

REPORT # 18

INDIVIDUAL TECHNICAL ASSISTANCE REPORT

in Response to a Request for Technical Assistance by the

Wichita Falls, ^(TX) Texas, Police Department

*- Hazardous Study -
Police Technical assistance
Report*

May 26, 1972

Prepared by:

Public Administration Service
1313 East 60th Street
Chicago, Illinois 60637

(Per Contract J-LEAA-015-72)

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I. PRELIMINARY INFORMATION

- A. Consultant Assigned:
Jerome A. Needle
Senior Associate, Public Administration Service
- B. Date Assignment Received:
April 21, 1972
- C. Date of Contact with LEAA Regional Coordinator:
Unknown—contact made by LEAA/Washington
- D. Dates of On-Site Consultation:
May 16, 17, 18, 1972
- E. Individuals Interviewed:
Gerald Fox, City Manager
Paul M. Yeager, Director of Public Safety
C. C. Daniel, Chief of Police
Raymond Nelson, Commanding Officer, Patrol Division
S. J. Lawrence, Commanding Officer, Criminal Investigations Division
O. B. Mullins, Commanding Officer, Services Division
C. E. Trainham, Lieutenant, Criminal Investigations Division
Donald Pilcher, Administrative Services Officer
William Kinehart, Sergeant, Services Division
Jerry Dunn, Assistant City Manager
Floyd Shear, Booz, Allen, Hamilton
Project Monitor, Municipal Information System

II. STATEMENT OF THE PROBLEM

A. Problem as Per Technical Instruction:

The Technical Instruction requested that a limited manpower study be performed for the Police Department of the City of Wichita Falls, Texas. The study was to determine manpower needs in three areas: patrol, investigations, and communications. The study was to be completed prior to July, 1972, so that results could be incorporated into 1972-1973 budget requests.

POPULATION 1970 96,265 DECREASED 4,000
SINCE 1960.

B. Problem Actually Observed:

The problem observed on-site differed in no respect from the problem defined in the Technical Instruction.

III. FACTS BEARING ON THE PROBLEM

- A. The Police Department operates within what is essentially a line-item budget system, a form of budgeting less conducive to planning, management, and concentrated analysis of programs and operations than is a program-budgeting system, particularly one supported by administrative and organizational analysis. The choice of a budget system is, however, a decision made outside the Police Department.
- B. The budget documents require that requested items be combined by object classes (personnel, equipment, etc.).
- C. These factors, which do not sufficiently emphasize program planning and analysis, have fostered a budget environment within which unit commanders and supervisors of the Police Department annually request additional resources for newly perceived needs, without comprehensively evaluating total needs of program effectiveness. The result is that budgeting is primarily a process of incremental resource acquisition. The undesirability of this situation has been recognized by the Director of Public Safety, causing him to request assistance to review manpower requirements objectively prior to the forthcoming budget submission rather than to continue the "incremental" approach which has characterized previous budgets.
- D. The methodologies or tools available for evaluating and estimating manpower requirements vary with specific police operations. Well-tested approaches for estimating patrol manpower requirements exist. There is an experience-based, practical standard for estimating number of communications dispatchers needed. Also, there is a standard for estimating investigations manpower needs. Unlike the previous two estimating standards, however, this is somewhat arbitrary. As a means toward improving the techniques available for estimating investigations manpower, *A Methodological Approach to Effective Use of Investigations Manpower* has been developed expressly for the present assignment. (See Appendix II.) The

"Approach" has been prepared in outline form, and it remains for the Wichita Falls Police Department to further develop and experiment with it.

Few tools are available to be applied to functions or operations other than the three mentioned above. Fortunately, these functions concern 60 percent of the total departmental personnel, and approximately 75 percent of all sworn personnel---in the final analysis the assignments of most of the department's personnel would be reviewed.

- E. Manpower estimates, properly done, should be preceded by analysis of policies and operating techniques characterizing the different functions or operations involved. Such analyses, albeit somewhat cursory, were completed with respect to the three functions of present concern. In one case a major policy change has been recommended and the implications of that change for manpower estimates have been recognized and incorporated in the recommended estimates.

IV. POSSIBLE COURSES OF ACTION

Not applicable.

V. RECOMMENDED COURSE OF ACTION

The operating policies and practices of the Patrol and Criminal Investigations Divisions and the Communications Section were reviewed and evaluated. Current manpower levels were reviewed and manpower requirements for the 1972-1973 fiscal year were estimated. Detailed description of findings and recommendations appear in the accompanying Appendix I. The major recommendations were:

1. In the 1972-1973 budget submission the department should request 1 captain, 3 lieutenants, 9 sergeants, and 52 patrolmen for *field patrol* service. This adds one patrolman to the current complement.
2. The personnel designated for field patrol service are to be used exclusively for beat patrol work and field headquarters supervision. Manpower for special assignments should be separately budgeted to avoid stripping field patrol for these assignments, as is the current practice.
3. The department should complete a formal beat study: (1) to confirm that the recommended number of beats does provide adequate geographical coverage, and (2) to distribute proportionately and equitably work load among beats within shift.
4. The Criminal Investigations Division should request 15 investigators for the next fiscal year.
5. The Criminal Investigations Division should institute a management control and work measurement system so that it can accurately estimate its needs for the 1973-1974 fiscal year. A methodological approach to developing a system which should be implemented has been presented to and discussed with several members of the department.

6. The Criminal Investigations Division should discontinue the practice of responding directly to the scene of reported felonies---this is properly a function of Patrol. Sufficient manpower to absorb this "transferred" work load has been incorporated in the field patrol manpower estimates.

7. Five (5) additional persons should be requested in the 1972-1973 communications budget. These persons are needed to perform the data coding required to support the Management Information System now scheduled for implementation in early 1973 and to assist dispatchers in processing field inquiries handled through display terminals located at communications consoles.

Each of the major recommendations, its derivation, and supporting logic has been discussed at length with managerial personnel of the Wichita Falls municipal government and with ranking officers of the Wichita Falls Police Department.

APPENDIX I

MANPOWER RECOMMENDATIONS FOR THE WICHITA FALLS, TEXAS, POLICE DEPARTMENT

The purpose of the technical assistance provided was to complete a limited manpower review and develop manpower recommendations in the police service areas of patrol, investigation, and communications, in order that these recommendations could be reflected in 1972-1973 budget requests. Proper development of manpower recommendations results from completion of two exercises:

1. Evaluation of policies and techniques which characterize the functional unit which provides the services being reviewed.
2. Analysis of the functional unit's work load.

The purpose of the first exercise is to (1) identify policies or techniques which are wasteful and unnecessarily exhaust manpower and (2) identify improvements which would result in more effective use of manpower. The purpose of the second exercise is, obviously, to provide a base upon which manpower needs may be calculated. The manpower recommendations which appear below have been developed from, and are supported by, both an evaluation of operations and a work load analysis. The discussions below, then, provide not only manpower recommendations, but, in one case, suggest a much needed policy change and operational improvement.

Field Patrol

The Patrol and Traffic Division is headed by a captain and presently has a complement of 51 field patrol officers, 9 field sergeants, and 3 field lieutenants distributed among three shifts uniformly. Patrolmen are assigned to beats designed to equalize size and work load. A formal beat design and manpower deployment survey has not been performed, however, since a consultant's study was completed in 1956.

The number of men required for field patrol can be determined accurately through application of a well-tested methodology which bases estimates primarily upon complaint data, and which recognizes and incorporates needed time for preventive patrol and for officers to attend to administrative duties. The approach and methodology is contained in *Methodology for Designing Patrol Beats, Selecting Shift Hours, and Defining Field Patrol Manpower Needs*, a copy of which has been given directly to the Director of Public Safety. Application of the methodology revealed that Wichita Falls field patrol needs are:

Shift 1	7 Beats	12 Patrol Officers	2 Field Sergeants
Shift 2	11 Beats	18 Patrol Officers	4 Field Sergeants
Shift 3	<u>8</u> Beats	<u>13</u> Patrol Officers	<u>2</u> Field Sergeants
Total	26	43	8

To these totals should be added; (1) four patrolmen to man Accident Investigation cars on Shifts 1 and 2 (four is the number presently assigned) and (2) the current complement of three lieutenants and a captain for field headquarters duty. Total manpower needs, as compared to present allocation, would be:

	<i>Needed</i>	<i>Present Allocation</i>
Patrolmen	47	51
Sergeants	8	9
Lieutenants	3	3
Captain	1	1

The conclusion suggested is that the department requires four fewer patrolmen and one less sergeant. This is not the present recommendation, however, for the reasons stated next.

As the Wichita Falls Police Department currently operates, Criminal Investigations Division personnel are routinely dispatched to the scene of all *reported* felonies. Investigations personnel therefore serve primarily the same role as field patrol personnel and provide the initial response to "called-for services" from citizens. One admitted result of this practice is an inability on the part of investigators to concentrate upon follow-up investigations. This most likely reduces quality and effectiveness of the Criminal Investigations Division's operations. As noted below it is recommended that response to all "called-for services" and preliminary investigation be handled by the Patrol Division's field personnel.

A modification in policy such as that recommended has obvious complications for patrol manpower requirements. Patrol would have to add personnel to absorb the work load now being handled by Criminal Investigations. Unfortunately, no records exist which would reflect the number of calls for field service handled by Criminal Investigations. It has therefore been necessary to estimate in some logical way what that number might be. A useful and liberal estimate would be 4,000—the approximate number of Part 1 offenses reported to the department in 1971. (Part 1 crimes usually are felony crimes in most states including, apparently, Texas.) Converting this number into beat and manpower requirements, utilizing the method used previously, suggest three more beats and five more field patrolmen.

When added to the previously developed requirements, the following numbers of beats and field personnel are recommended:

	<i>Number of Beats</i>	<i>Number of Field Patrolmen</i>	<i>Number of Field Sergeants</i>	<i>Number of Lieutenants</i>	<i>Captain</i>
Shift 1	8	13	2	1 ^a	1
Shift 2	12	20	4	1	---
Shift 3	9	15	3	1	---
Accident Cars	---	4	---	---	---
Total	29	52	9	3	1

^a This lieutenant has the opportunity to provide considerable field supervision since the captain is normally concerned with headquarters supervision.

The recommended totals call for an increase of one patrolman. All other recommended totals are exactly the same as the current ones.

The recommended number of personnel and beats should be designed to provide adequate field coverage. The city may desire that the level of law enforcement manpower be more than adequate. Assignment of *small* numbers of field patrolmen beyond the levels recommended might not be a poor investment. In the final analysis, setting levels or manpower and enforcement standards is the prerogative of the responsible city officials.

It should be made clear that the department should not have fewer patrol officers *in the field* than specified above. Officers needed for "special assignments" such as parade or crowd control, escorts, special concentrations of manpower in areas experiencing sudden upswings in crime, or accidents, must be provided from manpower pools other than field patrol manpower.

Finally, it must be recommended that the department complete a beat study. This is necessary so that work load of each beat *within* a shift be proportionally and equitably distributed. (Proportional distribution *among* shifts has been incorporated into developing the manpower and beat figures above.) This may be done by completing a beat study which would not only result in proportional distribution of the work load among beats, but would serve to verify the sufficiency of the beat and manpower recommendations provided above. In particular, attention should be directed toward determining whether the two additional beats per shift incorporated in the manpower calculation would provide adequate *geographical* coverage, or whether an additional beat or more per shift would be warranted in order to reduce the geographical size of beats.

Criminal Investigations Division

The Criminal Investigations Division is responsible for follow-up criminal investigations and for dealing with juvenile offenders. One captain, one lieutenant, five sergeants, and eight detectives (patrolmen) are assigned to follow-up investigations work. Personnel are assigned to each of the three shifts, the bulk assigned to the day shift. Two juvenile officers are assigned to the day shift, and one detective on each of the second and third shifts handles juvenile work on a need basis. As previously noted, in addition to follow-up investigations, detectives perform what is traditionally a patrol responsibility by responding directly to "called-for services" from citizens reporting felonies.

Evaluation and prediction of manpower requirements for investigations cannot be based upon a methodological technique as precise as the one used to develop patrol manpower requirements. Nevertheless, determination of requirements can be approached systematically.

O. W. Wilson in his several editions of *Police Administration* has noted that the number of investigators, exclusive of vice, juvenile, and intelligence officers, should not exceed 10 percent of the sworn manpower complement of a department. It is his position that to exceed 10 percent is to do so at the expense of patrol service levels and particularly preventive patrol. The "10 percent" figure is admittedly somewhat arbitrary, but at least is based upon informed judgment and experience and so represents the single "hard" or precise standard available for investigations manpower requirements analysis. The Wichita Falls Department currently has 116 sworn officers. Application of the 10 percent standard suggests that investigations manpower should not exceed 12 men. The Criminal Investigations Division currently has 15 men, exceeding by 3 the number of men recommended.

The current allocation of manpower to investigations seems somewhat generous by the Wilson standard. It must be considered, though, that much of the resources of the division are devoted to "patrol" work rather than to follow-up investigations. It is felt that untempered application of the 10 percent standard to the Wichita Falls situation might result in a disservice to the department and the public it serves. In order to bring some system and order to consideration of investigations manpower requirements it is recommended that the department take the following steps:

1. For the 1972--1973 budget the current level of manpower (15) should be requested.
2. The Criminal Investigations Division should discontinue responding to calls for field service and should concentrate on follow-up investigations.

3. In order to determine how much manpower is really needed and used effectively, a work load measurement and effectiveness system such as that described in *A Methodological Approach to Effective Use of Investigations Manpower* should be implemented. (See Appendix II.) This approach, which is essentially experimental (and which has been prepared especially for Wichita Falls) should enable the Department to determine what manpower level should be requested for the 1973-1974 budget. It is likely that the level will be below the current one---perhaps below that suggested by the 10 percent standard. The *Methodological Approach*, incidentally, describes the principles of a management control and work load information system neither of which the Criminal Investigations Division now has and both of which it badly needs.
4. Detective personnel can be looked to as a pool of manpower for special assignments. Currently field patrol personnel are used for special assignments, a practice which is unacceptable. Given that the Criminal Investigations Division is probably overstaffed, it can, without much probability of a negative effect on operations, serve as a source of manpower to meet irregular, short-term, special assignment needs.

Records and Communications

The total personnel complement for records and communications is 1 lieutenant, 1 sergeant, 20 dispatcher clerks, 1 senior clerk typist, and 2 policewomen. Dispatch service is provided 24 hours per day, and the manning level is one dispatcher per shift.

A rather dependable standard for evaluating and predicting dispatch manpower requirements suggests that when operating within a poorly designed and equipped communications system, a dispatcher can process 20 to 30 complaint calls per hour. When operating within a well-designed and equipped system a dispatcher can process almost double that number. Average work load figures (figures which do not reflect hourly and daily peaks and troughs) indicate that a dispatcher in Wichita Falls handles three to six complaint calls per hour, the average varying with the shift. These figures, of course, do not include work load associated with determining officers' whereabouts, administrative messages, and field inquiries. It is nevertheless clear that one dispatcher per shift can very easily process the current work load.

Of major significance for determination of manpower requirements will be the impact on work load of the Management Information System (MIS) scheduled to become operational in January, 1973—early in the 1972—1973 fiscal year. That system includes provision for installation and operation of display terminals in the communications center so that dispatchers can process field inquiries and “read out” responses very rapidly. The question for present purposes becomes one of determining whether the single dispatcher on duty each shift will be able to absorb the increased work load expected to result from the MIS implementation. It is clear that dispatchers are far from overloaded now. Estimates of the MIS design team are that as many as 10 inquiries per shift per beat (car) may be expected. If such estimates prove to be accurate it is quite possible that the additional work load may be burdensome for single dispatchers. The question becomes moot, however, since the MIS system requires that personnel be acquired for “on-line” coding of input information to the MIS. The design consultant has concluded that five persons (one for each shift plus relief) will be needed for coding duties and that these should process field inquiries for dispatchers. Certainly dispatchers could not handle complaint dispatch work, field inquiry, *and* coding duties. It is therefore concluded that the present study can only endorse the design consultants manpower recommendation to request five additional persons for communications duty—handling field inquiries and coding.

APPENDIX II

A METHODOLOGICAL APPROACH TO EFFECTIVE USE OF INVESTIGATIONS MANPOWER IN WICHITA FALLS

Current Techniques and Approaches

Quantitative techniques for estimating investigative manpower needs have not yet been widely applied. To date the most common approach to staffing investigative units has been to "add manpower until work load is met."¹ This method is less than satisfactory since many, perhaps the majority, of follow-up investigations do not result in clearances and are therefore essentially open-ended. Since police departments have a responsibility to utilize public funds effectively, there is a need for departments to approach investigative manpower levels more systematically, particularly when "work load" is often open-ended and frequently not reflected in management information systems.

Despite the dangers associated with basing manpower estimates on subjective criteria, it is to be noted that two important themes usually incorporated into investigations manpower decisions leave decision makers with little choice but to base a decision on values, experience, and managerial "sense."

Clearance statistics² demonstrate that about one of every five crimes will be cleared. As unimpressive as this figure is, it disguises the fact that some of the clearances achieved are by patrol and not detective personnel. Follow-up detective investigations should not be viewed as "high yield" investments, and this fact suggests that commitments of resources to investigations should be approached cautiously.

It is also held by many—and properly so—that there is a deterrent effect which results from follow-up investigations. This in turn suggests that reference to clearance rates alone displays improper understanding of detective effectiveness. Further, it is recognized that even if detective operations are less than highly productive—in the clearance sense—a public "confidence-maintenance" function is served in that the public expects police departments to dedicate themselves fully to crime clearance. This need to engender the confidence of the public is not to be underestimated.

The clearance statistics suggest that investigative manpower investments be moderate; the confidence-maintenance theme suggests that major investment is warranted and supportable.

¹ O. W. Wilson in his classic work, Police Administration, has stated that the number of investigators in a department (not including officers assigned to vice control and youth) should not exceed 10 percent of the sworn personnel of the force. To exceed 10 percent may indicate that not enough stress is being placed on preventive patrol or preliminary investigation. While the number is clearly arbitrary and may be disputed by some, no other authority has chosen to support any other figure or otherwise establish a standard.

² Clearance statistics record "arrests" and not "convictions," suggesting that in cases the real perpetrator was not arrested.

Juxtaposing these two considerations presents to police administrators and public officials a situation to which they can normally respond only with some ambivalence. Researchers and practitioners in police science and public administration have not yet formulated ways which make investigations manpower decisions much easier. Nevertheless, formulation of a useful approach is required to enable a decision maker to support his choice with systematically collected and analyzed information. What might turn out to be a useful approach is described in outline form below under "The Approach." It is untested. It may not turn out to be more than a series of ideas on the same subject rather than a "methodological approach" as it has been referred to in the title. It remains for the Wichita Falls Police, if they choose, to test the ideas. Whether or not the "approach" proves successful, the Wichita Falls Police should receive the following advantages from completion of the exercise: (1) identification of significant policy issues in the investigations area; (2) establishment of an investigations management information system. If the approach does accomplish some of what is intended, the department should have, after some months of experience, sufficient work load data to enable it to determine how effectively detective manpower is being employed and whether more or fewer detectives are needed. The department should know how many follow-up investigations it is dealing with, may continue to deal with, and how much time will be consumed in investigations. It will then have, at least, the information needed to systematically develop and support future manpower estimates, and to use those resources effectively.

The Approach

The approach described below may enable those responsible for detective operations to determine in a systematic way investigative manpower requirements and to use that manpower effectively. This approach, which is empirically based, is not technically complicated and it relies almost completely upon the knowledge and experience of departmental investigative personnel.

A. Assemble Investigations Data for Analysis

The initial task is to begin to assemble case investigations data which will be used for evaluation later in the process. Every report prepared by patrol personnel and which would normally be used by an investigator as the source document for follow-up investigations should also be collected. The total collected should be large enough to include all offenses which are normally followed up. Within each offense class, the number of cases should be large enough to represent all "common" cases in terms of the case characteristics. As will become obvious, subsequent steps of the approach proceed as case data are being assembled.

B. Classify Cases by Offense and Then Suboffense Category

Each case selected for analysis should be categorized by offense and suboffense classification (if a category lends itself to subdivision). The classifications used should be discrete; thus "burglary-resident" or "burglary-commercial" (both suboffense categories) is a preferable category to either "burglary" (an offense category) or "crimes against property."

C. Classify Cases Within Offense or Suboffense Category

With each offense or suboffense category, differentiate cases according to criteria normally used to determine the emphasis to be given a case. These are known to any competent investigations supervisor and usually include: number and kind of lead(s) (witnesses, names or descriptions of suspects); severity of offense (in terms of value of goods or physical violence involved); use of weapons during the crime; public and governmental reaction to the crime; and quality of preliminary investigation.

D. Assign a Time Limit for Each Investigation

Based upon experience and judgment, the commander of the investigations unit should assign an investigator to a case and prescribe the maximum time to be spent on the case. The "maximum" should approximate, at first, the time normally allowed. The time will, of course, vary in terms of the conditions associated with the case---the emphasis criteria. It is important that, unless otherwise dictated by unique conditions, the time assigned to all cases within an offense category be identical or, at least, within a tightly defined range of time.

E. Monitor Investigations Progress and Evaluate Results

During investigations, supervisor-investigator conferences should continue as normal. In fact, with the exception of the record-keeping aspects of this exercise, operations are to be normal, and in fact changes in operations should be avoided.

After a number of cases within a category have been investigated, the results should be evaluated. A number of decisions should result from this evaluation. Would more time allowed have resulted in a greater number of clearances? Were the results unimpressive suggesting that the maximum time be reduced? (This would be the conclusion when it is clear that in a significant number of cases many of the final hours of investigation yielded no additional worthwhile information or "hot" leads.)

F. Experiment With Maximum Time Assignments

Based on the findings of the previous steps experimentation with "maximum time" assignments should be carried out until a realistic maximum time range for each type of offense and suboffense has been selected.

G. Investigations Policy Decisions

When a significant amount of experience with case analysis has been gained, the department should be in a position to review investigations policies, because of the knowledge gained and information developed during the exercise. The department should consider explicitly many fundamental investigations questions: Should the new maximum times suggested by the exercise be adopted? Should it be a departmental policy to follow up *all* crimes? If so, how? In person? By telephone? By assigning follow up of certain crimes to patrol beat personnel? In how many instances do detectives' efforts result in nothing more than that found in the preliminary investigations, thus building into operations a gross duplication of effort? Many additional policy questions will be revealed during such an analysis.

Summary

The methodological approach suggested is not presented as a breakthrough in defining investigative manpower requirements. It does, however, provide a basis for channeling the experience and wisdom of investigations practitioners in a systematic and goal-oriented way. The anticipated advantages of application of the methodology would be important; obvious major ones would be:

1. Planning and budgeting for investigative manpower can be supported by fact and logic—support not now available in most cases.
2. Management control of investigations resources would be facilitated.
3. Management control of investigator's efforts and performance would be facilitated.

END

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