

PUBLIC ORDER STUDIES IN NEW YORK CITY

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Several employees and consultants of The Rand Corporation have contributed to the studies described in this paper. In particular, those aspects of the minority recruiting study that are described in detail are largely the work of I. C. Hunt, Jr.

Other studies are described only briefly. Contributors and their primary field of interest are: J. Benton and A. Tenzer--Planning, Programming, and Budgeting Systems; H. Brierley--Arrest and Booking Study; D. Brown, J. Edelman, and S. Clarke--Patrol deployment; B. Cohen--Police personnel study, Minority recruiting study; P. Greenwood--Study of investigation and apprehension programs; J. Jennings--Study of court disposition of arrests; R. Larson--Development and application of methods for allocating and deploying police patrol; M. Liechenstein and W. Fairley--Study of public safety in high-rise housing; J. Press--Analysis of an experiment relating patrol manning, crime, and arrests.

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Late in 1967, the City of New York invited The Rand Corporation to work with the Mayor's Office and several departments on a program of policy research covering a wide range of urban problems. We began work with the Departments of Fire and Police, and the Administrations for Health Services and for Housing and Development. We later undertook smaller scale studies of the welfare systems with the Human Resources Administration. Recently we have begun analyses for the Economic Development Administration and the Department of Corrections. With its own funds, Rand has been conducting research on the measurement and reduction of pollution in the bodies of water around New York City.

Except for the latter, all of Rand's studies in New York have been performed by contract with both the responsible City agency and the Bureau of the Budget in the Mayor's Office. Research topics generally have been chosen jointly by Rand and the appropriate City officials.

One purpose shared by each of the research projects in the first year has been the strengthening of the City's planning, programming, and budgeting systems. Aside from the common elements of this work on the budgetary process, Rand's research programs for the various City agencies have been quite diverse.

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The remainder of my remarks this morning will be confined to the police studies. In the time allotted for this talk, given the magnitude and breadth of Rand's studies for the police, I can only hope to impart a general flavor of the work and then go on to talk about one of the studies in more depth. The next speaker will discuss another, and a very important one, of the Rand studies for the police. Where appropriate, I will also indicate what effects our work has had on the Police Department's policies and operations thus far.

An Overview of the Rand Police Studies

Our statement of work was written in very general terms. Rand was to develop and refine the existing PPB system; analyze the incidence of crime, the crime reporting system, and the economic and social costs of crime; develop improved means of measuring the effectiveness of police activities; analyze potential improvements in effectiveness which might result from variations in modes of operation, types of equipment, and organization; analyze the characteristics, attributes, and skills most appropriate for police work; evaluate current, and devise new, minority recruiting programs; and, finally, do a preliminary cost/benefit analysis of methods of improving public safety in urban apartment dwellings.

Early on we decided it was not appropriate to study a number of important and fundamental problems such as riot control measures, police-citizen and police-offender transactions, the causes and prevention of crime, and organized crime. This decision was made on the basis of the following reasons: funding sources other than the NYCPD were more appropriate; Rand did not seem to have a comparative

advantage over other institutions; such problems require very long-term or very expensive efforts; and Rand would not have adequate access to relevant data. And frankly, given that most of the study team were novices in the law-enforcement area, our choices of problems to study, given Police Department interest, were conditioned by our estimates of how readily and how quickly we could show important results. In other words, we were anxious to establish our credibility as quickly as possible.

Thus far then, our work has centered on the deployment of patrolmen, detectives, and vehicles; an attempt to relate experimentally the effects of mobile patrol on crime and arrests; improvements in arrest and booking procedures; security in high-rise public housing; a general study of personnel policies and a study of minority recruiting that will be discussed in more depth later.

Police authorities have long attempted to cope with wide variations (both temporally and spatially) in the need for police action. The introduction in New York City of the fourth platoon (between 6 p.m. and 2 a.m.), in addition to the standard three shifts, is a current and conspicuous example of the Department's continuing policy of allocating more police at peak periods. Some of our work was devoted to assisting the Department in identifying with greater precision the full extent of these fluctuations and in investigating procedures to allocate men by methods that more fully accounted for these fluctuations.

A short-term effort along these lines was the development of a simple computerized hazard formula incorporating up to eleven factors

(such as crimes, population, number of road miles, arrest rate, etc.). The user decides on relative weightings of the factors, and the model's output is a precinct-by-precinct allocation of patrol manpower accompanied by very rough indications of the predicted workload and response time. Allocations can be made by shift or by daily average or by weekly average values of the factors contained in the hazard formula.

But as you undoubtedly have noticed, this simple methodology only automates what police have done for years in allocating patrol manpower. It does not relate analytically or experimentally the effects of changing manpower, tactics, or organization on police outputs--crime rate, arrest rate, quantity and quality of services rendered. The next speaker will discuss what I believe is a significant step forward in allocation of mobile resources devoted to preventive patrol and called-for services. The models developed employ some quasi-output criteria that can be analytically estimated (such as patrol-car queuing delay and travel time in answering calls for service) as well as those which are really input criteria (such as constraints relating minimum manning levels to outside crime levels and patrol frequency).

A major question not yet answered adequately is, what are the relationships between mobile patrol resource levels, crime rate, and arrest rate? To address this question we did a statistical analysis of an experiment begun in 1966 in one New York precinct. After analyzing the historical variability in various reported weekly crime levels and adjusting for seasonal variations, we found that there were statistically significant net changes in some crime rates for that precinct, compared to those in control precincts. In particular, outside

robbery, grand larceny, auto theft, and total felonies showed significant decreases in that precinct, whereas burglary (usually an inside crime) showed no (statistically significant) change. However, these results are indicative only, for a variety of reasons. The change in true crime was unknown because victimization surveys were not taken before and during the experiment. The changes in reported crime therefore may have been due to changes in reporting rate as well as police manning level. Also the effects found might be attributable in part to socio-economic changes, or a Hawthorne effect (perhaps the police kept better records because an experiment was in progress), and so on. If the effects found are due to the manning change, are they representative of those in other areas in New York City and in other cities? Another open question is, are the effects of police manpower changes ephemeral? In general, we found little or no crime or arrest rate displacement effects to surrounding areas.

Another study has paralleled the efforts of the Police Department, courts, district attorneys, and the VERA Institute of Criminal Justice to improve arrest and booking procedures. Rand's approach would reduce from an average of eight hours to two hours the amount of time spent by an arresting officer in the process of booking and arraignment. Since some 160,000 arrests are made per year, this saving would produce the same effect as adding 425 patrolmen to the force. A similar approach implemented by the VERA Institute is now being experimented with in one borough of New York City and has proved quite successful.

Rand has also examined ways in which detective forces might be organized and deployed more effectively. We examined such ways as

increased specialization by type of crime and by investigative technique and tried to identify the characteristics of cases which repay intensive work and of those which do not. Some data have been gathered and analyzed on the relative effectiveness of detective activities such as patrol, stake-out, and a posteriori crime investigation. Currently the detective force is experimenting with some of the Rand suggestions such as more specialization, more detective patrol, turning over a large fraction of preliminary burglary investigations to the uniformed patrol force, and so on.

In addition to some of the longer-term police deployment studies we conducted several short-term studies; some requested by the Department and some Rand-generated. We did a quick study of the allocation and scheduling of telephone operators in the police communications and dispatching center. Applying queuing theory, we demonstrated that re-scheduling the existing force of operators would improve matters greatly, especially on weekend nights when the dispatching center is swamped with calls for assistance. The recommendations have largely been implemented. We also aided the Department in planning for their new "War Room"; the "War Room" was the subject of a recent New York Times article. We did a quick study of the feasibility and utility of employing automatic car locator systems. We also did a study of court dispositions of a sample of robbery, burglary, and grand larceny arrests in connection with the study of detectives.

Another study involves personnel practices. The analysis began with an attempt to chart career paths for a large cohort, to determine which skills and modes of behavior the Department finds most useful,

and which it rewards or sanctions. Moreover, the project seeks to identify the educational, social, and psychological characteristics of officers who are selected or rejected for police work in general as well as for particular types of police work such as uniformed patrol and detective work. Once identified, the relationships between these attributes and subsequent performances will be explored. The study should help identify types of backgrounds which most reliably produce the qualities needed for particular assignments. What is sought ultimately is the matching of policemen with appropriate job assignments along with the formulating of guidelines for improving policies of selection, assignment, promotion, and rewards.

Another study examined public safety in high-rise housing. We examined some fifteen different security alternatives; these included schemes for limiting ingress to the buildings and individual apartments, for increasing police or guard manpower, and for remotely monitoring unauthorized entries and criminal activities. The objective was to do a paper-and-pencil cost/benefit analysis that would cull a few of the more promising alternatives which then could be tested out in experiments in New York's Public Housing Authority projects. A major consideration was maintaining tenant privacy while achieving more protection. Several schemes for ranking the effectiveness of the alternative security systems were developed. The costs ranged from \$3 to nearly \$20 per month per apartment, depending on the alternative. The design, implementation, and evaluation of experiments aimed at testing the better alternatives is contingent on the City's desire to proceed and the availability of funds.

I hope that I have imparted some flavor of Rand's overall work on public order in New York City. Let me now turn to a discussion of the minority recruiting study. Aside from its intrinsic substantive interest, I chose to discuss this study because it employed questionnaire and interview techniques; techniques probably less familiar to such a mathematically-oriented audience as yourselves.

Minority Recruiting Study Summary

The NYCPD recognizes the need for more minority-group officers in the Department and it has undertaken or encouraged several programs aimed at increasing their numbers. As an example, there have been programs devoted to the use of mobile recruiting teams, the use of communications media, recruiting through community, civil rights, and police fraternal organizations, and recruiting at military installations and Negro colleges. The Police Cadet Project (a remedial basic and police-science education program preparatory to taking the patrolman's examination) is another example of such programs. These efforts have attracted increasing numbers of black and Puerto Rican young men. At a recent patrolman's examination, 18 percent of the examinees were black and 6 percent were Puerto Rican, whereas total minority representation on the force is only 5 percent. Recent graduating classes from the Police Academy are running about 13 percent. However, in the general City population, blacks and Puerto Ricans total about 26 percent, so they are still substantially underrepresented even in the new additions to the police force.

The two primary goals of the minority recruitment study were to devise policies and programs that would:

1. Convince potential minority applicants that police work is a desirable opportunity for them, and to persuade them to apply, and
2. Encourage applicants to complete all the steps that lead from application to appointment.

I will address my substantive remarks primarily to the study's first objective. To accomplish the first objective we undertook two steps. The first was a series of interviews of potential minority candidates (screened by age and educational background) conducted on the street, at job training and counseling centers, and at community colleges. The purpose was to provide information about which communications media would be most effective for reaching minority groups and which aspects of police work ought to be emphasized in these media. The second step involved mailing questionnaires to those persons who signed pre-applications for a specific patrolman's examination but who failed to appear for the exam. The purpose here was to query this group, who had indicated some interest in police work, to elicit information on what attracts minority youths to apply for police work and thus, hopefully, to be able to make inferences regarding better methods for encouraging them to continue once they have applied.

There were the following major findings in the areas of communications media, attractive aspects of police work, major information gaps, and personal attention.

Communications Media

1. A newspaper of general circulation, subway posters, and

brief radio spots are more effective for recruiting than channels thought to reach primarily a minority population (e.g., minority newspapers).

2. Current recruiting efforts through community organizations have not been effective.
3. Referrals by close personal associates are quite an important source, in fact, equally as important for minorities as for white youths.

Attractive Aspects of Police Work

1. Minority youths, unlike their white counterparts, find the service aspects of police work more attractive than the pay, fringe benefits, or job security.

Major Information Gaps

1. Most eligible minority youths (65 percent) do not have correct information as to what derogatory items in a person's background disqualify him from joining the NYCPD.
2. Even those who filed pre-applications for a patrolman's exam were not aware that some pre-appointment requirements, particularly educational, can be obtained after passing the exam.

Personal Attention

1. A small amount of personal attention, i.e., the questionnaire, had a greater effect on minority applicants than on white applicants in terms of response rate, personal letters, etc.

Given these findings and others, our program and policy recommendations were as follows:

- o The NYCPD should have its own separate recruiting budget and view the entire process of minority recruitment (from initial contact to appointment) as its own (currently, responsibilities are split with the New York City Department of Personnel).
- o The NYCPD should mount a professional recruitment campaign in a specific newspaper and on two specific radio stations. The ads used to recruit minority candidates should emphasize the service aspects of the job. The appeal in these media should be made by high-ranking minority officers, public figures, and entertainers. The high starting salary should be featured, too, since interviewees underestimated the figure by about 11 percent.
- o The ads, posters, literature, and recruiting teams should state clearly that certain requirements can be met after passing the written civil-service exam.
- o The Department should encourage and cooperate with minority-group police organizations in their efforts to run special preparatory civil-service courses in minority communities.
- o The director of recruiting should be a civilian, professionally trained, and a minority-group member himself.
- o In the few weeks preceding an examination, the mobile recruiting teams should telephone or write personal letters to those persons who filed pre-applications.

- o For future exams, efforts should be made to encourage candidates to stay in the process during the three critical points after the exam: before the medical exam, before returning the background information forms, and during the conduct of the background investigation. These efforts would be even more fruitful for minority-group candidates, even if applied universally, since their dropout rate at these points is higher than white candidates.
- o The NYCPD should develop an information system that traces minority candidates from first contact with the Department through to appointment or rejection. Only with such a system can current recruitment programs and policies be evaluated and decisions made as to which should be continued, strengthened, or discontinued.

Thus far, no action by the Police Department has been taken with regard to these recommendations, but our expectations are that some modifications of current policies and programs will be made.

Summing up, we have had some successes and some failures, when gauged solely from the viewpoint of changes implemented thus far in Department policies and operations. We have learned a good deal about police policies and operations, about police society, and about political and institutional constraints that are operative in what is probably the most complex city in the United States. There are major difficulties in implanting the viewpoint, techniques, and results of

operations research and systems analysis in conservative, traditional, bureaucracies. But the other side of the coin is that the payoffs are huge.

