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Evaluation of the Differential Police Response Field Test

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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.