Satisfied	43.9	56.0	70.7
Dissatisfied	8.9	1.7	7.4
Very Dissatisfied	1.4	.3	.9

TOLEDO BASELINE AND TEST COMPARISONS

Introduction

The Toledo test phase was similar to that in Greensboro, since one of the four main positions in the communications center was designated as the control position. Any calls received at this position normally eligible for a telephone report were instead sent forward to the dispatcher to receive a mobile response. The personnel in the communications center rotated through this position over a period of time, so that any differences in the characteristics of the call takers did not affect the test.

The analysis presented in this section is a "before/during" comparison on satisfaction with mobile responses and with telephone report responses. For the mobile responses, comparisons are made between the surveys conducted during the baseline phase, as presented in Chapter 11, and surveys conducted during the test phase of citizens who had received services from the three experimental positions. There were few differences between the types of calls made by the baseline and test phase respondents. Comparisons between the two groups is thus a good indicator of whether there were changes over time in the satisfaction levels of citizens.

For the telephone report responses, comparisons are made between the surveys conducted during the baseline phase and surveys conducted during the test phase. During the test phase, there were many more types of calls which were being handled by telephone report unit personnel. In addition, the unit staffing was changed from civilian to officer personnel. Thus, the changes in satisfaction levels between these two periods are reflective of these changes.

Exhibit 15-9 shows that, with respect to the demographic characteristics of the respondents, there were very few differences. For example, 73.0 percent of the citizens who received a mobile response during the baseline phase had lived in the area for more than 20 years, as compared to 68.9 percent of the test phase respondents. No major differences were found with the income, age, and sex variables for the mobile response group. For the telephone report respondents, 68.7 percent of the baseline group had lived in Toledo for more than 20 years, as compared to 65.1 percent of the test group. There were no major differences with the age and income variables. However, in regard to sex, males comprised 49.7 percent of the baseline group and 59.0 percent of the test group.

Citizen Satisfaction Results

Exhibit 15-10 shows the results for the questions in the mobile response surveys on satisfaction with the call takers. The percentage of respondents expressing dissatisfaction decreased between the two phases from 6.5 percent in the baseline phase to 3.2 percent during the test phase. The percentage stating that they were "very satisfied" decreased from 28.2 percent during the baseline period to 23.5 percent during the test period.

EXHIBIT 15-9

CHARACTERISTICS OF RESPONDENTS IN TOLEDO

	Mobile Response		Telephone Report Unit	
	Baseline Group (N=1,558)	Test Group (N=217)	Baseline Group (N=1,770)	Test Group (N=437)
Years In Jurisdiction				
1 - 5 Years	8.4%	10.3%	12.5%	15.3%
6 - 20 Years	18.6	20.9	18.8	19.6
More than 20 Years	73.0	68.9	68.7	65.1
Age				
18-25 Years Old	18.8	15.6	21.8	24.0
26-35 Years Old	30.0	36.0	29.7	35.1
36-45 Years Old	21.7	19.9	20.8	18.3
46-55 Years Old	11.7	11.5	12.7	11.8
More than 55 Years	17.8	17.0	15.0	10.8
Income				
Less than $10,000	42.0	40.0	22.8	17.1
$10,000-$20,000	30.4	33.0	31.3	42.3
More than $20,000	27.6	27.0	45.9	40.6
Sex				
Male	36.2	42.9	49.7	59.0
Female	63.8	57.1	50.3	41.0

There were also improvements in the satisfaction of citizens with response time. As seen in Exhibit 15-11, the percentage of dissatisfied citizens changed from 15.4 percent in the baseline phase to 8.7 percent for the test phase. The percentage stating that they were "very satisfied" stayed virtually the same at 33.1 percent during the baseline period and 33.2 percent during the test phase.

Finally, for satisfaction with TRU service, Exhibit 15-12 shows that 89.8 percent of the baseline group stated that they were "satisfied." This percentage increased to 95.9 percent during the test phase. These figures represent a significant drop in dissatisfaction with the TRU, from 10.2 percent in the baseline period to only 4.1 percent during the test phase.

CONCLUSIONS

The results of the citizen satisfaction surveys comparing the test phase of the experiment to the baseline phase can be summarized as follows:

- During the test phase in Greensboro, a greater number of citizens surveyed felt "very satisfied" with the call takers, response time, and TRU than did citizens during the baseline period. Those indicating they were "very satisfied" with call takers increased 12.4 percent during the experiment; those "very satisfied" with response time increased 14.7 percent; and those "very satisfied" with TRU increased 35.3 percent.

- Overall satisfaction of citizens in Garden Grove with call takers, response time, and expeditor service remained high when comparing the test phase to the baseline period. The number of recipients of mobile response who were dissatisfied with call takers and response time decreased significantly during the test phase.

- In Toledo, there was a significant increase during the test period in the number of service recipients indicating satisfaction with the call takers, response time, and TRU. The percent increase in satisfaction from the baseline to the test period was 3.3 percent for satisfaction with call takers, 6.7 percent for satisfaction with response time, and 6.1 percent for satisfaction with TRU.

EXHIBIT 15-10

SATISFACTION WITH CALL TAKERS IN TOLEDO BASELINE AND TEST PHASES

	Mobile Response	
Satisfaction Level	Baseline Group (N=1,558)	Test Group (N=217)
Very Satisfied	28.2%	23.5%
Satisfied	65.3	73.3
Dissatisfied	4.9	2.7
Very Dissatisfied	1.6	.5

EXHIBIT 15-11

SATISFACTION WITH RESPONSE TIME IN TOLEDO BASELINE AND TEST PHASES

	Mobile Response	
Satisfaction Level	Baseline Group (N=1,558)	Test Group (N=217)
Very Satisfied	33.1%	33.2%
Satisfied	51.5	58.1
Dissatisfied	12.0	8.2
Very Dissatisfied	3.4	.5

EXHIBIT 15-12

SATISFACTION WITH SERVICE IN TOLEDO BASELINE AND TEST PHASES

	Telephone Report Unit	
Satisfaction Level	Baseline Group (N=1,770)	Test Group (N=437)
Very Satisfied	31.8%	
Satisfied	58.0	95.9
Dissatisfied	7.7	1.6
Very Dissatisfied	2.5	2.5

Note: Because of coding errors, the breakdown between "Very Satisfied" and "Satisfied" could not be made.

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APPENDICES

Telecommunicator Survey Questions

Greensboro Patrol Survey

Baseline Mobile Response Survey

Test Delayed Mobile Response Survey

Test Mobile Response Survey

Test Expeditor Unit Survey

TELECOMMUNICATOR SURVEY QUESTIONS

1. My work surroundings provide me with a pleasant atmosphere.

2. The majority of my co-workers are highly supportive and help me with my job.

3. The assignments in this section are clearly defined and logically structured.

4. Formalities and procedures slow our performance down.

5. Training for the Differential Police Response Project was timely and beneficial.

*6. I am now as confident handling calls for service using the new call intake procedure as I was before.

*7. The new call intake procedure requires me to pay more attention to the caller.

8. I feel that I am a member of a well-functioning team.

9. Ordinarily there is little deviation from standard policies and procedures in this section.

10. Things often seem pretty disorganized around here.

11. I generally have a good understanding of the changes in policies and procedures affecting my job.

*12. I have a good understanding of changes in policies and procedures caused by the Differential Police Response Project.

*13. Differential Police Response changes have been adequately communicated to patrol officers in the field.

14. The Differential Police Response Project has <u>not</u> improved the operations of the Communications section.

*15. I feel I have an adequate understanding of the purpose and objectives of the Differential Police Response Project.

16. Telecommunicators generally have a good working relationship with patrol officers in the field.

17. I consider my work surroundings to be as pleasant as they could be.

18. I feel that I have adequate equipment (CRT's, desks, chairs, etc.) to carry out my job.

19. My feeling is that as a group, the Communications section has a good reputation with patrol officers in the field.

**20. My supervisor knows enough about my performance to evaluate me.

**21. I think that the process of evaluating my performance is fair and adequate.

22. The supervisors express appreciation when telecommunicators do a good job.

*23. Supervision and monitoring of my activities under the Differential Police Response Project have been adequate.

24. I frequently get discouraged with my job.

25. The assignments for the Differential Police Response Project were clearly defined and logically structured.

*26. The new communications manual has been helpful to me in carrying out my job duties.

27. The Differential Police Response Project interfered with my ability to carry out the normal job duties of a telecommunicator.

28. The Differential Police Response Project has improved relations between telecommunicators and patrol officers in the field.

29. This job has had a bad effect on my health.

30. I often have problems carrying out my job because of the noise level.

31. My job requires me to work hours that are too long.

**32. I regard the telecommunicator job as a career position.

33. Now that the Differential Police Response Project has been implemented, the Department is continuing to meet the needs of the citizens.

34. I consider some of my co-workers here to be trusted friends.

35. The primary field dispatch position(s) is(are) often so overloaded with radio traffic that we could use another field dispatch position.

36. I often have to unnecessarily repeat the same call information to field officers once they arrive at the scene because they do not record or remember the information.

*37. While dispatching under the Differential Police Response Project, I feel I can give more complete and better information to patrol officers than before.

38. How satisfied are you with your pay?
A. Completely satisfied B. Generally satisfied C. Not too satisfied D. Dissatisfied E. Very dissatisfied

39. How often in the last few months have your activities given you satisfaction?
A. Almost never B. Seldom C. Sometimes D. Often E. Almost always

40. How often does your supervisor offer new ideas for solving job-related problems?
A. Almost never B. Seldom C. Sometimes D. Often E. Almost always

41. When decisions are being made, to what extent are the persons affected asked for their ideas?
A. Almost never B. Seldom C. Sometimes D. Often E. Almost always

42. How satisfied do you feel with the progress you have made in the department up to now?
A. Very satisfied B. Somewhat satisfied C. Slightly satisfied D. Not very satisfied E. Not at all satisfied

43. How satisfied do you feel with your chances for getting ahead in this organization in the future?
A. Very satisfied B. Somewhat satisfied C. Slightly satisfied D. Not very satisfied E. Not at all satisfied

44. When you respond to a situation, how much of what you do is the result of your own judgment or discretion (as opposed to just following orders or doing what the policy requires)?
A. Almost no discretion or judgment B. Some discretion or judgment C. Often use discretion or judgment D. Almost always E. Always

OPEN-ENDED QUESTIONS. WRITE IN ANSWERS ON ANSWER SHEET PAGE 2.

45. What things do you particularly like about your job (co-worker comraderie, work hours, safety, etc.)?

46. What things do you not like about the job? What would you change if you could? Please be very specific.

***47. Some environmental changes have been made in communications recently, such as the addition of air filters, increased maintenance, and plans for a window. Do you feel these changes have helped the work conditions in communications?

47(a) Are there any changes in the general esthetic work conditions that are still needed?

48. Any comments on how training could be improved?

49. Any other comments about Communications?

*50. What are the major advantages of the new call intake procedure?

*51. What are the major disadvantages of the new call intake procedure?

52. What things do you like about the Differential Police Response Project?

53. What things do you <u>not</u> like about the Project?

54. Any comments on how training for the Project could have been improved?

55. Any other comments about the Project?

*New Question.
**Not included in Garden Grove survey.
***Added in Garden Grove only.

GREENSBORO PATROL SURVEY

Please take a few minutes to complete this brief questionnaire as candidly as you can. The answers will provide important information for the DPR Project evaluation. We appreciate your time and assistance.

Sincerely,

RESEARCH MANAGEMENT ASSOCIATES

PLEASE INDICATE THE EXTENT OF YOUR AGREEMENT OR DISAGREEMENT WITH THE FOLLOWING STATEMENTS BY PLACING AN "X" IN THE APPROPRIATE COLUMN.

	Agree Strongly	Agree Somewhat	Disagree Somewhat	Disagree Strongly
1. I currently receive accurate information about the location of a call to enable me to find the address rapidly (exclusive of travel time).	____	____	____	____
2. Based on information from the dispatcher, when I arrive at the scene, I generally find the description of the crime or situation to be correct.	____	____	____	____
3. Based on information from the dispatcher, when I arrive at the scene, I am generally able to locate the caller.	____	____	____	____
4. There is enough detail provided in the radio transmission so that I have a good idea of what to expect at the scene before I arrive at the following:				
a) In-progress Part I Crimes	____	____	____	____
b) Suspicious activity calls	____	____	____	____
c) Domestic disputes	____	____	____	____
5. My <u>self-initiated</u> REPORTS have increased in February, March, and April 1983 as compared to last year (February, March, and April 1982).	____	____	____	____

	Agree Strongly	Agree Somewhat	Disagree Somewhat	Disagree Strongly
6. My self-initiated ARRESTS have increased in February, March, and April 1983 as compared to last year (February, March, and April 1982).	____	____	____	____
7. My self-initiated FIELD INTERVIEWS have increased in February, March, and April 1983 as compared to last year (February, March, and April 1982).	____	____	____	____
8. Since the implementation of the DPR Project, I find that I receive more information about calls for service.	____	____	____	____
9. Please provide your opinion of the department's use of each of the below alternatives to immediate mobile response to calls for service.				
The following alternatives have proved to be beneficial:				
a) Delayed Mobile Response	____	____	____	____
b) Civilian Response (e.g. Evidence Specialist or Community Service Specialist	____	____	____	____
c) Internal Referral (e.g. call handled by Youth Division or Detectives)	____	____	____	____
d) Mail-In Response (e.g. forms at malls)	____	____	____	____
e) Citizen Walk In to Report at Headquarters	____	____	____	____
f) Expanded use of Telephone Report Unit	____	____	____	____
10. Dispatching in Plain English, rather than 10-codes has provided:				
a) more information	____	____	____	____
b) clearer information	____	____	____	____

11. For dispatching, I prefer (please circle your choice):

(a) Plain English (b) 10-codes (c) No Preference

12. Please briefly describe any problems you have encountered with any of the above alternatives.

_____

_____

_____

_____

13. FOR SERGEANTS AND SQUAD LEADERS ONLY.

How has implementation of DPR helped or hindered training of new officers?

_____

_____

_____

_____

PLEASE CHECK APPROPRIATE SPACE.

14. What is your rank?

_____ Sergeant _____ Patrol Officer

15. Where are you presently assigned?

_____ Division _____ Squad

16. How many years have you worked for the police department? _____

BASELINE

Mobile Response Survey

POLICE RESPONSE DATA

First, I would like to ask you a few questions about the incident which prompted you to call the police.

1. Briefly, could you tell me about the incident?

_____

_____

_____

1A. Respondent's relationship to the incident:

1. Victim of a crime.
2. Person Needing assistance.
3. Third party/witness.
4. Representative of a victimized business/agency.
5. Representative of a business/agency needing assistance.

45 ___

2. How long was it before you called the police after (discovering) the incident?

___ days/ ____ hours / __1__ minutes.

46 – X – – X – –

3. Let me ask you about the initial phone call to the police. Overall, how satisfied were you with the manner in which the police telephone operator handled your call? Were you:

READ: 1. Very Satisfied → GO TO Q. 4
2. Satisfied
3. Dissatisfied
4. Very Dissatisfied

52 ___

3A. IF DISSATISFIED: Why were you dissatisfied with this response by the police operator?

_____ – –

_____ – –

_____ – –

– –

– –

LIST UP TO FIVE CODES FROM THE ATTACHED CODES FOR QUESTION 3A WHICH DESCRIBE WHY CALLER WAS DISSATISFIED.

___ ___ ___ ___ ___

Mobile Response Survey

4. Can you tell me how many officers came in response to your call?

   1. 1 Officer
   2. 2 Officers
   3. 3 Officers
   4. More than 3 Officers
   5. Don't Recall

63 ____

5. After you called, how long did it take before the police arrived?

   ____ hours / ____ minutes

64 ____ 'X' ____

6. How satisfied were you with this response time by the police?

   1. Very Satisfied
   2. Satisfied

68 ____

   3. Dissatisfied
   4. Very Dissatisfied

   → 6A. How long did you think it should have taken for the police to respond? ____ minutes (SKIP TO Q. 8)

69 ____

7. Would you have been agreeable to a delay in their arrival for a longer period of time, say:

   • More than an hour but on the same day?

     2. No 1. Yes → SKIP TO Q. 8

71 ____

   • Up to an hour more?

     2. No 1. Yes → SKIP TO Q. 8

72 ____

   • Up to 30 minutes more?

     2. No 1. Yes → SKIP TO Q. 8

73 ____

   • Up to 15 minutes more?

     2. No 1. Yes

74 ____

8. I would like to ask you about some other options. For example, would you have agreed to:

- Someone taking your complaint over the phone and writing a report rather than an officer coming out in person?

  1. Yes 2. No 3. Don't Know

75 ____

- Arranging an appointment for an officer to come at a later time?

  1. Yes 2. No 3. Don't Know

76 ____

- Would you have been willing to have a report form mailed to you to be completed and mailed back to the police department?

  1. Yes 2. No 3. Don't Know

77 ____

- Would you have been willing to come to the police department to file your complaint rather than a police officer coming out to see you?

  1. Yes 2. No 3. Don't Know

78 ____

PERSONAL DATA

Now just a few questions about yourself so that the overall survey findings will be more useful to ourselves and the department.

About how many times have you called the police over the past year?

0. None
1. Once
2. Twice
3. Three or more
4. Don't Recall.

79 ____

How long have you lived in (the area of) Greensboro?

1. Less than 1 year
2. 1 to 2 years
3. 3 to 5 years
4. 6 to 10 years
5. 11 to 20 years
6. 21 to 30 years
7. More than 30 years
8. Don't Recall
9. Refuse to Answer

80 ____

What type of residence do you live in?

1. Single Family Residence
2. Duplex
3. Apartment
4. Mobile Home
5. Other type of residence: _____
6. Refused to answer

81

Would you mind telling me your age?

1. 18-25 years old
2. 26-35 years old
3. 36-45 years old
4. 46-55 years old
5. 56 years old or more
6. Refused to answer

82

Can you tell me if your family income is:

1. Less than $10,000
2. Between $10,000 and $20,000
3. More than $20,000
4. Refused to answer

83

Finally, has the overall manner in which the police department responded to your complaint affected your opinion about the department? That is, would you say your opinion is now:

1. About the same
2. More favorable
3. More unfavorable
4. Don't Know

84

That's all the questions I have. Thank you very much for your time and help. Your answers will be of great assistance to our study of police services.

DO NOT ASK:

Respondent's Sex: 1. Male 2. Female

85

INTERVIEWER COMMENTS: _____

TEST

Delayed Mobile Response Survey

POLICE RESPONSE DATA

First, I would like to ask you a few questions about the incident which prompted you to call the police.

1. Briefly, could you tell me about the incident?

_____

_____

_____

2. Let me ask you about the initial phone call to the police. Overall, how satisfied were you with the manner in which the police telephone operator handled your call? Were you:

READ: 1. Very satisfied
2. Satisfied → GO TO Q. 3 ____
3. Dissatisfied
4. Very Dissatisfied

2A. IF DISSATISFIED: Why were you dissatisfied with this response by the police operator?

_____

_____

_____

3. After you called, how long did it take before the police arrived?

_____ hours / _____ minutes ____

4. How satisfied were you with this response time by the police?

1. Very Satisfied
2. Satisfied

____

3. Dissatisfied
4. Very Dissatisfied

→ 4A. How long did you think it should have taken for the police to respond? _____ minutes ____

5. The response for your call for service was delayed. Did the police telephone operator advise you that your call was going to be delayed?

   1. Yes 2. No 3. Don't know

6. If you were to report the same type of incident again, would you be willing to have the response to your call delayed like it was on this call?

   1. Yes 2. No 3. Don't know

I would like to ask you a few questions about the conversation you had with the police officer that responded to your call.

7. Do you think that the police officer expressed interest in what you had to say?

   1. Yes 2. No 3. Don't know

8. Do you think that the police officer was accurate and clear during this conversation?

   1. Yes 2. No 3. Don't know

9. Overall, how satisfied were you with the service provided by the officer?

   1. Very Satisfied → GO TO Q. 10
   2. Satisfied → GO TO Q. 10
   3. Dissatisfied
   4. Very Dissatisfied

   → 9A. IF DISSATISFIED: Why were you dissatisfied with the service?

_____

_____

_____

And now I would like to ask you a question about another method of handling your call.

10. Would you have agreed to someone taking your complaint over the phone and writing a report rather than an officer coming out in person?

    1. Yes 2. No 3. Don't know

Delayed Mobile Response Survey

PERSONAL DATA

Just a few questions about yourself so that the overall survey findings will be more useful to ourselves and the department.

About how many times have you called the police over the past year?
0. None
1. Once
2. Twice
3. Three or more
4. Don't Recall

How long have you lived in the area?
1. Less than 1 year
2. 1 to 2 years
3. 3 to 5 years
4. 6 to 10 years
5. 11 to 20 years
6. 21 to 30 years
7. More than 30 years
8. Don't Recall
9. Refused to Answer

What type of residence do you live in?
1. Single Family Residence
2. Duplex
3. Apartment
4. Mobile Home
5. Other Type of Residence: _____
6. Refused to Answer

Would you mind telling me your age?
1. 18 - 25 years old
2. 26 - 35 years old
3. 36 - 45 years old
4. 46 - 55 years old
5. 56 - 65 years old
6. 66 years old or more
7. Refused to Answer

Can you tell me if your family income is:
1. Less than $10,000
2. Between $10,000 and $20,000
3. More than $20,000
4. Refused to answer

That's all the questions I have. Thank you very much for your time and help. Your answers will be of great assistance to our study of police services.

DO NOT ASK:
Respondent's Sex: 1. Male 2. Female

INTERVIEWER COMMENTS: _____

January 1983

Mobile Response Survey

POLICE RESPONSE DATA

First, I would like to ask you a few questions about the incident which prompted you to call the police.

1. Briefly, could you tell me about the incident?

_____

_____

_____

2. Let me ask you about the initial phone call to the police. Overall, how satisfied were you with the manner in which the police telephone operator handled your call? Were you:

READ: 1. Very satisfied
2. Satisfied → GO TO Q. 3 ____
3. Dissatisfied
4. Very Dissatisfied

2A. IF DISSATISFIED: Why were you dissatisfied with this response by the police operator?

_____

_____

_____

3. After you called, how long did it take before the police arrived?

_____ hours / _____ minutes ____

4. How satisfied were you with this response time by the police?

1. Very Satisfied
2. Satisfied → GO TO Q. 5 ____
3. Dissatisfied
4. Very Dissatisfied

4A. How long did you think it should have taken for the police to respond? _____ minutes (SKIP TO Q. 6) __

5. Would you have been agreeable to a delay in their arrival for a longer period of time, say:

   • Up to an hour more?

   2. No 1. Yes → SKIP TO Q.6 ____

   • Up to 30 minutes more?

   2. No 1. Yes ____

I would like to ask you a few questions about the conversation you had with the police officer that responded to your call.

6. Do you think that the police officer expressed interest in what you had to say?

   1. Yes 2. No 3. Don't know ____

7. Do you think that the police officer was accurate and clear during this conversation?

   1. Yes 2. No 3. Don't know ____

8. Overall, how satisfied were you with the service provided by the officer?

   1. Very Satisfied
   2. Satisfied → GO TO Q. 9 ____
   3. Dissatisfied
   4. Very Dissatisfied

   8A. IF DISSATISFIED: Why were you dissatisfied with the service?

   _____

   _____

   _____

And now I would like to ask you a question about another method of handling your call.

9. Would you have agreed to someone taking your complaint over the phone and writing a report rather than an officer coming out in person?

   1. Yes 2. No 3. Don't know ____

PERSONAL DATA

Now just a few questions about yourself so that the overall survey findings will be more useful to ourselves and the department.

About how many times have you called the police over the past year?
0. None
1. Once
2. Twice
3. Three or more
4. Don't Recall

How long have you lived in the area?
1. Less than 1 year
2. 1 to 2 years
3. 3 to 5 years
4. 6 to 10 years
5. 11 to 20 years
6. 21 to 30 years
7. More than 30 years
8. Don't Recall
9. Refused to Answer

What type of residence do you live in?
1. Single Family Residence
2. Duplex
3. Apartment
4. Mobile Home
5. Other Type of Residence: _____
6. Refused to Answer

Would you mind telling me your age?
1. 18 - 25 years old
2. 26 - 35 years old
3. 36 - 45 years old
4. 46 - 55 years old
5. 56 - 65 years old
6. 66 years old or more
7. Refused to Answer

Can you tell me if your family income is:
1. Less than $10,000
2. Between $10,000 and $20,000
3. More than $20,000
4. Refused to answer

That's all the questions I have. Thank you very much for your time and help. Your answers will be of great assistance to our study of police services.

DO NOT ASK:
Respondent's Sex: 1. Male 2. Female

INTERVIEWER COMMENTS: _____

January 1983

TEST

Expediter Unit Survey

POLICE RESPONSE DATA

First, I would like to ask you a few questions about the incident which prompted you to call the police.

1. Briefly, could you tell me about the incident?

_____

_____

_____

2. Let me ask you about the initial phone call to the police. Overall, how satisfied were you with the manner in which the police telephone operator handled your call? Were you:

READ:
1. Very satisfied
2. Satisfied → GO TO Q. 3
3. Dissatisfied
4. Very Dissatisfied

2A. IF DISSATISFIED: Why were you dissatisfied with this response by the police operator?

_____

_____

_____

3. How long after you called the police department did it take the TRU (police officer) to call you back?

_____ days / _____ hours / _____ minutes

4. How satisfied were you with this response time by the police?

1. Very Satisfied
2. Satisfied → GO TO Q. 5
3. Dissatisfied
4. Very Dissatisfied

4A. How long did you think it should have taken for the police to call back?
_____ minutes
_____ hours
_____ days

Expediter Unit Survey

I would like to ask you a few questions about the conversation you had with the police officer that called you back.

5. Do you think that the police officer expressed interest in what you had to say?

   1. Yes 2. No 3. Don't know ____

6. Do you think that the police officer was accurate and clear during this conversation?

   1. Yes 2. No 3. Don't know ____

7. Overall, how satisfied were you with the conversation?

   1. Very Satisfied
   2. Satisfied → GO TO Q. 8 ____
   3. Dissatisfied
   4. Very Dissatisfied

   7A. IF DISSATISFIED: Why were you dissatisfied with the conversation?

   _____

   _____

   _____

8. If you were to report the same type of incident again, would you be willing to use the TRU?

   1. Yes 2. No 3. Don't know ____

   IF NO, WHY?
   a. problem with response method
   b. problem with officer's style

   _____

   _____

   _____

Expediter Unit Survey

PERSONAL DATA

Now just a few questions about yourself so that the overall survey findings will be more useful to ourselves and the department.

About how many times have you called the police over the past year?
0. None
1. Once
2. Twice
3. Three or more
4. Don't Recall

How long have you lived in the area?
1. Less than 1 year
2. 1 to 2 years
3. 3 to 5 years
4. 6 to 10 years
5. 11 to 20 years
6. 21 to 30 years
7. More than 30 years
8. Don't Recall
9. Refused to Answer

What type of residence do you live in?
1. Single Family Residence
2. Duplex
3. Apartment
4. Mobile Home
5. Other Type of Residence: _____
6. Refused to Answer

Would you mind telling me your age?
1. 18 - 25 years old
2. 26 - 35 years old
3. 36 - 45 years old
4. 46 - 55 years old
5. 56 - 65 years old
6. 66 years old or more
7. Refused to Answer

Can you tell me if your family income is:
1. Less than $10,000
2. Between $10,000 and $20,000
3. More than $20,000
4. Refused to answer

That's all the questions I have. Thank you very much for your time and help. Your answers will be of great assistance to our study of police services.

DO NOT ASK:
Respondent's Sex: 1. Male 2. Female

INTERVIEWER COMMENTS: _____

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