OMB APPROVAL NO. 4 1-25
EXPIRATION DATE 6-3

U. S. DEPARTMENT OF JUSTICE
LAW ENFORCEMENT ASSISTANCE ADMINISTRATION

DISCRETIONARY GRANT
PROGRESS REPORT

GRANTEE	LEAA GRANT NO.	DATE OF REPORT	REPORT NO.
State of Minnesota	74-DF-05-0027	3/20/77	10

IMPLEMENTING SUBGRANTEE
City of Minneapolis
Police Department

TYPE OF REPORT
☐ REGULAR QUARTERLY ☐ SPECIAL REQUEST
☒ FINAL REPORT

SHORT TITLE OF PROJECT
Minneapolis Police Patrol Emphasis Project

GRANT AMOUNT
$300,285.00

REPORT IS SUBMITTED FOR THE PERIOD 10/01/76 THROUGH 12/31/76

SIGNATURE OF PROJECT DIRECTOR

TYPED NAME & TITLE OF PROJECT DIRECTOR
Jon Prentice, Deputy Chief
Lynn DeLong, Director of Crime Analysis

COMMENCE REPORT HERE (*Add continuation pages as required.*)

The goal of this project is to improve police patrol efficiency by utilizing scientific approaches to the training and deployment of patrol and supportive resources. The project involves the collection of data and the development and the evaluation of a resource allocation model for deployment of resources in the fourth and sixth precincts of the City of Minneapolis. This project also contains a training and motivational component designed to stimulate improvement in performance, efficiency, and job satisfaction of the officers in the two laboratory precincts.

Final Evaluation Report

Attached is the final evaluation report for the Minneapolis PEP Project. Due to the lack of clerical support for the evaluation unit, there may be minor errors contained therein.

RECEIVED BY GRANTEE STATE PLANNING AGENCY (*Official*) DATE

Information Reports

Attached is nearly a complete list of System outputs created under the Minneapolis Police Patrol Emphasis Project.

CRIME ANALYSIS UNIT REPORTS

PERIODIC

PIR013 Paid Overtime Record by Crime and Geographic location (Used 1975 only) (Programs are available)

PIR020 Overtime Use Report-(Programs Available-Not in use at this time.)

PIR759 Police Crime Charts (Year to date) by Precinct, by CT, by Time

PIR760 Duplicate-Supplemental Report

PIR763 Hourly Time Chart of Each Type of Crime-4 week or 12 week--Precinct

PIR768 Crime - Specific Time Distribution Chart (Year to Date)

PIR769 Time Distribution of Specific Crimes by Precinct (Year to Date)

PIR773 Hourly Time Chart of Each Type of Crime - 4 week or 12 week - City

WEEKLY

PIR850 Time Distribution Specific Crimes City Wide

PIR851 Time Distribution Specific Crimes by Precincts (Precincts 1, 4 & 6 Only)

PIR852 Time Distribution All Crimes City Wide

PIR853 Time Distribution All Crimes by Precinct

PIR861 Census Tract Crime Statistic (Year to Date)

PIR879 Reporting Zones number All Crimes (Precinct 6 only) (Discontinued)

PIR880 Census Tract All Crimes by Precinct

PIR881 Census Tract Specific Crimes by Precinct

PIR886 Reporting Zones by number of Specific Crimes (Precinct 6 only) (Discontinued)

MONTHLY

PIR900 Time Distribution Specific Crimes City Wide

PIR901 Time Distribution Specific Crimes Precincts (Precincts 1, 4 & 6 only)

PIR902 Time Distribution All Crimes City Wide

PIR903 Time Distribution All Crimes each Precinct

PIR909 Census Tracts City Wide ranked by number of All Crimes

PIR910 Census Tracts by Precinct ranked by number of All Crimes

PIR912 Census Tracts ranked by number of Specific Crimes for each Precinct

PIR913 Reporting Zones All Crimes (Precinct 6 only) (Discontinued)

PIR916 Reporting Zones Specific Crimes (Precinct 6 only) (Discontinued)

REQUEST

LECD 60 - Missing Data By Squad Report

LECD 61 Call Rate By Day of Week, By Hour of Day, By Precinct, By Priorities

LECD 62 Listing all Calls sent to Squads By Squad Number

LECD 63 Call Load Summary By Squad

LECD 64 Service Time Summary By Squad

LECD 65 All Calls - By Case Control Number

LECD 66 Travel Time Summary By Squad

NEED ONLY

LECD 50 Location Report

LECD 51 Place Name Report

Special searches of any file

AVAILABLE MODELS

PCAM - Patrol Car Allocation Model using call for service and crime data to estimate precinct manpower needs and performance

SAM - Squad Allocation Model (HQM) using call for service data to estimate performance for squad district assignments

"WORK-SCHEDULE" - Program designed to schedule Police Officers to optimize performance and working conditions.

EVALUATION REPORT BY DEPUTY CHIEF JON PRENTICE

RE: LEAA Grant #74-DF-05-0027 - PATROL EMPHASIS PROGRAM

INTRODUCTION TO EVALUATION

Having assumed the office of Deputy Chief on January 2, 1976, I inherited this program, which had been in effect for some time. It was a program of which I had very little input in or information about it until that time.

I requested of Mr. Lynn DeLong that he contact Captain McCarthy and Lt. Jensen, who both served as Chiefs of Police during this time, and Captain Goodrie who served as Deputy Chief of Patrol for part of the time. These officers were requested to make comment on and evaluate that part of the program under which they had control.

It will become apparent in my evaluation that I had, and continue to have, great reservations as to what the initial concepts of this program were. I felt, and continue to feel, that the direction that we were pointed towards was one which was incompatible to police departments in general and particularly to the patrol function.

My comments will also reflect, that through the PEP program, my original concept of patrol officers duties are in conflict with the original goals of this program, and the results tend to strengthen my original beliefs.

Finally, my comments indicate that the PEP program did provide Minneapolis, and hopefully other police departments, with some very valuable data and equipment. The future hopefully will see continued programs growing out of the Patrol Emphasis Project and address themselves to solving the problems we have identified and expanding upon those which have been a success.

The patrol function of any police department is recognized as its primary function and naturally, should receive the greatest support. Hopefully, the major effort should be to strengthen this function and those which provide support to the patrol bureau. The list of programs which could be developed to support the patrol bureau would certainly be a long one and those which I feel deserve comment from this program I should like to refer to.

Mr. DeLong's introduction to his evaluation of this program suggests that some of the original goals and anticipated benefits included some of the following:

A. Participatory Management

During the PEP program, our department experimented with participatory management. This program resulted in an excessive amount of overtime being granted to officers and supervisors who were selected to participate. The meetings became routine and structured to the point where input was minimal and the agenda reflected administration priorities. What input was generated was counter-productive. The amount of hours utilized in this manner in no way reflected better management of the police department and certainly could not be justified to the development of a stronger chain-of-command, a departmental deficiency of long standing which had inhibited modern administrative practices and effective delegation of authority.

B. The Expansion of Patrol Officers in Various Aspects of Law Enforcement Functions

This section has, I believe, been reflected through our Training Division as a support service to the patrol bureau and probably should be recognized as having contributed, at least to a minor degree, in the recognizing of our shortcomings and channeling our

training into our recognized areas of greatest need.

C. Recognition of the Patrol Force as Being the Focal Point of Our Functional Activities

Certainly the patrol force has, for sometime, been recognized as being this focal point and I doubt that much documentation is needed to reinforce this belief.

D. Stabilization of the Patrol Force

Programs which increase the officers awareness of his importance are worthwhile endeavors, if successfully implemented. The expected results would be to keep experienced officers dedicated not only to the patrol function but also a desire to upgrade that function. I believe one could easily justify that the PEP program has contributed toward this even though it is limited by many factors beyond Administration's control.

E. Allocation of Patrol Force and Investigative Support on a Need Basis

Through the PEP program and the data supplied by that program, investigative units assigned with the patrol force has been expanded upon and though this was based not solely on data provided by the PEP program, it contributed toward that end.

F. Reduction of Response Time

The data supplied from the PEP program and outgrowths of that program are now providing our supervisors with excellent data by which they can monitor and hopefully correct those areas in the patrol division where shortcomings are noted. This data has not been available to us before and it appears as though it will provide one of the most useful management tools which has been made available to us. If our supervisors effectively use this tool now being provided, then the obvious results would be better service to the public and perhaps even increasing our apprehension rate of criminals.

G. Increased Patrol Emphasis in Preventive Programs

Through experiments with the PEP program, our department has expanded both in programs and in training the preventive impact of a crime prevention project. Though it is too early to analyze the results of these programs, we are comfortable that they will contribute to some reduction in crime over the long run. This is also reflected in #H. from Mr. DeLong's introduction and our compatible program.

I. Increased Support at the Precinct Level for Daily Operations

Since assuming command in January of 1976. I have enthusiastically supported the precinct operations be planned and directed by the commander of the individual precincts. It is my belief that the Administration should plan and promote the programs they feel most necessary within the guidelines supplied by the Administration at the street level. The data provided by the PEP program, I believe, tend to reinforce this type of operation.

SUMMARY OF THE EVALUATION

I view the PEP program as a test to implement new ideas and procedures into the patrol function. If I appear critical of some of the programs, my criticism is meant only to reflect the results as they applied to our police department as I view them.

In reviewing Mr. DeLong's Appendix D, he makes reference to increasing and expanding upon many of the test programs from PEP. I concur in part with many of his recommendations and under II, Recommended Reforms, and I should like to comment briefly on some of them. Certainly the use of computers and the available information and support they provide to the patrol bureau should, in the future, be expanded upon.

B. Subd. 1: Our police dispatch operations and proposed upgrading of these operations is receiving support and evaluation from the Administration, and hopefully, these recognized problems will be alleviated in the future.

Subd. 2: Regarding call screening and the call expediting program, I have misgivings about this program as I believe the majority of the calls which could or would be diverted by this type of operations can be handled by the patrol force without taking them out of service. These calls do, in fact, require the squad to patrol in a more random pattern while responding to these calls even though minor in nature. It is also, I believe, very important to keep the patrol force busy even though some of the calls are not very rewarding to the officers.

Subd. 3 & 4: Increased role of patrol officers in investigation - the increased role of patrol officers in recognized and collecting information for investigation is a challenging idea and one which sould receive enthusiastic support. The Minneapolis Police Department has acted on some of these recommendations by assigning investigators at the precinct stations. (Item II - B. Subd. 4 in Mr. DeLong's Recommended Reforms). This effort has had limited success for the following reasons:

* Manpower/Call-Load - The volume of calls has been increased and the number of officers has decreased. This phenomena will probably continue for the foreseeable future. The patrol officers generally clear from one call as rapidly as possible without conducting a thorough investigation. This because the officers are aware of other calls awaiting their service.
* Equipment - Our officers lack the adequate field equipment to test recognized, and collect, much of the available information at a crime scene. This also applies to our support services. Some figures tend to indicate that less than 20% of the available evidence, i.e., fingerprints, are collected at a crime scene.
* Training - We recognize that our officers are not adequately trained in recognizing and collecting available evidence - again because of limitations on manpower, time and equipment for this training.

If our officers had the adequate equipment and training, the solution rate for crimes committed would increase dramatically.

As a final item, I would again reiterate that the participatory management concept projected through this program was a drastic failure and severely damaged the credibility of the overall program.

Jon Prentice
DEPUTY CHIEF OF PATROL
MINNEAPOLIS POLICE DEPARTMENT

MEMORANDUM

TO: LYNN DeLONG

DATE: MARCH 14, 1977

FROM: CAPTAIN JACK McCARTHY
FIFTH PRECINCT COMMANDER

SUBJ: MINNEAPOLIS POLICE PATROL EMPHASIS PROJECT EVALUATION REPORT

At your request, I have reviewed the Evaluation Report and my response is I am in agreement with its conclusion.

Before the Minneapolis Police Department can effectively participate in any program of this type, we must resolve the internal operational problems that are self-defeating to innovative approaches. The primary three are; POLITICS, PRIORIITIES, and SUPERVISION.

POLITICS-The constant turnover of police administration, coupled with the related political awards, means that a program of any duration is in a constant state of flux because of the change of personnel and philosophies. We also find that both the quality and the quantity of personnel becomes manipulated by the political system.

PRIORITIES-Once again this approach is dramatically effected by the political system and each police administration directs departmental emphasis towards those crimes that they consider most important. We also often find undue consideration being given to operations that, because of the police availability, perhaps will better be performed by another governmental agency other than the police. Therefore, because of the sporatic nature of crime, we sometimes find that the police are over-committed to mundane activities and unavailable to be directed towards crime specific problems as they arise.

SUPERVISION-We have failed, until very recently, to provide the necessary training for our street supervisors. Our emphasis remains in the area of follow-up investigation rather than towards crime prevention and crime specific operations. Our supervisors become orientated to calls for service response rather than utilizing this data to selectively employ manpower before the fact. We still find that our detective, our intelligence personnel, and our uniformed officers operate as separate independent divisions rather than cooperatively as a team. The stimulation for the resolution of these problems must flow downward from the top rather than bubble up from the bottom.

PUBLIC
PRODUCTIVITY
INSTITUTE

BOX 15171, COMMERCE STATION
MINNEAPOLIS, MINNESOTA 55414

December 31, 1976

Mr. Jon Prentice
Deputy Chief of Patrol
Minneapolis Police Department
Minneapolis, Minnesota 55415

Dear Chief Prentice:

Today, marks the completion of the Minneapolis Police Patrol Emphasis Project. It has been my pleasure to serve as the Evaluation Director for this project.

With this letter, you will find ten copies of the final draft of the Evaluation Report. There remains a need for corrections on some pages of the Report. Since the City Council has failed to provide clerical resources, the corrected version was not possible within time constraints.

The PEP project must be finalized by the filing of five copies of the "Final Progress Report" including the Evaluation Report with Ms. Liz Ward of the Governor's Commission on Crime Prevention and Control. This must be done on or before March 31 of 1977. Should you desire, I will be available to assist you in the preparations of the "Final Progress Report."

In additions, I would like you to designate a person or unit within the Department who will receive and maintain the PEP files. I would recommend the Planning and Research Division for this assignment.

Enclosed is my final invoice for services under the PEP project.

As you know, I am managing the Minneapolis Crime Investigative Analysis Project. I look forward to working with you in the future.

Sincerely,

Lynn E. DeLong

MINNEAPOLIS POLICE PATROL EMPHASIS PROJECT EVALUATION REPORT

ACKNOWLEDGEMENTS

Appreciation is expressed to Captain Jack McCarthy of the Minneapolis Police Department and Assistant Commissioner Jack Jensen of the Minnesota Department of Public Safety, both former Chiefs of Police of Minneapolis, whose leadership made this project possible. Special appreciation is expressed to Carl E. Johnson, the present Chief of Police, whose support and interest led to the successful completion of this project. The efforts and support of Deputy Chiefs Jon Prentice and Al Pufahl and former Deputy Chiefs Bernard Goodrie and Patrick Farrell were greatly appreciated.

Doctor Leticia Chard and Marcus Battistini are highly commended for their technical competence, analytical skills and unfaltering ambition as the systems analysts assigned to this project. Marie Sikora is praised for her clerical competence as the stenographer assigned to the project.

The accomplishments of this project would not have been possible without the cooperation of many people. To all those who have assisted in the project, appreciation is hereby given. For their efforts in this project, the following receive special recognition:

The Civilians and Officers of the Minneapolis Police Department.

Doctor Jan Chaiken and the staff of the Rand Corporation.

Professor Richard Larson, Doctor Richard Weisberg and the staff of the Massachusetts Institute of Technology.

Mr. Terrance Doherty and the staff of LEAA's Region V Office.

Doctor Stephen Feinberg, Doctor Kinley Larntz, Mr. Eric Nordheim and Mr. Stephen Brier of the Department of Applied Statistics, University of Minnesota.

Doctor Norman Chervany and Peter Malkovich of the Department of Management Science, University of Minnesota.

Mr. William Madison, Mr. Michael Mansfield and Mr. Michael Meunier of the Management Information System Division of the City of Minneapolis.

Mr. Elroy E. Erie, Director of Systems Development, Minneapolis Police Department.

MINNEAPOLIS POLICE PATROL EMPHASIS EVALUATION REPORT

INTRODUCTION TO EVALUATION

The evaluation of this project began after several steps of the project had been concluded. The evaluation staff did not have occasion to observe the initial grant process or initial formulation of needs and objectives as stated in the grant application. The only knowledge the staff has of these initial activities is from documentation which has been located during the evaluation research.

This documentation shows that several assumptions were made by the project's formulators. These assumptions are stated in the "Objectives and Needs" portion of the grant application: "It is a well established fact in police science that the main pillar of any police department in carrying out its designated function is its basic patrol force. All other elements of a department . . . should most properly be considered as support units of the patrol force." Though this type of phrasiology can be found in many police science text books addressing the patrol function, it is questioned whether such a broad statement should be used without qualification. It may be true that in many police departments in the United States the patrol force represents the largest allocation of manpower and financial resources, but it is also true that there are some departments which operate without a patrol force. The concluding sentence of the section quoted from above says:

> Because the patrol function is of such great importance, department's administration should direct much of its efforts towards increasing the stature and effectiveness of the patrol force and the men working within that force.

If a department indeed allocates the largest portion of its manpower and financial resources to the patrol force, it only follows that the departments administration should also allocate the largest portion of its effort toward increasing the effectiveness of the patrol force.

The same section of the grant application states, "... the majority (of the nation's law enforcement agencies) have failed to implement scientific police patrol techniques to effectively address street crime and those crimes that tend to promote fear in the community." It is questioned whether this entire statement is valid, but since the main impact of this project is scientific allocation of police patrol resources, this statement should have been modified to reflect that purpose. The grant application continues to suggest that the lack of utilization of scientific techniques has resulted in several problems, including: "A.) Lack of job satisfaction for patrol officers, B.) A high turnover in patrol force personnel (the majority of officers attempt to transfer into the investigative function), and C.) A non-systematic approach to the allocation of patrol force resources." The grant application does not show a causal relationship between these problems and the failure to implement a scientific technique, and further fails to quantify and prove that these problems exist.

The grant application suggests that "various avenues must be explored to make the patrol force more effective and stable as an operational entity within the police organization." In spite of the lack of support found for this statement within the grant application, this is an acceptable assumption to serve as a foundation for this project. The application states, "It is the intent of the Minneapolis Police Department through scientific analysis, manpower allocation, participatory management, and the proper training to enhance its patrol function." Minneapolis's goals were to "implement scientific police patrol techniques to effectively address and minimize street crimes and those crimes which tend to promote fear in the community," "increase job satisfaction of the police officers in the performance of the patrol function," "minimize patrol force personnel turnover," and "implement a systematic approach to the allocation of patrol force resources."

The goals stated above were not defined or quantified in the grant application. There was no consensus to be found within the police department as to the meaning or measurement of these goals. Base line data was not available prior to the implementation of this project as to make possible the quantification of most of these goals.

The Minneapolis grant application included a listing of results or benefits expected from the project. Though this listing also lacked quantification, it provided a more specific, qualitative basis with which to analyze the results of the project than did the goal statements. These anticipated benefits included:

A. Through the use of participatory management concepts, officers are provided input into daily and long range operational planning, thereby increasing their management and professional police expertise and role in the total police function.

B. Expansion of patrol officers' expertise in various aspects of law enforcement functions.

C. Recognition of the department's patrol force as the focal point and nucleus of the department's functional activities.

D. Stabilization of the department's patrol force by the retention of experienced officers.

E. Allocation of patrol force and investigative support units on a need basis, using data developed through systematic methods.

F. Reduction of response time, thereby increasing apprehension rates and service to the public.

G. Increased patrol emphasis in preventive programs.

H. Increase police officer/community contact and mutual understanding.

I. Increase support of total department services on a precinct level in concert with the daily operational planning and crime specific programs.

J. Increase total police services to citizens residing in designated target areas.

Working with these assumptions, problems, and goals the Minneapolis Police Department implemented the Minneapolis Police Patrol Empahsis Project.

MINNEAPOLIS POLICE PATROL EMPHASIS EVALUATION REPORT

EVALUATION DESIGN

The Evaluation Staff was hired with the assumption that it would be evaluating the Patrol Emphasis Project. The conception was that the staff would analyze the project's goals, quantify expected results and design an evaluation methodology to measure the achievement or lack of achievement of project goals.

Two obstacles block the path of the Evaluation Staff in accomplishing these ends.

The first obstacle was the realization that what base line data had previously existed for the Minneapolis Police Department had been inadvertently destroyed in January of 1975. It was further found that the segregated data for the first three months of 1976 was unusable. The Evaluation Staff recreated some of the 1974 data from a preserved card source. In a verification check of the 1974 data, the Evaluation Staff found it to be unreliable for evaluation purposes. The Evaluation Staff then proceeded to re-design the then current data base. The new data base was to be used to conduct an extensive analysis of Minneapolis crime data and patrol performance. The Evaluation Staff concluded that comparative before and after evaluation design was impossible for this project.

The second obstacle was the role that other projects in the Minneapolis Police Department would play, combined the role that the Evaluation Staff would play, in the PEP Project. Shortly after the project start-up, in response to urgings of the staff of the Minnesota Governor's Commission on Crime Prevention and Control, the Minneapolis Police Department began efforts to merge the Patrol Emphasis Project, the Communications Project, and the Technology Transfer Project. The data collection system that the Evaluation Staff was working on at the time of this merger was put aside with the Technology Transfer Project's Computer Assisted

Dispatch (CAD) replacing it. The Technology Transfer Project's CAD was to become operational early in the course of the Patrol Emphasis experiments. It did not become operational until two months after the PEP experiments were completed. Less than two months after becoming operational, the CAD was discontinued and the Evaluation Staff of the Patrol Emphasis Project proceeded to implement the Complaint Card Entry System for the collection of data on patrol activities.

The Evaluation Staff very early in the start-up period found its role not only that of evaluators but that of project managers and implementors. In pure experimentation methodology, the Evaluation Staff would have been separated from project management and implementation functions. Pure experimentation was not the situation in the Minneapolis Police Department's Patrol Emphasis Project. The Evaluation Staff was intimately involved with the operations of the experiments. Normally, such involvement would raise the question of bias. This is no exception. But, it was this closeness to the operations of the project that allows for a more in-depth empirical approach.

There is no evaluation design. The evaluation staff was informed that the Minnesota Governor's Commission on Crime Prevention and Control would assist in drafting the evaluation design. The Crime Commission's Project Evaluation Unit was to assist the Minneapolis Police Department in the design prior to project start-up. The Evaluation Staff received this information four months after the implementation of the field experiments.

This evaluation report will give the observations, analysis and recommendations of evaluators. There was little quantitative evaluations of significance. The qualitative evaluations are proferred for consideration.

PROJECT IMPLEMENTATION

On April 9, 1974, the Minneapolis Police Department applied for $300,285 of Law Enforcement Assistance Administration funding for the Minneapolis Police Patrol Emphasis Project. Less than two months later, on May 31st, the City of Minneapolis entered into an agreement with the Minnesota Governor's Commission on Crime Prevention and Control to implement and operate the Police Patrol Emphasis Project.

The months of June and July of 1974 were spent in active involvement in preparing the department to implement the Patrol Emphasis Project. The extent of the departmental involvement in proceeding to implement this project is well documented by information discovered by the evaluation staff.

The evaluation staff found little documentation and also little involvement of the department in this project from the middle of August of 1974 to January 1, 1975. From interviews, evaluation staff learned that during the month of August 1974, questions were raised about the City's Affirmative Action policies. These questions led to the determination that the City of Minneapolis did not have an effective Affirmative Action Program and thus was not eligible for Federal and State funding. Project activities were then halted. During the months of November and December, the Department became hopeful that funds would again be made available and proceeded to prepare for re-implementing the project on January 1, 1975.

The evaluation staff found that the January 1, 1975 start-up was an attempt to continue from where the Department was at the time of the August halt in the Patrol Emphasis Project. Later in January, the Police Administration decided to speed up the implementation of field operations under the Patrol Emphasis Project. This speed up was accomplished by implementing the experimental field operation on March 1, 1975. (Note: The evaluation staff with the exception of

the director was not hired until after the implementation of the field experiments.) The Police Administration indicated that their reason for moving up the implementation of the field experiments was pressure placed upon them by the Governor's Commission on Crime Prevention and Control and Regional L.E.A.A. Office.

If the Affirmative Action problems had not affected the start-up, this project would have had an active, enthusiastic implementation. There has been no evaluation done by the evaluation staff of the "Affirmative Action" problems experienced by the City of Minneapolis and therefore those problems will not be commented upon in this evaluation report. It remains that the project was off to an active implementation prior to the problems and that a time span from August to January had its effect of decaying motivation instilled into the participants during June and July.

After the funding was re-instituted, the project may have been better served had it been re-initiated as a fresh start. During the time that had passed, the Police Department had changed administrations and was now headed by a new Chief of Police. Other changes had taken place within the department and it is doubtful whether everyone was informed of their respective roles in the project; had they been informed six months earlier, it is doubtful whether they still remembered their roles at the time the field experiments were implemented.

During the period of initial contact of the evaluation staff with field personnel, officers involved in the project indicated varying degrees of knowledge of the project. When asked about the expected impact of the Patrol Emphasis Project upon the officers, the officers indicated in the range of "someone's just screwing around again" to "it's about time someone did something". When questioned about what the Patrol Emphasis Project was, participating officers indicated the following:

"More manpower for our precinct"
"Paid overtime"
"More new equipment"
"More Federal butting in where they don't belong"
"Another boondoggle"

When questioned as to what their role would be in the Patrol Emphasis Project, participating officers responded that they were not sure. An exception to this were officers on the precinct planning committees. They indicated that they would be supplying a street level input into decision making affecting patrol resource allocation within their precincts.

Prior to the secondary round of field contacts, the director of the evaluation staff had information disseminated to the precincts indicating his background as a law enforcement officer. The second approach to field contacts elicited more candid comments from the officers involved in the project. Often such comments were prefaced with phrases similar to "as one cop to another cop." This round of contacts produced comments of doubt such as "I've been around here 17 years. I've seen a lot of Police Chiefs come and go. I haven't seen a one capable of making much of a change upon this department." Officers and observers of the Minneapolis Police Department indicate that the management cycle within the Police Department prohibits effectively implementing change. One of the officers indicated that it takes six months for a police administration to find out what is happening, another six months for the police administration to figure out what they are going to do about it, a third six-month period to attempt to do something about it and the fourth six-month period is involved in election campaigning and during that period losing touch with the operations of the Police Department.

These statements were found to be exaggerations of the Minneapolis Police Department's political situation. Long range planning is needed in an or ganization the size of the Minneapolis Police Department. Attempts at long range planning or implementing change in the Minneapolis Police Department will run into the obstacle of political reality. The re-organization of the Police Chief's Office has been discussed by many, this evaluation report will not discuss it further. These comments are included for the purpose of clarifying the environment in which this project was conducted.

It is recommended that future projects within the Minneapolis Police Department be implemented with extensive departmental involvement. It is recommended that the projects be designed in a general and open ended format. This will allow the Minneapolis Police Department to merge the project with existing police department operations.

RESOURCE ALLOCATION

The Minneapolis Police Department through the Patrol Emphasis Project desired to implement a systematic approach to the allocation of police patrol force resources. From the scientific analysis of community need, the Minneapolis Police Department desired to develop a model which would effectively allocate these resources. The efforts of the Minneapolis Police Department to develop a model was initially channelled to create an equalized work load model. Resource allocation according to work load was to be the result of a use of a tool described as "the 168 hour graph."

The Minneapolis Police Department received the definition of "the 168 hour graph" as follows:

> A graph indicating the percentage of total number of calls received for a one year period for the entire city displayed by the hour of each day of the week that calls were received.

The initial analysis of "the 168 hour graph" by precinct personnel indicated that the calls for the service for the two participating precincts were normally different than that which appeared on "the 168 hour graph" for the entire city. The evaluation staff began to experiment with the data on calls for service; this analysis showed that a city-wide tool would not appropriately answer questions of precinct allocations and further showed that the tool used for a precinct based upon a year's data would not be appropriate for the various seasons of the year within the precinct.

The evaluation staff continued to perform mathematical evaluations of "the 168 hour graph." These evaluations lead to the conclusion that the call for service rate per hour was an appropriate method of gathering data, but to be effective must include more than the raw number of calls received. The conclusion drawn is that not only is the hour and rate of arrival of calls necessary but the type and priority of calls, the geographical location of the calls, the service time of the calls, and other performance measurements were

necessary. The end result of the mathematical evaluation of "the 168 hour graph" was that it was an inappropriate tool to tackle resource allocation as initially defined; it was an appropriate data collection mechanism when expanded to include other descriptive data.

Following the conclusion drawn by the evaluation staff, the staff proceeded to analyze and define the resource allocation decision process as it effects police patrol allocation in the Minneapolis Police Department. The staff developed a resource allocation decision chart which in graphic form portrays the decision making process of allocating resources to the Minneapolis patrol function. (See Appendix A). The decision process includes the decisions made by the City Council as to the amount of financial resources and manpower resources to allocate to the Police Department. The Police Chief has a decision as to how much of these resources to allocate to the various bureaus of the Department. The Deputy Chief of each bureau must allocate resources within his bureau; the Deputy Chief of Patrol must decide how many resources to allocate to each of the three functional areas within his bureau. (These functional areas in Minneapolis include the Special Operations Division, the Traffic Division, and the six police precincts). The Deputy Chief must decide how many resources should go to each precinct. At the precinct level, the Precinct Commander must decide how many resources should be assigned to each shift. The shift supervisor must decide how many resources to assign to what parts of the precinct and on what days of the week. The shift supervisor thus finally places a patrol officer on the street in a patrol car with a particular geographical area of assignment and a particular time of assignment. The patrol officer is then left with the decision as to what activity he participates in when he is so allocated. This decision is not his alone for calls for service arrive in the Police Communications Center and patrol officers are dispatched to provide service to a substantial portion of these calls.

A resource allocation model to be appropriate for the allocation of the patrol resources in the Minneapolis Police Department must be capable of providing assistance to these decision makers in their efforts to effectively allocate resources. Resource allocation based upon work load data developed by measuring the relative demand for service obtained by counting the number of calls for service occurring during each hour of each day of the week would only be of assistance in assuring that the average number of calls handled per hour per patrol officer was constant throughout the week. Though this average would remain constant, significant variance would occur in the actual number of calls handled by officers due to geographical assignment. The problem was one of deterministic reasoning versus probabilistic reasoning.

Though "the 168 hour graph" of calls for service would at casual observation appear to be a valid resource allocation tool, it falls short of being satisfactory for the allocation of patrol resources in the Minneapolis Police Department. A resource allocation tool for the Minneapolis Police Department must help answer these questions:

1. The total amount of resources to be made available during a budget period?
2. The fraction of that total to be assigned to each functional unit (i.e., Patrol, Investigative, Services)?
3. The total amount of resources to be assigned to each sub-unit of each functional unit?

As an allocation tool addresses these questions as they relate to patrol, it must be capable of addressing the relationships of specialized units (SOD & TRAF) and precinct units. The adjustment of precinct and district boundaries, the response times, priority, and service time of calls. Of concern to the Minneapolis Police Administration in the allocation of patrol resources are several critical factors, including:

1. The structure of precinct boundaries to correspond with physical constraints of movement.

2. The structure of boundaries as to prevent the splitting of demographically homogeneous neighborhoods.

3. The assignment of patrol officers to each precinct in sufficient number to allow the precinct commanders to allocate the officers to tours of duty as to meet optimum and/or equalized performance.

In summary, the resources allocation tool required for the Minneapolis Police Department must aid in determining allocation policies affecting:

1. The total resources assigned to the Patrol Bureau,

2. The resources assigned to each precinct and functional unit within the bureau,

3. The scheduling of available resources by hour of day and day of week,

4. The location of squad districts within the precincts and of areas of responsibilities for specialized units,

5. The policies and procedures of the communications center, including priority structuring, queueing discipline, and dispatch procedures and,

6. The quality and equity of police service.

Following this determination, the Minneapolis Police Department engaged in a nationwide search for resource allocation systems and models that were appropriate for assisting the decision makers in allocating police patrol resources in the City of Minneapolis.

Having determined "the 168 hour graph" as not satisfactory for MPD, the project staff aimed at finding a more satisfactory system. Several techniques were examined including site visits to observe the following:

1. POSSE (Police on Spot Systems of Enforcement) - Santa Cruz, CA

2. CAPER (Crime Analysis Program Evaluation Research System) - Santa Clara County, CA

3. A total Public Safety System - Long Beach, CA

4. A Police Management Information System - Sunnyvale, CA

5. AIRS (Automated Incident Reporting System) - St. Paul, MN

6. Computer Assisted Dispatch - Dallas, TX

7. Computer Assisted Dispatch - Jacksonville, FL

8. Computer Assisted Dispatch - Peoria, IL

Literature research and site analysis began to focus upon the development of a mathematical model based upon queueing theory. The examination of available resource allocation tools led to the discovery prior to its publication of the Hypercube Queuing Model developed by Richard Larson, et al., at the Massachusetts Institute of Technology and the Patrol Car Allocation Model, developed by Jan Chaiken, et al., of the Rand Corporation. These resource allocation models assisted in the decision making process with the use of performance measures. These models allowed the decision makers to establish standards of performance and to compare various resource allocations in regard to the calculated performance measurements. With the Patrol Car Allocation Model, the City Council, the Police Chief, the Deputy Chiefs and Police Commanders can evaluate the effect of increases and decreases in manpower to the patrol function, to a precinct, or to a shift. The Patrol Car Allocation Program will estimate the following performance measures:

Average number of units available
Preventive patrol frequency
Average travel time to incidents
Fraction the calls that will encounter delays in being serviced
Average time that calls are delayed for each priority level
Average total response time.

In addition to estimating performance measures for allocations developed by the decision maker, the Patrol Car Allocation Model can be used to describe the amount of resources needed to meet the standards of performance set by the decision makers. The Patrol Car Allocation Model allows for the consideration of resource allocation decisions across time or geography or both.

The Hypercube Queuing Model can be used by the decision makers at the precinct commander and shift supervisor levels to design police patrol districts and allocate resources to these districts. This model calculates the performance measures indicating response times, out of district assignments, and work loads.

The data base used for these models is an amplified version of "the 168 hour graph." The amplified 168 hour graph indicated call rates and service times by hour of day and day of week and by priority and by geographical area. The data base also includes information as to geography of the area, the response speed and patrol speed of patrol units, crime rates, and information about the nonavailability factors of police patrol units.

These two models have been transferred to Minneapolis and have been implemented upon computer hardware available to the Minneapolis Police Department. The evaluation staff feels it appropriate to note these programs were transferred with little effort and small expense. Both of the models are currently in residence and operational upon the Hennepin County Data Processing's IBM 370 computer. Documentation on both of these is available from the Rand Corporation, Santa Monica, California 90406.

Because of the adaptability of these models to urban police departments, it is recommended that these models be made available on a regional basis as technical assistance to local urban law enforcement agencies.

PARTICIPATORY MANAGEMENT

Through the use of Participatory Management, the Minneapolis Police Department attempted to obtain officers input into daily and long range planning for the Police Department. The anticipated benefit of Participatory Management was the increase of management skills and professional police expertise as well as increasing the role that the officers play in the patrol function.

The department stated in a mid-1974 report that "this concept (Participatory Management) will enable all supervisory and patrol officers to participate in the actual planning in implementation of this program (Patrol Emphasis)." (From Semi-Annual Planning Report of the Minneapolis Police Department, 1974).

Late in 1974, the police department published the Second Year Action Plan. In this report, the department stated:

> We must maximize communication between management and operational levels. To develop this concept the formulation of department advisory councils has begun and will be completed with the establishment of the following;
>
> Supportive Service Advisory Council
> Police Officers Advisory Council
> Supervisors Advisory Council
> Investigators Advisory Council
> Management Council
>
> A general order will be issued covering in more detail the functions of the Advisory Councils.

POLICE FEDERATION EXECUTIVE BOARD

The Chief, with staff, will meet monthly with the Police Federation Executive Board in order to receive their input on departmental efforts.

PRECINCT/DIVISIONAL PLANNING COMMITTEES

Each precinct/division shall establish a "planning committee" representative of rank structure. This planning committee shall participate in development of the Long Range Plan and precinct/divisional programs for crime control.

general order will be issued covering in more detail the functions of the Precinct/Divisional Planning Committees.

PROGRAM PERFORMANCE BUDGETING SYSTEM

The Precinct Planning Committees shall also function as precinct/divisional budget teams. They will participate in the development of our program performance budget with an Administrative Budget Team comprised of the following:

Deputy Chief of Services
Supervisor of Administrative Services
Captain of Planning and Research Division
Lieutenant, Planning and Research Division
Administrative Assistant to the Chief
Systems Analyst, Planning and Research Division

The foregoing shall be established by a special order during this budget cycle.

TASK FORCES FOR PROGRAM DEVELOPMENT

Task forces shall be created on a need basis by special order. These task forces shall be study groups made up of departmental personnel with such outside resources they deem necessary. Their role will be to study a particular departmental problem and design a program to deal effectively with that problem. (An example of this would be task force to study remedial programs as an alternative to disiplinary action).

SUGGESTION PROCEDURE

Planning and Research Division task sheet form can be used by any member of the department for the following purposes:

To recommend a department-wide program or an improvement in an existing one.
To recommend a task force study of a department-wide problem.
To recommend a precinct/divisional program or an improvement on an existing one.
To make a suggestion to the administration or the division.

The initial procedure will be to forward a task sheet draft to Planning and Research Division or, when appropriate, directly to the precinct/division concerned. A new form and procedure will be developed if deemed necessary.

RECOGNITION

Members of the department providing ideas, initiative and performance in these areas shall be considered for awards as outlined in GP 74-25. Further, a department member's involvement in a given effort will be recorded or represented in conjunction with that effort.

PERSONNEL DEVELOPMENT

This is a cumulative process, and we hope to maximize the development of members of this department personnally and professionally by their direct involvement. Additionally, other programs within the community policing models, e.g.; Patrol Emphasis, will also contribute to personnel development.

The participatory management approach was implemented on December 4, 1974 under GP 74-36. The following is a copy of the order instituting participating management:

DISTRIBUTION "A"

JOHN R. JENSEN, CHIEF OF POLICE

PARTICIPATORY MANAGEMENT APPROACH - ESTABLISHMENT OF ADVISORY COUNCILS UNTIL RESCINDED

Purpose: To institute a series of advisory councils both in the community and throughout the Police Department which will assure citizen input, enhance communication and promote participatory management.

SECTION I

I. Precinct Advisory Councils

Purpose: To establish Precinct Advisory Councils which shall have as their objectives:

1. To aid the police in crime prevention programs.

2. To develop neighborhood consciousness and alertness to precinct problems.

3. To promote a better understanding and closer relationship between the police and the community.

A. Precinct Advisory Councils shall be implemented at all precincts effective January 1, 1975. The precincts shall select their representatives independently in the following manner:

1. The Captain of each precinct shall be a member of the Council.

2. The Captain shall select two (2) representatives from the business community.

3. Officers from each primary squad district shall select one (1) representative and one (1) alternate representative resident from that district.

4. The Mayor shall select one (1) representative who is also a resident of that precinct.

5. Each alderman whose ward or part thereof is located in the precinct shall select one (1) representative who shall also be a resident of that precinct.

6. The council members selected in the above manner shall select three (3) additional members from the community they deem to be representative of the precinct population.

B. Upon selection to the Precinct Advisory Council:

1. The Captain of the precinct shall send notice to all members of the Council and the department administration giving the name of each member.

2. The Captain shall be responsible for giving notice to all members of the date, time and location of meetings.

3. The members of the Council shall select one of their members to be their representative on the Chief's Advisory Council.

4. All members of the Council shall have equal votes.

5. The Precinct Advisory Council shall meet at least once a month.

6. At the initial Precinct Advisory Council meetings members shall determine the length of terms of office for each member. These may vary from six months to one year in length and special emphasis should be put upon not having the terms of office expire at the same time.

C. A brief synopsis of the results of the meeting shall be sent to all members of the Council.

II. Chief's Advisory Council

Purpose: To assure citizen input to the Chief from all areas of the community. To establish on-going communication between the Chief and the Precinct Advisory Councils.

A. The Chief's Advisory Council will be activated effective February 3, 1975.

B. Representatives to the Chief's Advisory Council shall be selected by the Precinct Advisory Council. Each Precinct Advisory Council will select one (1) representative (at their initial meeting to sit on the Chief's Advisory Council).

C. The Chief's Advisory Council will meet once a month on a date subsequent to the monthly meetings of the Precinct Advisory Councils.

III. Permanent In-House Councils

Purpose: Establishment of the following councils structured with members of the Police Department representative of the various ranks and position throughout the department.

A. Supportive Services Advisory Council

1. Selection of representatives

a. The civilian staff in the Minneapolis Police Department shall elect one representative from each of the following:

(A) Central Steno Pool
(B) Division Steno Staff
(C) Property Room
(D) Auto Desk
(E) Communications Division
(F) Identification Unit
(G) Administrative Offices
(H) Traffic Division
(I) Juvenile Division
(J) Community Service Officers
(K) Precinct Janitorial Services

b. Upon selection to the Council the representative's name shall be sent to the Deputy Chief of the Service Bureau.

2. Meetings

a. The Supportive Services Advisory Council shall meet monthly with the Deputy Chief of Services.

b. Whenever possible, it is desirable that the members attend the meetings during their normal tour of duty. When this is not possible or practical, arrangements should be made between that member and his/her supervisor so that his/her work day may be adjusted so that the meeting time and normal duties total no more than eight hours. If neither alternative is possible or practical, the member shall select a fellow staff member to represent his/her group at the council meeting.

c. A brief synopsis concerning the results of the meeting shall be sent to all council members.

B. Police Officers Advisory Council

1. Selection of Representatives

a. Each of the following shall select three (3) representatives to serve as members of the Police Officers Advisory Council:
(A) Each of the six precincts
(B) Traffic Division
(C) Special Operations Division
(D) Communications Division

b. At least one (1) representative from each precinct or division must be in attendance at the monthly meetings.

c. Upon selection to the Council the representative's name shall be sent to the Deputy Chief of the Patrol Bureau.

2. Meetings

a. The Police Officers Advisory Council shall meet monthly with the Deputy Chief of the Patrol Bureau.

b. A brief synopsis concerning the results of the meeting shall be sent to all council members.

C. Investigative Advisory Council

1. Selection of Representatives

a. The Investigative Advisory Council shall consist of two (2) representatives from the Burglary Division and two (2) representatives from the Juvenile Division, and,

b. One representative from each of the following divisions and/or units:
(A) Forgery
(B) Theft
(C) Homicide

(D) Robbery
(E) Identification
(F) Criminal Intelligence
(G) Internal Affairs
(H) License
(I) Morals
(J) Narcotics

c. Upon selection to this Council the division and/or unit representative's name shall be sent to the Deputy Chief of the Investigative Bureau.

2. Meetings

a. The Council shall meet monthly with the Deputy Chief of the Investigative Bureau.

b. A brief synopsis concerning the results of the meeting shall be sent to all council members.

D. Investigative Supervisors Advisory Council

1. Selection of Representatives

a. The Investigative Supervisors Advisory Council shall consist of one (1) detective supervisor from each division, and one (1) lieutenant from the Juvenile Division.

2. Meetings

a. The Investigative Supervisors Advisory Council shall meet monthly with the Deputy Chief of the Investigative Bureau.

b. A brief synopsis concerning the results of the meeting shall be sent to each member of the Council.

E. Supervisors Advisory Council

1. Selection of Representatives

a. The Supervisors Advisory Council shall consist of three (3) supervisors from each of the precincts and one (1) supervisor from the following division:
(A) Special Operations
(B) Traffic
(C) Communications

b. Upon selection to this council all representatives' names will be sent to the Deputy Chief of the Patrol Bureau.

2. Meetings

a. The council shall meet monthly with the Deputy Chief of the Patrol Bureau.

b. A brief synopsis concerning the results of the meeting shall be sent to all council members.

c. At least one supervisor from each division/unit must attend monthly council meetings.

IV. ManagementCouncils

These councils shall consist of Divisional/Precinct Commanders. The councils will meet monthly with the respective Deputy Chief of their bureau.

V. Administrative Management Team

A. This team will consist of the Chief, Deputy Chiefs, Inspectors and Chief's Administrative Assistant.

B. This team will meet on a weekly basis.

C. The Administrative Management Team shall provide the final review of department policies, procedures, programs and projects and make recommendations to the Chief.

SECTION II

I. Special Councils

The following councils are established to deal with specific problems/areas:

A. Precinct/Divisional Planning Committees

1. These committees shall be established by each Precinct/Divisional Commander. They will be representative of the various shifts/specialties within the precinct division. For example, a precinct planning committee would consist of one patrolman, one sergeant, one lieutenant, and one specialist, if assigned; such as lieutenant investigator or juvenile investigator.

2. This council will meet with the Precinct/Division Commander on a monthly basis to do operational and long range planning.

B. Precinct/Divisional Budget Team

1. Members of the Precinct/Divisional Planning Committees will be activated, via Special Order, to work on development of a program budget with the Administrative Budget Team.

C. Administrative Budget Team

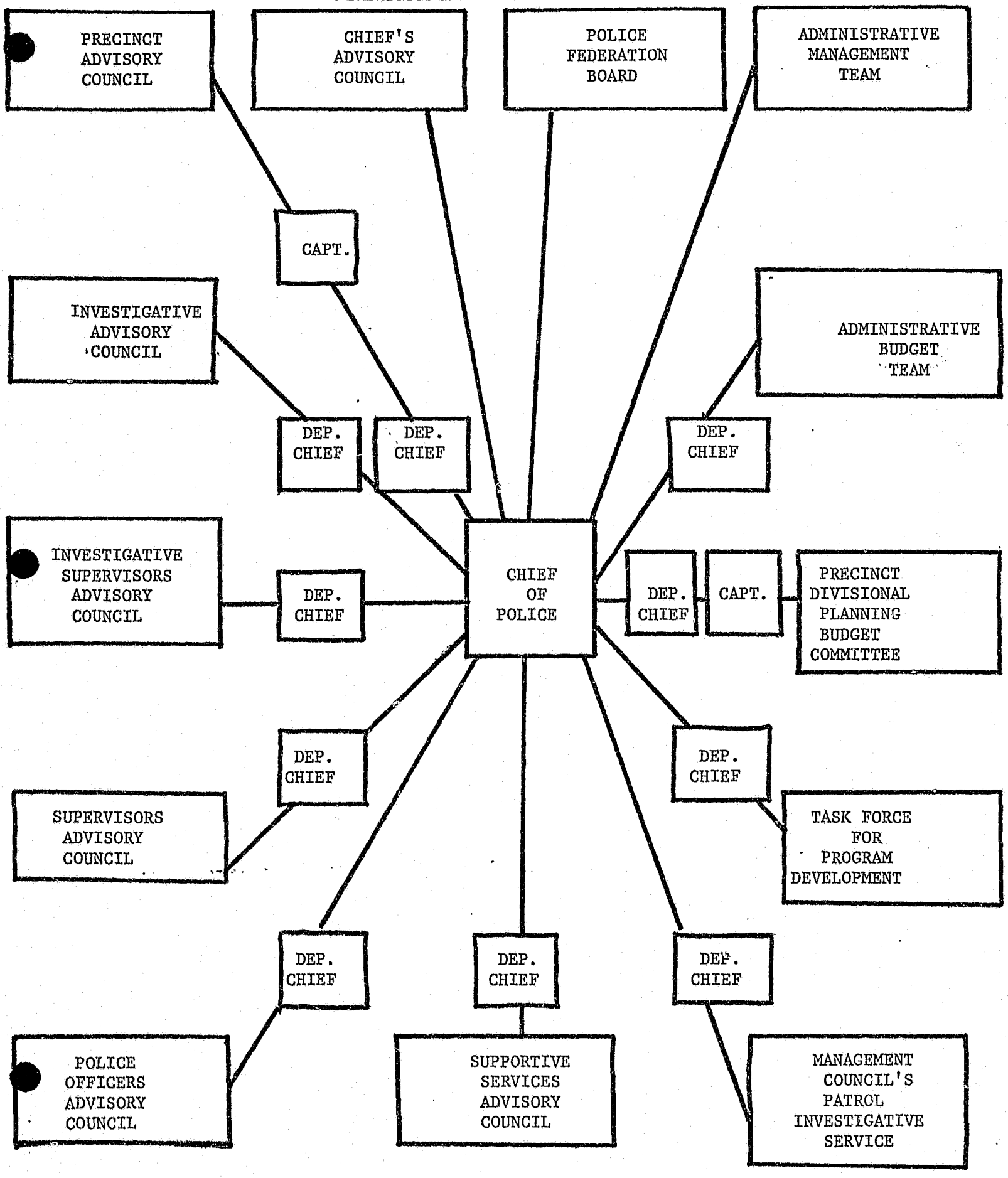
1. The Administrative Budget Team will be created, by Special Order, each budget cycle.

2. The nucleus of its membership shall be: Deputy Chief of Services, Supervisor of Administrative Services, Administrative Staff of Planning and Research, and the Administrative Assistant to the Chief.

D. Task Forces for Program Development

Task forces shall be created on a need basis by Special Order. These task forces will be study groups made up of departmental personnel with such outside resources they deem necessary. Their role will be to study a particular departmental problem and design a program to deal effectively with that problem. (An example of this would be a task force to study remedial programs as an alternative to disciplinary action).

PARTICIPATORY MANAGEMENT CONCEPT



Less then 15 months from the distribution of GP 74-36, the Minneapolis Police Department distributed GP 76-7 which rescinded GP 74-36. The following is a copy of GP 76-7:

MINNEAPOLIS POLICE DEPARTMENT
GENERAL ORDER

LD-30

DATE: 20 FEB 76

NO: GP 76-7

TO: DISTRIBUTION "A"

PAGE: 1 of 2

FROM: CARL E. JOHNSON, CHIEF OF POLICE

REFERENCE:

SUBJECT: ADVISORY COUNCILS

RETAIN: UNTIL RESCINDED

RESCINDS: GP 74-36

ed.: AEP

I. PRECINCT ADVISORY COUNCILS

A. Each precinct will have an advisory council with representatives selected in the following manner:

1. The captain of each precinct will be a member.

2. Each precinct captain will select two representatives from the business community.

3. Precinct officers from each primary squad district will select one representative and one alternate representative resident from that district.

4. The Mayor may select one representative who is a resident of that precinct.

5. Each Alderman whose ward or part thereof is located in that precinct may select one representative who will also be a resident of that precinct.

6. The council members selected in the above manner will select three additional members from the community whom they deem to be representative of the precinct population.

B. Upon completion of the selection of representatives:

1. The captain of each precinct will forward a list of names of all the members of the council to each council member and the department administration.

2. The captain of each precinct will be responsible for notifying all members of the respective councils of the date, time and location of the meetings.

3. Members of each of the precinct councils will select one of their members to be their representative on the Chief's Advisory Council.

4. All members of each council will have equal votes.

5. Each Precinct Advisory Council will meet at least once a month.

6. Each Precinct Advisory Council will determine the term of office for its respective members. The terms may vary, however, special emphasis should be placed upon not having terms of office expire on the same date.

C. A brief synopsis of the results of the meetings will be forwarded to all members of the respective council.

II. CHIEF'S ADVISORY COUNCIL

A. Each Precinct Advisory Council will select one member to be a representative on the Chief's Advisory Council.

B. The Chief's Advisory Council will meet once a month on a date selected by the Chief of Police and subsequent to monthly meetings of the Precinct Advisory Councils.

By order of

Carl E. Johnson
Chief of Police

EVALUATION OF PARTICIPATORY MANAGEMENT

In a Law Enforcement Agency, Minneapolis not being an exception, participatory management is present as a matter of necessity as opposed to that of being created by design. Each officer in a police department is a vital decision maker as to what functions and activities he will participate in. There appears to be a greater latitude of discretion at the lower ranks than at the upper ranks. This discretion appears to be of an operational nature as opposed to being of an administrative nature. The participatory management concept for the Minneapolis Police Department as supported with the Patrol Emphasis Program did not recognize that a great deal of discretion already existed. Such a recognition could have served as a baseline for the development of a formal participatory management concept.

Without the recognition of police officer discretion as a phenomena of participatory management and without a structured implementation program, the Minneapolis Police Department attempted to institute participatory management. The approach was of a "today we don't have it, tomorrow we shall have it."

The rapid institution of participatory management was not uniform as to the style that participatory management was to take at the various levels. In some areas, complete abdication of command authority was observed. In other cases, authoritarian control was exercised over the participatory activities of the subordinates.

MINNEAPOLIS POLICE PATROL EMPHASIS EVALUATION REPORT

APPENDIX A

RESOURCE ALLOCATION DECISION CHART

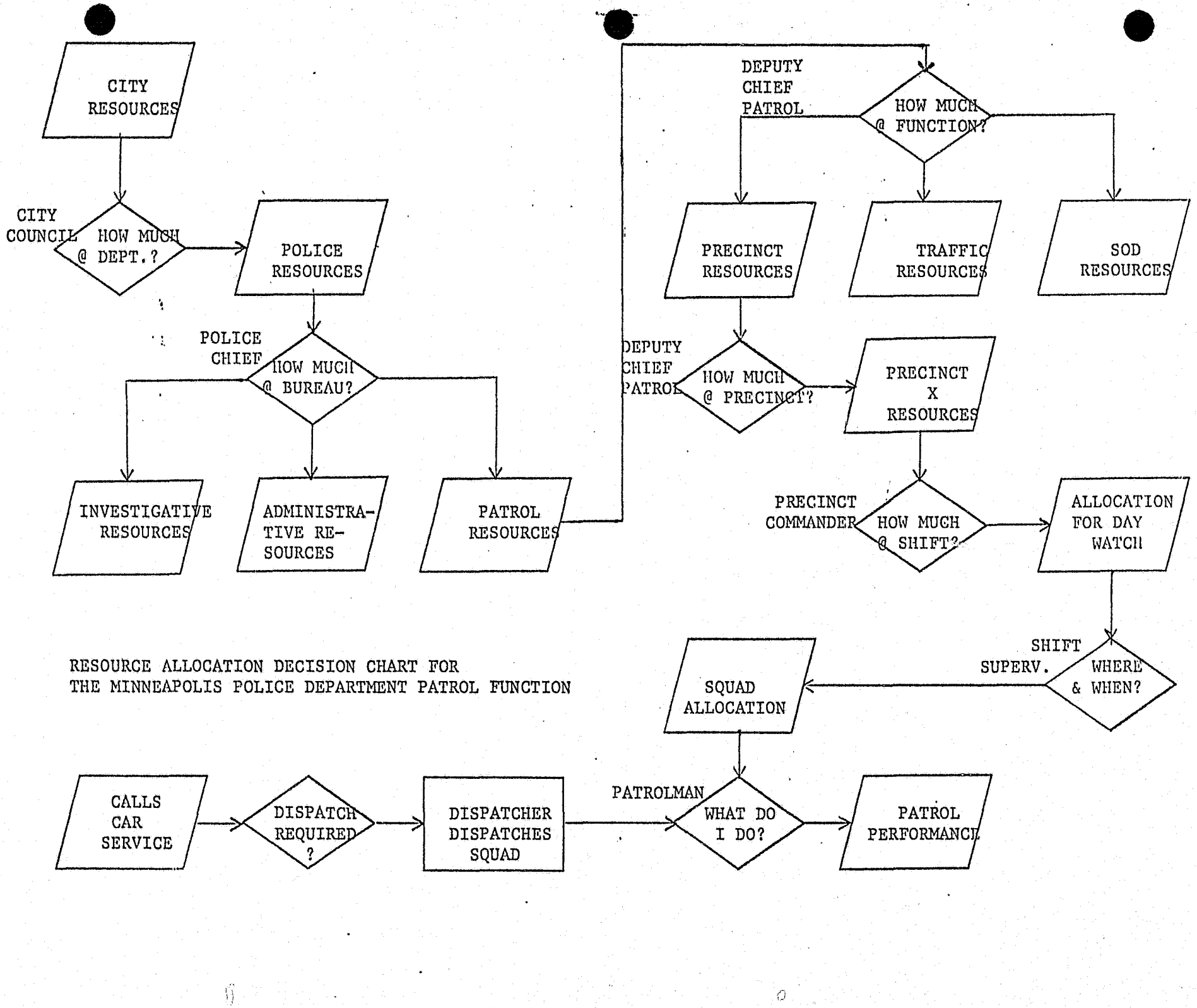
for the

MINNEAPOLIS POLICE PATROL FORCE

PREPARED BY

LYNN E. DeLONG

PUBLIC PRODUCTIVITY INSTITUTE



RESOURCE ALLOCATION DECISION CHART FOR
THE MINNEAPOLIS POLICE DEPARTMENT PATROL FUNCTION

MINNEAPOLIS POLICE PATROL EMPHASIS EVALUATION REPORT

APPENDIX B

APPLIED STATISTICIANS REPORT

PREPARED BY

Dr. Stephen Fienberg

Mr. Stephen Brier

Mr. Eric Nordhiem

UNDER THE DIRECTION OF

Lynn E. DeLong

PUBLIC PRODUCTIVITY INSTITUTE

CONTENTS:

1. ANALYSIS OF 1975 DATA

We have only looked at the data for the 13 weeks beginning April 2, 1975. This data consists of offense records categorized by date, hour of day, type of crime, and precinct of occurrence. Before discussing the data, we will describe the various graphs and tables that have been constructed.

The crime categories were combined into three types. Type 1 includes murder, rape, and assault. Type 2 includes burglary, robbery, and larceny over $50.00. All of the remaining crimes are included in type 3. It should be noted that bicycle thefts and narcotics-related offenses are not included in this data. Because of the small numbers of type 1 crimes, categories 1 and 2 have been combined in all of the graphs (except where otherwise noted). For completeness, we include a listing of all graphs:

1. "168 hour" graphs: These graphs represent totals over the 13 weeks of crime within a particular hour and day of the week. The graphs are broken down by crime types (1 and 2 combined) and by precinct. There are also city-wide graphs.

2. "91-day" graphs: These consist of daily totals for the 91 days. They are broken down by precinct and by crime type as above.

3. Weekly totals: For each of the 6 precincts total crime for each of the 13 weeks is plotted, as well as the city-wide total. There is no breakdown by crime type.

4. Daily totals: These graphs consist of 7 points with each point being a total over the 13 weeks. Only the total crime counts are broken down by precinct. The city-wide daily totals are broken down into each of the 3 crime types.

5. In addition to the graphs, we have looked at two contingency tables constructed from the data. These are titled: "Log-Linear Models". This output contains listings of various marginal tables.

We present these graphs as summary statistics which may be useful for further studies as well as reference. Time did not permit a complete analysis of this data, but we discuss a number of interesting facets of the data which we hope will serve as guides for future analysis.

1. Perhaps the overriding point is that 13 weeks of data is not nearly enough to come to any firm conclusions. There are two sources of variability inherent in crime data: Firstly is the variability of occurences and secondly is that due to errors in recording. This especially affects the hourly figures since quite

often the exact time of occurrences is not known and must be estimated.

2. The 168-hour graphs indicate a low point in crime occurrence between the hours of 4 and 6 a.m. This is consistent across days of the week and among different precincts. However, looking at the graphs between the respective low points each day there is no clear trend during the other hours. A graph compiled over an entire year would be necessary to detect any definite patterns.

3. There is one point of note in the 168-hour graph for precinct 6. Though not conclusive, there is evidence that the hour to hour variability is greater in the first half of the week than in the second.

4. It was hoped that the 91-day graphs might indicate some reasonability but it is apparent that a full year's data would be necessary for this. It would be of interest to perform a time series analysis upon an entire year's data to detect cyclic trends.

5. The city-wide, 91-hour graph does point out 3 days as possible outliers, that is, days that don't fit into the overall pattern. These points, which are circled are Saturday of week 1, and the Wednesdays of weeks 4 and 6, respectively. The Saturday is lower than expected and it is primarily type 3 crimes which are low. It is also seen that the first Wednesday is high in crime types 1 and 2, while the second is high in type 3 crimes. The Saturday is low consistently among the 6 precincts, and the second Wednesday is consistently high. However, the high count on the Wednesday of the fourth week is due to high counts in precincts 4 and 6. These three days would warrant futher inspection to determine a possible cause for the anomalous behavior.

6. Perhaps the most interesting observation is that of the daily totals. Looking at the graphs by precinct there is no indication of a trend. However, the seven days totaled over the entire city show that total crime is highest in the first three days of the week and then decreases to its lowest value on Sunday. This data alone would seem to be contradictory to the usual assumption that crime is most prevalent on weekends. The city-wide graphs, broken down by crime type, prove interesting. The violent crimes (type 1) are lowest on Monday and increase to their peak on the weekend. The serious property crimes (type 2) are high on Monday and Tuesday and then decrease steadily. The remaining crimes (type 3) are considerably lower on Sunday than the rest of the week, but otherwise do not seem to vary significantly. The reason that the overall graph does not indicate the rising incidence of violent crimes is that they are a small (10% approx.) proportion of the overall crimes.

This observation again points up to the need for a careful consideration of priorities. There does seem to be clear differences in patterns between different types of crimes and some compromises may be necessary in an overall crime program. More importantly, these data are occurrences of crimes and not calls for service.

If the overriding goal of the MPD is to reduce response times, this data may not be applicable. There are, of course, relationships between crime patterns and calls for service but they are distinct variables.

Before discussing the two contingency tables that we have analyzed, a brief description of what such a table is. We sample elements from a population and classify each element by two or more variables. For instance, we may sample people and determine their sex and hair color. This would yield a two dimensional table with two rows (sex) and three columns (black, brown, or blonde hair). Each of the six entries in the table would be filled by the number of persons in the sample who simultaneously satisfy both variables. If we had also asked each person sampled whether they were under or over 21 years of age, we could now classify each person on the basis of 3 variables and construct a three-dimensional table (this one would be called a 2 x 3 x 2 table). What we hope to do is make inferences from the sample to the population. In the first table described above, the immediate question of interest might be whether or not hair color is independent of sex; i.e. are females more likely to have a particular color of hair than males. Questions like this may be answered by fitting a model that satisfies the desired criterion and then using a Chi-square test to check if the model is valid.

Both of the tables that we analyzed were formed by classifying crimes according to various categories. The first table is the three dimensional one in which each crime is classified by the week, hour, and day of its occurrence. Various models were fitted to the table but none yielded a very good fit. For instance, we fit a model to the margins (1) and (23). This model says that the week of occurrence is completely independent of the hour and day of occurrence. The Chi-square value for this model is 2733 on 2088 degrees of freedom which is highly significant - indicating that the model does not explain the data very well. Lack of fit of this and the other models indicates that there is no simple relationship to be found among these three variables.

The second table is a cross-classification by precinct, hour, and day.

Again, no simple models provide good fit but in this case, the model of no three-factor interaction does fit well. This model says that there is a relationship between precinct, hour, and day, but that the relationships between hour and day is not affected by precinct.

We have also taken a random sample of one day's dispatch records and briefly analyzed the data contained therein. From these records we hoped to evaluate the distributions of service times by looking at various histograms. This did not prove fruitful as there was not enough data. A number of the records had to be discarded because not all of the necessary times were recorded and in some cases, negative response times were recorded. We feel that any analysis of this data would best be put aside until the improved collection techniques are implemented. We further recommend that an analysis of the 1974 crime data would not be warranted at this time; while some useful information would be gained from such an analysis, it would be wiser to devote the MPD efforts to other tasks.

2. DATA COLLECTION NEEDS

The main point to be made here is that the type of data needed depends crucially on the objectives of the MPD. Since these objectives are apt to change in order to modify at an early time the type of data collected. We assume here that the primary task at hand is to study the question of patrol allocation and we will discuss the corresponding data requirements.

A. TIMES OF EVENTS

It is most essential to have as accurate an assessment as possible of all of the times relevant to police operations in servicing a call. These are:

1. Time when police are made aware of need for service
2. Time when dispatcher is aware of need for service
3. Time at which a police vehicle is dispatched to scene
4. Time of arrival at scene
5. Time of completion of primary service
   (primary service include all service rendered by the arriving officers in the immediate proximity of the scene of the call)
6. Time of completion of secondary service by patrol officers
   (this includes taking people to jail, to hospital, etc.)
7. Times (beginning and end) when patrol officers are not responding to a call, but are unavailable for dispatch

Each of these times should be accurately noted and carefully stored for retrieval. It is very important that clocks be synchronized and round-off procedures be made uniform.

An additional time should be noted where possible. This is the time of occurence of the event requiring call for service. When this time is unknown, it should be so recorded, but when it is known, this information should be noted. This knowledge can be important for determining strategies of preventive patrol or for assessing modes of operation for possible criminals.

B. TYPE OF CALL FOR SERVICE

Information here needs to be collected on two levels. Firstly, the priority of the call as assessed by the dispatcher, (if there are priority classifications), must be noted. Secondly, the exact nature of the case as determined by the officers in the field must be recorded. The latter can include coding, as is currently practiced by filling out Offense Report Codes, but calls for other types of service should have similar coding options.

C. LOCATION OF SCENE OF CALL FOR SERVICE

The recording officer will clearly wish to record the precise location (i.e. address if available) of a call for service and, in some instances, this address should be stored. For most questions of allocation of patrol, such information is not really necessary, (except perhaps for special surveillance of a handful of locations). Location information required would certainly include the precinct, but a finer breakdown would seem highly desirable. One possible suggestion would be to record location by sector, and perhaps even by subsector if a sector can conveniently be divided into meaningful sub-divisions. (Such subdivisions could take into account apartment complexes or barriers within a sector like parks or railroad tracks). The use of census tract information would seem less desirable since the boundaries of census tracts would rarely correspond to useful police boundaries and would even lead to situations where one tract lies partly within two precincts.

These are the primary data requirements as we see them at the present time.

We do have two additional comments which we make below:

1. At present, the information on bicycle thefts, narcotics, and possibly other activities are compiled and stored entirely separately from the main body of data on calls for service. While there might very well be the need for administrative autonomy and, in the case of narcotics. some secrecy as well, it would appear sensible to coordinate the procedures for data collection and storage as much as possible.

2. There are currently several police units operating within the City of Minneapolis which are not directly controlled by the MPD. These would include the University of Minnesota Police, among others. Again it would appear sensible to coordinate data collection and storage so that all data could be conveniently retrieved and analyzed should this be desirable.

We recommend that the MPD modify their data collection and storage procedures so that the information necessary for patrol allocation planning will be available. We would emphasize that it is important to have standardized procedures so that the data will be as uniform and free from error as possible. It would appear to us that some system similar to the Charlotte Computerized Dispatching System might serve as an important tool. We wish to point out that we are not familiar with systems which might be competitors of the Charlotte System and hence cannot make a specific recommendation. Yet, we feel strongly that some system with the capabilities of the Charlotte System would be of great usefulness to the MPD.

Finally, we would like to encourage the MPD to explore the possibility of implementing a Patrol Car Locator System. It appears to us that despite the considerable expense of such a system, it could provide information which could materially benefit police operations. Further study would be required here, but we feel that the possible gain of such a system might very well justify the expense.

3. MODEL ASSUMPTION

Before going into the specific assumptions of the two models we must make clear the distinction between them. PCAM considers the precincts as the fundamental units and based on precinct-wide parameters (call-for-service rates and average service times-it computes various theoretical quantities for the precincts. These quantities can be used to decide how to allocate the cities' patrol units among the precincts. On the other hand the Hypercube Queuing Model (HQM) starts with

a fixed number of units within a specific precinct and computes estimates of quantities useful for deciding upon a configuration of beats within the precinct. In brief, then, PCAM is entirely inter-precinct, while HOM is entirely intra-precinct.

PCAM

1. The basic distributional assumptions are that calls are generated by a Poisson process and that service times have an exponential distribution. These assumptions are made in all queuing models because of mathematical simplicity. How well these models fit Minneapolis data must be carefully examined. PCAM allows different Poisson parameters for different priorities of calls which makes the model somewhat more tenable but there has been evidence of the non-Poisson nature of crime generation in the past. The assumption of an exponential distribution for service times should also be questioned. This type of distribution is one in which, with highest probability, service time is small and the larger the service time, the smaller is the probability of occurrence. PCAM does assume the same service time parameter for each priority of call. The authors themselves point out that a negative exponential distribution may not adequately describe service times for priority 1 (highest priority) calls. Assuming that each of the three priorities of calls have the same service time, distributions may be even more tenuous; if, in fact, priority 1 calls have an average service time that is, lets say, twice that of priority 3 calls, then more calls of the latter type will be placed in queue than predicted by the model.

2. The dispatcher is assumed to operate in the following manner: all calls are serviced on a first come first served basis provided a car is available. If no car is available then the call is placed in queue and then serviced according to priority. Thus, for instance, if there were only 1 unit available within the precinct it would be dispatched to a priority 3 call. It is certainly a good feature of the model to have priorities but the simulated dispatch system must accurately reflect the working of the real dispatcher, if not the model must be completely unsuitable.

3. An important feature of PCAM is that it attempts to incorporate the fact that patrol units are often not available for other reasons than responding to calls for service. The model takes this into account by computing an "effective" number of cars based on the actual number of cars and the percentage of time busy on other than calls for service (cfs). The percentage of time spent on non-cfs duties is assumed to be a linear function of the percentage of time spent on cfs. The program input includes the two parameters in the linear relationship (unavailability parameters). The manual states that this assumption was met in Los Angeles but it is crucial to check it in Minneapolis. Perhaps more important is to define exactly what unavailable time is; for instance, officers may be called away from certain types of business (meals) for a priority 1 call, but not for a priority 3 call. A study of non-cfs time might be warranted on its own to determine if certain precincts are spending more time than others on non-vital functions.

1. A serious drawback of this model is that it does not allow for a distinction to be made between levels of importance of calls as does PCAM. If the MPD is very concerned about reducing response times for high priority calls but is willing to tolerate an increase in response time to low priority calls to achieve this than HQM will not be applicable.

2. The distributional assumptions of calls for service and service-times are similar to those of PCAM, namely a Poisson distribution of calls and an exponential distribution of service times. Call rates can be different for different reporting zones but they are assumed to be constant over time which is almost certainly not true. The model does allow different average service times for different units, but again assumes the distributions don't change over time. Furthermore, these distributions would be more applicable if there was a breakdown into, at least, different priorities.

3. The model allows one of four dispatch strategies to be used - these are carefully described in the user's manual. Of course, as noted in 1, these are all oversimplifications since the dispatcher is assumed to act independently of the type of call received. Moreover it is important to carefully decide on which of the strategies, if any, provide a reasonable approximation to the MPD's dispatching methods.

4. Travel times are simulated on the basis of a "Manhatten-metric," i.e. that there is a perpendicular grid of streets throughout the precinct with no impediments to the movement of a patrol unit. This may not be a good approximation in some precincts where parks and rivers may create boundaries for travel. The model will allow the user to supply estimates of average travel time between reporting area if such estimates are available. Again there is the drawback of not being able to model different travel speeds as in precinct 1.

Summary: We have not tried to list every nuance of the proposed model but only the most important and questionable assumptions of the two models. Some of these that we question may in fact be reasonable, but they must be verified. There has not been, to our knowledge, any careful studies made of how well these models fit a real city. Furthermore, if in fact they do fit well, it must be determined how sensitive they are to estimates of input parameters.

One final point is if it is decided to implement these models then careful thought should go into using them wisely. The models are not independent of each other as the results of PCAM determine how many patrol units to allocate to a precinct while different beat geometrics indicated by HQM will affect how many units are needed within a precinct.

4. A PROPOSAL FOR EVALUATION OF POLICE ALLOCATION SYSTEMS

The adoption of a new police allocation system by the MPD will require some means of evaluation. This will be necessary in order to provide evidence on the success of the new plan. The problems of evaluation are quite complex, but with care, useful information can be obtained.

Before designing an experiment to aid in evaluation, it is absolutely essential to decide on a list of response variables by which the new allocation system is to be judged. This list should contain the response variables which are indicators of the important objectives of the MPD. The sorts of responses to be considered could include response time, fraction of time spent answering calls, fraction of time spent outside of home sector, total calls for service, and total crimes, among others.

It is imperative that all of the data necessary for determining the values of the response variables be accurately collected and stored. To this end, considerable care must be given to the method of data collection and storage which the MPD intends to use. Many of the responses of interest will require data which is currently unavailable but could be provided by some system like the computerized dispatched currently under study by the MPD.

It has been demonstrated that police experiments are particularly difficult to design due to the problems of maintaining adequate controls. It is felt by some experts in the area of police statistics (notable S. Fienberg of the University of Minnesota) that it is unrealistic to expect to obtain statistically significant results for cities that are smaller than Los Angeles.

1.) Even for cities of such a size, it is a time-consuming and costly process to undertake and analyze experiments. Clearly then, it will be virtually impossible to expect results significant in a statistical sense for any experiment designed for Minneapolis. We do feel, that despite these considerations, there is real merit for the MPD to design an experiment to evaluate any new allocation system it intends to

implement. The information to be gained will almost certainly allow only qualitative conclusions but a carefully achieved qualitative conclusion is much better than no conclusion at all. We suggest below a simple experiment which could quite easily be undertaken by the MPD.

We note that the characteristics of the six precincts allow them to be split into three groups. The first group consists of the two precincts with substantial minority population - precincts 4 and 6. It is also important that these two precincts have both been involved in the Patrol Emphasis Program and hence have both been subject to special treatment. The second group contains the three relatively affluent areas - precincts 2, 3, and 5. These three would seem rather similar although the presence of the main branch of the University of Minnesota might cause precinct 2 to show some unique behavior. The third group contains precinct 1, the downtown area, which clearly stands alone.

We propose creating two sets of pairs of precincts for use in our design with the other two precincts used qualitatively at least as a form of control. The design is essentially a cross-over design with blocking.

2.) We suggest that precincts 4 and 6 be one pair with two of the three precincts - 2, 3, and 5 as the other. If it is felt that precinct 2 might be anomalous due to the presence of the University, then precincts 3 and 5 should be chosen as the second pair.

Randomly choose one precinct from each pair and for a fixed period of time (one year would be good) use the new police allocation system in those chosen precincts and use the old (current) system in the other precincts of each pair. After the fixed period of time, reverse the systems in each pair. For example, one could apply the new system in precincts 4 and 5, and the old (current) system in precincts 6 and 3 for the first year. Then use the old system in precincts 4 and 5 and the new system in precincts 6 and 3 for the second year. Meanwhile precincts 1 and 2 should be left on the old system for both years to serve as a form of control.

We will not spend much time here discussing analysis of this experiment as even such a simple design can result in many complex issues. We will say here that by finding the relative improvement of one allocation system over the other for each precinct of each pair, some qualitative comparison of the systems may be made. For example, let us suppose that we are examining some time variable. Let us suppose that precinct A uses the new allocation system for the first year. Let us use the following hypothetical values for the time variable considered:

Precinct A		Precinct B	
1st year (new)	3 min	(old)	4 min
2nd year (old)	7 min	(new)	6 min

We might (subject to a whole host of vital questions) qualitatively conclude that the old system requires an average of 1 minute more than the new system for this time variable for this pair of precincts. $\{1 = \frac{1}{2}[(7-3) + (4-6)]\}$ We emphasize again that such information is highly qualitative and open to serious discussion.

The data from our experiment will allow us to use two pairs of two precincts to provide the sort of comparison above for each response variable. There will also be data for the two control precincts which can give us some qualitative information on the inherent change during the two years of the experiment.

Two additional comments on our design are in order. Firstly, it is absolutely essential to keep all phases of police operation constant over the period of time of the experiment. Any changes such as adding cars to a shift or changing dispatcher strategy will introduce enough error to wipe out the possibility for drawing even qualitative conclusions from the experiment. If the MPD feels that some changes must be made, our design could tolerate a uniform citywide change at the cross-over point (at the end of the first year) but even this should be avoided if possible.

Secondly, one might wish to explore the possibility of shortening the time of the experiment. We would feel that this would be very unwise due to the extreme effects of seasonability in Minneapolis. Should a shorter experiment be considered necessary, it would be very important to see that both halves of the total time period are as

similar as possible. For example, a six month experiment could be run from May through October, with each of the three month segments - May, June, July and August, September and October - made up of warm weather months. We would recommend against such a shortening if at all possible.

We would strongly recommend that the MPD undertake an experiment such as the one described in order to evaluate any new allocation system. We caution the MPD not to expect striking conclusions but to be content with very modest qualitative results. One such qualitative result which we would anticipate as likely for some of the response variables would be that the two allocation systems do not show much difference. Such a null finding is certainly important. However, there will be the possibility that, for other response variables there might be an important difference between systems which this experiment could dectect. In any case, the design and execution of a good experiment will provide as much information as possible on the relative merits of the two systems.

SUB-APPENDIX B: STATISTICAL METHODOLOGY *

This appendix is intended to serve as a guide to the graphs and statistics presented along with our final report.

As explained in the body of the report, the original data consists of offenses recorded during the 13 weeks beginning April 21, 1975. This data does not include bicycle thefts or drug related offenses.

1) The offenses were first divided into three categories as described in the body of the report. Within each of the three categories, crimes were catalogued by precinct, week, day of the week, and hour of the day. Precincts are, of course, numbered from 1 through 6. Weeks are numbered from 1 to 13 with week 1 beginning April 28. Days of the week range from 1 to 7 with day 1 being Monday. Hours are numbered from 1 through 25 where hour 1 represents the time from midnight through 1 a.m., hour 24 is from 11 p.m. through midnight, and hour 25 is used for those crimes for which the hour was recorded as being unknown.

2) A list of 13,650 entries ($13650 = 6 \times 13 \times 7 \times 25$) was created from the original data. Each entry in the list contained 4 bits of information, each corresponding to the appropriate precinct, week, day, and hour: the number of crimes of type 1, type 2, type 3, and the total of crimes.

3) All of the attached computer output was produced by SNAP, a package of statistical routines available on the CYBER 74 computer at the University of Minnesota.

4) Titles for all of the graphs are to be found at the top of each page.

5) In the "168-hour" graphs, the first hour is Monday from 12 to 1 a.m. The crimes for which the hour was unknown are not included in these graphs. For this reason, the total crimes shown in each graph will not correspond to the other graphs which do include the crimes of the unknown (25th) hour.

6) In each "91-day" graph, the first point is Monday of the first week and the days progress from there in calendar order.

7) It should be remembered that 11 of the graphs are graphs of <u>totals</u> of crimes and not averages. Thus, if in the future similar graphs are constructed, care must be taken in comparing them, i.e. a graph of daily totals based upon more than 13 weeks of data will naturally be higher.

8) We include a description of each of the models fit to the contingency tables. Each model is headed by a line reading "MODEL = ..." with three different chi-square values given below. The chi-square value underlined is the Pearson chi-square which is appropriate and the other two values may be safely ignored.

* Graphs and statistics referred to here are available for examination at the Minneapolis Police Department.

MINNEAPOLIS POLICE PATROL EMPHASIS EVALUATION REPORT

APPENDIX C

EMERGENCY RESPONSE SYSTEM TIME SEQUENCE CHART

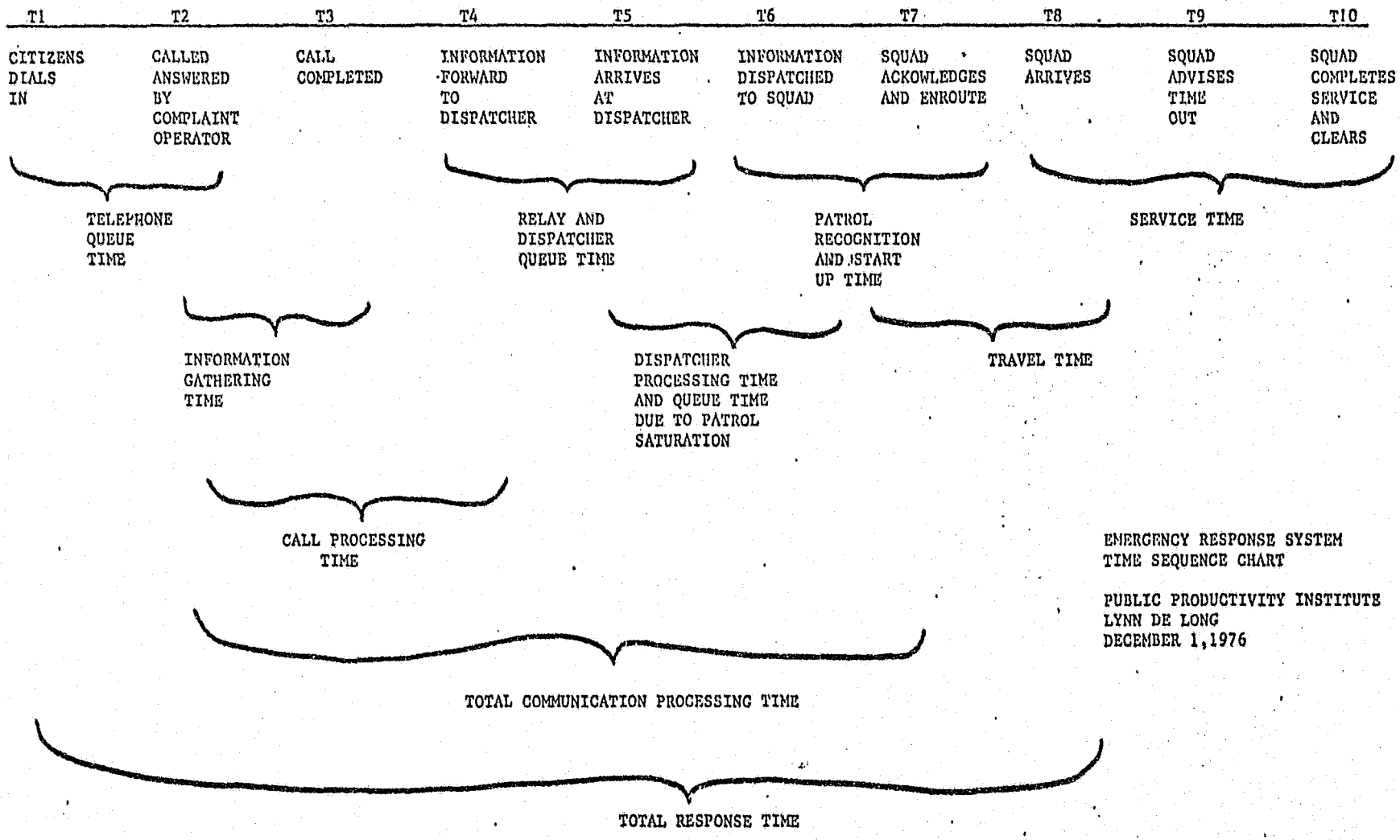
for the

MINNEAPOLIS POLICE PATROL FORCE

PREPARED BY

LYNN E. DeLONG

PUBLIC PRODUCTIVITY INSTITUTE



EMERGENCY RESPONSE SYSTEM
TIME SEQUENCE CHART

PUBLIC PRODUCTIVITY INSTITUTE
LYNN DE LONG
DECEMBER 1,1976

MINNEAPOLIS POLICE PATROL EMPHASIS EVALUATION REPORT

APPENDIX D

SUMMARY OUTLINE OF MINNEAPOLIS POLICE PATROL EMPHASIS PROJECT EVALUATION

PREPARED BY

LYNN E. DeLONG

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SUMMARY OUTLINE OF MINNEAPOLIS POLICE PATROL EMPHASIS PROJECT EVALUATION

I. Major Findings

A. The requirements for the allocation of police patrol resources vary according to a number of factors.

1. By community.

2. Spacially and temporarily within a community.

a. Due to physical characteristics

b. Due to demographic characteristics

c. Due to undeterministic arrival of calls for service.

B. Patrol performance is related to a number of variables.

1. The structure and style of command and supervision.

2. The content and competence of training.

3. The policies and procedures in relation to the dispatch of patrol units.

4. The availability and quality of investigative support.

5. The type of non-call for service activity engaged in.

II. Recommended Reforms

A. Patrol resource allocation.

1. Minneapolis Police Department should immediately institute a training program in the allocation and deployment of patrol resources.

2. Minneapolis Police Department should immediately take steps to develop and maintain a dynamic data base related to patrol activity.

3. Minneapolis Police Department should initiate the use of manual and computerized decision making models for planning resource allocation and deployment.

4. During the time that the decision making is taking place, Minneapolis Police Department should have available computerized programs to extrapolate needed information upon demand and to interact with the computerized decision making models.

B. Improvement of patrol productivity.

1. Minneapolis Police Department should initiate formal policies and procedures governing the dispatch operations. These policies and procedures should be designed to increase patrol productivity.

2. Concurrent with #1, Minneapolis Police Department should initiate a call screen and expediting program.

3. The Minneapolis Police Department should expand the role of the patrol officer in investigating crime and gathering information.

4. The Minneapolis Police Department should supply technical and investigative support to patrol officers at the precinct level.

5. The Minneapolis Police Department should increase the use of information processing system as an aid which is directly available to the patrol officer.

C. Changes to enhance other reforms.

1. The Minneapolis Police Department should implement an on-going management level training program.

2. The Minneapolis Police Department should create an operations analysis and information service unit to monitor and evaluate community needs and departmental operations.

3. The Minneapolis Police Department should operationally restructure the Planning and Research Division to emphasize long term and strategic planning and continued research.

MINNEAPOLIS POLICE PATROL EMPHASIS EVALUATION REPORT

APPENDIX E

PATROL AND CLERICAL SUPPORT

for the

MINNEAPOLIS POLICE PATROL FORCE

PREPARED BY

LYNN E. DeLONG

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The effectiveness and the productivity of police patrol is directly related to the quality and quantity of supportive service available to patrol officers. The supportive services provided by clerical personnel within the police department is of extreme importance to the operation of an effective patrol unit. Within the Minneapolis Police Department, this evaluator observed a conflict between the efficient operation of the patrol bureau and the current operations of the clerical personnel.

The function of the patrol unit is primarily that of a Field Investigative and Preventive Law Enforcement Unit. Arising out of their actions in the field is a equirement that these field officers generate reports. Effective patrol operations would demand that the time needed to generate these reports be minimized without a loss of information going into the reports

The current operation in the Minneapolis Police Department consists of the following methods of originating reports:

#1 Police officers are allowed to hand prepare their reports. This was found not to be the practice other than the property offense report forms in the two Patrol Emphasis Precincts.

#2 Officers may dictate their reports to a typist. This may occur at the Steno Pool in the Courthouse or, if the Precinct has a typist available, it may occur at the Precinct during the hours that the typists are working.

#3 A dictating system is available for officers to call in their reports.

The department has established policies dictating which of the above systems should be used for certain types of reports. The prevalent practice within the Minneapolis Police Department is for patrol officers to dictate the offense reports unto the dictating system for later transcription by the clerical personnel. According to the department's clerical supervisor, this method is used for approximately 60 percent of the reports generated in the Records Division. Offense reports for serious crimes and arrest reports, officers statements, and supplements are

normally generated by the officers dictating to the typist who transcribes it as the officer is dictating. Following the preparation of the reports, the various copies of the reports are desseminated throughout the department with one of the copies being returned to the precinct in which the incident precipitating the report occurred. The dissemination of this copy to the precinct may be within hours after the generation of the report by the patrol officer or it may be one to two days later. It was observed that seldom do the supervisors review and approve the reports prior to the preparation or after preparation. Based upon an audit of the reporting system used by patrol officers, it is to be noted:

1) The quality of reports generated by patrol officers vary greatly.

2) In some cases where officers have indicated that reports would be generated, reports do not appear in the files.

3) Supervision of patrol officers through the report-making process is almost nonexistent.

These points are of concern to the department and steps are being taken to remedy these situations.

Of primary concern to this evaluator is that aspect of record operation which adversely effects patrol performance by causing the nonavailability of patrol units. The process of report-making can make a patrol unit unavailable for as high as 50 percent of a patrol shift. It has been observed that a good portion of this unavailability time was caused by two factors. These are: (1) the queuing delay experienced when required to wait for clerical personnel to begin the process of report preparation and, (2) the delay encountered in giving repetitive and redundant information on various required report forms.

This evaluator recommends:

1) Supervision be increased to improve the overall quality of reports.

2) In-office supervision be used to schedule and distribute clerical work load.

3) Report audit procedures be implemented as permanent operations.

4) Report-making should become an inservice function with officers remaining available for calls. (An alternative to #4: Reposition units to cover districts vacated by officers making reports. This alternative may be combined with #4).

APPENDIX F

RECORD AUDIT REPORT I

8/28/75

and

RECORD AUDIT REPORT II

10/06/75

PREPARED BY

THE STAFF OF THE

MINNEAPOLIS CRIME ANALYSIS UNIT

Lynn E. DeLong, Director

RECORD AUDIT REPORT I

8/28/75

On Monday, August 25, 1975, Lucille Larson, a Data Control Clerk assigned to the Crime Analysis Unit, began an audit research project comparing complaint cards to offense reports. This project involved searching nine days of complaint cards and recording the complaint numbers and the offense type for all complaint cards which indicated that a report was required. During this research she reviewed over 5400 complaint cards, of which over 1100 indicated that reports were required.

After recording the above information, she checked the complaint list that she had generated with the offense reports logged, which indicates the complaint numbers of all offense reports filed. The comparison indicated the possibility of 89 required offense reports not having been filed. Those possibly missing, as shown in the comparison were: 3 robberies, 20 burglaries, 39 thefts, 9 assaults, and 18 damaged property.

Mrs. Larson, Mr. Norman Hoel, and I made an exhaustive search for several of the missing reports. We located all but 1 of the robberies, and it would appear that there is an 80 percent chance that that report is not in the file. Several other complaint records were chosen at random and their reports were searched for; no reports were found.

In further discussion with Mr. Hoel, we concluded that there is a possibility that some of these reports may, in fact, be in file but that they are not traceable under the current record system. It is felt that a number of the reports are, in fact, missing and that this could be caused by an error on the complaint card in the section where it indicates that a report should be made, or an error on the reporting officer's behalf in failing to make the required report. Whatever the reason for the reports not being accessible, the problem is one of lack of accountability in control over the flow of information within the department.

I am at this time recommending to the Minneapolis Police Department the institution of a report audit system for a four week trial period, starting September 1st.

Lynn E. DeLong
Director, Patrol Emphasis Program

RECORD AUDIT REPORT II

10/6/75

In a follow-up to the record audit report of August 28, 1975, the staff of the Crime Analysis Unit has conducted a record audit of the information from the Minneapolis Police Department as it affects and is effected by the operation of Patrol Bureau, the Communications Division, the Records Division, and the Minneapolis Management Information Services. This report will be related to these areas.

A. COMMUNICATIONS DIVISION

The check of the information gathered by the Communications Division shows that a great deal of variance occurs in the recording of information on the complaint cards. The first variance occurs in the recording of times of receipt of calls. It appears that where some complaint clerks record the time at which they answered the telephone, others record the time when they have completed gathering and recording the information and are about to forward the complaint card to the dispatcher. Further, a check of the procedure revealed that the time used for recording varies depending upon the device used to obtain the time and maybe inconsistent with the time used on the time stamp machine. Observers noted numerous occasions where the time the call was received as indicated on the complaint card was after the time indicated that the unit had been dispatched. On extreme occasions, it was noted that the unit was dispatched four minutes before time call received was entered upon the complaint card.

Further study of the practice of recording times reveals that the time first stamped on the complaint card by the dispatcher may be (1) the time that the card reaches the dispatcher, or (2) the time that the dispatcher retrieves the card from the belt, or (3) the time that the dispatcher first attempts to dispatch a unit, or (4) the time that a unit has acknowledged the receipt of the dispatchers message. At the time of the second record audit study, the second time stamped most

frequently upon the complaint card indicated the time the dispatcher was advised that the squad signed to a call had cleared. This time has an inherent inaccuracy due to the officers not reporting immediately upon clearing in the field. The inaccuracy continues due to the lack of uniformity in the recording practices within the complaint center. The inaccuracy occuring in the complaint center occurs primarily during times of high communications activities for the dispatcher. The dispatcher is more likely to take care of more urgent matters before time stamping the clearance time on the card. At the time that the second record audit study was completed at the end of September of 1975, the situation of greatest concern to the Crime Analysis Unit was the lack of arrival times being placed upon the card. The concern was not only because the lack of recording; it was concern that the arrival of patrol units was not reported to the communications center and therefore the communications center personnel and supervisors seldom knew when or if a unit had arrived at the call until the unit advise of clearing from the call.

Variance also occurred in the method used to record addresses on the complaint card. In some cases, it is found that common landmarks were used by recording their discriptive name as apposed to their physical location or address. This practice rather than hampering dispatching appears highly likely to enhance police response and in all certainty will be a continued practice of the police department.

RECOMMENDATION:

It is this evaluators recommendation that a computer file of common landmarks be created and that an on-line up-date procedure be made available to communications personnel in order to facilitate the continuing accuracy of a landmark and place name location file.

No consistent practice was observed in regard to the recording of complainants name and location. In regards to certain public agencies and other institutions, the name of the institution was substituted for the name of the actual person calling.

A large number of complaint cards were observed in which no complainant's name had been recorded and no explanation was given as to the reason for the lack of a complainant's name nor was possible identifiable characteristics such as anonymous female or male with accent, etc., given. It was further noted that address and telephone information for the complainant was seldom recorded. This information or the lack of it becomes significant in consideration of the number of calls in service which the officers respond to and then give a disposition of gone on arrival.

RECOMMENDATION:

It is urged that the communication center process as much as possible including requiring the complainant's name, address and telephone number, and at where this information is not available, that a brief discription of the charateristices of the caller be inserted in place of this information.

RECOMMENDATION:

In observation of the screening process used by the complaint takers in the communications center, it is recommended that a uniform system of call screening be initiated by the adoption of standardized complaint-taking procedures.

The study indicated that the complaint numbers were not sequentially ordered by the time that the call was received. Often the complaint numbers were sequentially ordered by the time that the unit cleared, but in the cases where the unit did not clear or the dispatcher did not record the clearance time immediately upon clearance, the complaint number was generated at the time that the clearance time was stamped on the card. This procedure made it extremely difficult to audit the record system manually since the records are filed by complaint number. On several occasions when manual checks were made of the complaint card files, it was noted that the calls being received between 2200 hours and 2400 hours were sometimes grouped with calls that were received between 0600 hours and 0700 hours the next

morning.

RECOMMENDATION:

It is recommended that the Communications Center procedure be modified so as to assign a case control number at the time which the call for service is received.

B. BUREAU OF RECORDS

At the time of this record study, the Bureau of Records received the complaint cards from the Communication Division and performed the function of sorting the cards and ordering the cards in sequence by complaint number and filing the complaint cards in a current complaint card file. The complaint cards remained in the current file until additional space was needed, at which time the complaint cards were filed in cardboard boxes to be taken to the basement of the Courthouse. No information was extracted from the complaint cards and no indexing or cross-reference was done with the cards. For all practical purposes, at the point at which the complaint card leaves the dispatcher after the squad has cleared the assignment, the complaint card is rendered useless. (Note: The new Complaint Card Entry System has now captured and made most of the complaint card data useful, (1 Dec 76).)

The extended record audit revealed results consistant with the pilot record audit completed in last August of 1975. Approximately one-fifth of the 13,150 complaint cards checked indicated that reports were required. Researchers in checking the departmental files found that on any single day six to 16 percent of these cases did not reach the files. As indicated in the pilot report, an extensive search was made for missing reports from selected days of the study. The search included checking the alphabetical index files, the crime book and divisional files. The Crime Analysis Unit used a random number generator to select one of the days for which it audited records. The unit did an extensive record search and investigation looking for the missing reports for that day. (It should be noted that the random selection process used resulted in the selection of a date which has a status of a major holiday.) Of the 37 reports which after second level search had remained missing, only two were

located in the extensive search. This extensive search was made for the missing reports three weeks after the date shown on the complaint cards. Researchers were informed that the likelihood of a report being filed later than three weeks after the incident was negligible.

This research leads the unit to conclude that there are three major catagories into which to classify the missing records. These catagories are:

1. Reports that were never prepared by field officers.
2. Reports that were prepared but never reached the file.
3. Reports that were prepared and filed, but are unlocateable.

RECOMMENDATION:

It is recommended that the Minneapolis Police Department create a record audit mechanism to be used to monitor police reporting process from the time that the initial call for service is generated thru the final disposition of the case.

RECOMMENDATION:

It is recommended that the Minneapolis Police Department initiate supervisory practices to ensure the creation of reports containing pertinent information.

APPENDIX G

EVALUATION REPORT:

INVESTIGATIVE SUPPORT UNITS

ORIGINALLY PREPARED

MARCH 17th, 1976

UPDATED

DECEMBER 1st, 1976

PREPARED BY

LYNN E. DELONG

PUBLIC PRODUCTIVITY INSTITUTE

A significant part of the Police Patrol Emphasis Program in the City of Minneapolis was the assignment of investigative personnel at the patrol precincts. On March 1st of 1975, the investigational support units were assigned to the two laboratory precincts. Each of these units consisted of 8 officers who were deployed based upon a workload analysis of the requirements of their services. In each precinct, these units consisted of 4 investigators, 2 sergeants and 2 juvenile officers. These units were to handle all property crimes and juvenile offenses at the precinct level. They were to assist the patrol officer handling preliminary investigations and the patrol officers were to assist these units handling follow-up investigation.

Prior to March 1st of 1975, a city-wide survey was conducted which resulted in a finding that patrol officers, supervisors and commanders felt that there was little or no effective communication between members of the patrol bureau and members of the investigative bureau. An exception to this finding is to be noted in the 1st precinct which is headquartered in the same building as the investigative bureaus.

In August and September of 1975, a city-wide survey was again conducted. This time the members of the patrol bureau in the 1st, 2nd, 3rd and 5th precincts indicated the same response as had been recorded earlier in the year. The two laboratory precincts (the 4th and the 6th) had markedly changed their conception of the effectiveness of communication between members of the two bureaus.

The 4th and the 6th precincts' investigators and patrol officers indicated strongly in their responses that the assignment of investigators to a patrol precinct created more effective communications between the two types of officers and, in their opinion, made their jobs

more effective.

It is this evaluator's recommendation that the assignment of investigative personnel to patrol precincts be continued in the 4th and 6th precincts and expanded into the remaining precincts. In addition, it is recommended that an automated crime and investigation analysis system be instituted within the Minneapolis Police Department in order to facilitate the investigation of crimes and to monitor and analyze the investigative process. (A L.E.A.A. grant application has been submitted to fund such an automated system.)

NOTE: Since the original writing of this section, Police Investigators have been assigned to one additional precinct. Also, the Juvenile Officers have been reassigned to a Central Division.

APPENDIX H

CORRESPONDENCE ON

AUTO THEFT RECOVERIES

MARCH 1976

INTEROFFICE COMMUNICATION

LD-70

TO: Sgt. Berg, Auto Desk

DATE: 22 March 1976

FROM: Deputy Chief Pufahl

SUBJECT:

Do these recoveries show any pattern that could be used by street squads and further, do you feel that this list of recovereds is above the average number recovered in that time frame?

I was wondering by putting this information out does it indeed lead to more recoveries by interested district squad people. Would you also forward this list with comments to Mr. Lynn DeLong as I want him to look at it from a crime analysis standpoint to see if it would fit into the new grant.

Al E. Pufahl
DEPUTY CHIEF OF SERVICES

Attach.

AEP:le

TO; Mr. Lynn DeLong

From Sgt.L.W.Berg Auto Desk;

I am sending you alist of recovered cars. We have been including a list of recovered cars on the back of the hot sheet to give the officers an idea of where the cars are being stolen and where they are being dropped. We have just started this so it is a little to soon to judge wether there are more recoveries or not. We feel this is a good idea if the officers will use this, it will give them an indication as to where the car thieves are stealing and dropping the cars, and hopefully they may be able to make more arrests by catching the thieves in the cars.

Sgt L.W. Berg
Auto Desk

Vehicles RECOVERED since March 8,1976 through period ending noon, Friday, March 12, 1976: LD-71

LICENSE	STOLEN LOCATION	DATE	RECOVERED LOCATION	DATE
JV 1146	6th St.&1st Av.N.	3/10	1407 Washington S.	3/12
MD 1236	2301 Sheridan N.	2/27	Unfounded-Repo'd	3/11
[redacted] 1572	3321-15th Av.S.	3/8	118 Arthur SE	3/9
HW 1576	10th & LaSalle	3/10	26th & Elliot	3/11
MR 1985	4th St & 5th Av.S.	3/10	Unfounded-misparked	3/11
KV 2024	615 West 24th St.	3/11	Unfounded-Private prop. tow	3/11
AC 2129	129 Melbourne SE	3/10	#93 Malcolm	3/10
AA 2276	1314-44th Av.N.	3/8	St.Cloud Hwy Patrol	3/9
MH 2765	2729 Portland	3/10	35th & Blaisdell	3/11
CP 2769	1820 Clinton	3/8	1707 3rd Av.S.	3/11
LX 3035	1818-14th Av.S.	2/29	19th & Chicago	3/8
MK 3036	3043-44th Av.S.	3/10	172-27th Av.SE	3/11
AS 3412	2619 Lyndale N	3/6	Anoka Co. S.O.	3/9
DH 3601	12th & Nicollet	3/3	4049-5th Av.S.	3/9
AJ 3619	3013 Taylor NE	3/9	3013 Taylor NE	3/9
AP 4324	10th & Hawthorne	3/8	538 Bryant N.	3/9
KH 4400	W.27th St/Lyndale-Aldrich	3/10	230 Clifton	3/12
DX 4462	2207 Aldrich N	3/7	31st & 4th St.N	3/9
MZ 4537	4553 Stevens S.	3/5	5000 Penn Av.S.	3/9
LT 4697	3430 List Place	2/11	Unfounded-moved by friend	3/12
MT 5369	1007 E.14th St	3/9	11th & E.Franklin	3/9
CK 5378	3840 Grand Av.S.	3/7	3248 Stevens	3/9
JU 5556	12th & Marquette	3/8	4200 Wentworth	3/12
GU 5866	3220-44th Av.S.	3/11	3444-35th Av.S.	3/12
HA 5937	500 W. 53rd St	3/6	30th Av. & E. 38th St	3/9
FJ 5937	3244 Stevens S.	3/7	3840 Grand S	3/9
UD 5975	2324 Central NE	3/11	39th & Silver Lake Rd.	3/12
[redacted] 6008	24th St. & 29th Av.S.	3/4	2422-25th Av.S.	3/8
AK 6065	3518-34th Av.S.	3/9	Boardman to 55th & 40th Av.S.	3/10
AB 6154	2824 Delaware SE	3/6	1800 Lyndale S	3/10
KE 6330	1615 Newton N.	3/8	2010-17th Av.N.	3/8
DU 6760	11 S. 4th St.	3/1	St.Paul PD	3/9
NC 6987	44th & Bloomington	2/8	3833 Elliot	3/9
LP 6996	1938 Ulysses NE	3/9	16th & Lincoln NE	3/10
HK 6979	5006-1st Av.S.	2/20	3010 Grand Av.S.	3/9
JW 7119	2700 Garfield	2/22	Cedar & Minnehaha	2/27
FV 7151	3005-17th Av.S.	3/10	25th & Park	3/10
NC 7554	219 N. 2nd St.	3/4	1st & Plymouth near River Rd	3/9
JV 7616	5224-33rd Av.S.	3/9	3241-16th Av.S.	3/11
DK 7796	19th & 4th St.NE	3/10	8th & Marshall NE	3/12
MH 7915	820-21st Av.N.	2/25	5206 Oliver N.	3/8
LM 8045	8th & Chicago	3/10	Unfounded-moved by friend	3/11
AL 8046	1826 Emerson N.	3/7	Unfounded-Domestic	3/9
AN 8456	9th & Hennepin	3/6	Market St./5th to 6th St.	3/9
AH 8970	3032 Polk NE	3/9	St.Anthony PD	3/9
DT 8972	Comm Lot 18/19-5th St.SE	3/10	12th Av.S. & 24th St.	3/11
AL 8991	4240-40th Av.S.	3/9	4240-40th Av.S.	3/9
DN 9848	53rd & Lyndale S.	3/7	Nicollet to 1st Av.S. on 44th	3/10
Nev.P/161316	1421 Stevins	3/7	Unfounded-Lent to a friend	3/8
Ont.CB9726	13th & Nicollet	2/19	N.Star Ramp	3/6

Vehicles recovered since March 12, 1976 through period ending noon, Monday March 15, 1976:

LD-72

LICENSE	STOLEN LOCATION	DATE	RECOVERED LOCATION	DATE
[redacted] 1011	2100 E.Franklin	3/13	2401-12th Av S	3/15
[redacted]1065	3307 Polk NE	3/11	26th & Taylor NE	3/12
MA 1263	7th St & 3rd Av S	2/21	8th & Portland	3/14
AL 2012	4924 Girard Av N	3/12	2312 N. 6th St	3/14
DB 2059	2933-11th Av S	3/13	4148 Longfellow	3/14
CK 2083	9th & Cedar	3/11	24th & W.River Rd	3/13
NA 2517	3418-4th St N	3/13	3518-6th St N	3/13
CA 3214	14th & Chicago	3/13	12th & Hennepin	3/13
HG 3229	3rd & 6th St S	2/26	3rd & 3rd Av S	3/13
AG 3383	315 Lowry Av N	3/8	Anoka County SO	3/15
DG 3618	4335 Garfield Av S	3/14	3237 Garfield Av S	3/14
AU 3625	W.33rd St at Colfax Av S	3/13	33rd Bryant to Colfax Av S	3/14
LJ 4255	23rd & 2nd St to Washington	3/13	6525 Willow Lane-Brooklyn Center PD	3/14
AL 4623	1207 W.25th St	3/9	38th & Lyndale S	3/14
HA 5332	3624-43rd Av S	3/13	5819 Aldrich Av S	3/14
NM 5437	23rd & Aldrich N	3/11	2530-4th St NE	3/14
BD 5975	2324 Central PE	3/11	39th & Silver Lk Rd-Columbia Hts	3/12
AM 6192	837 Glenwood Av N	3/6	Unfounded per Sqd 442	3/13
EB 6295	1910 Lyndale S	3/5	19th & Aldrich S	3/14
AZ 6910	3346 Holmes Av S	3/13	33rd & E.Calhoun Blvd	3/14
KK 6913	2415 N 3rd St	3/12	28th & 4th St N	3/13
DK 7796	19th & 4th St NE	3/10	8th & Marshall NE	3/12
LN 7820	3110 Emerson N	2/18	Old Hwy 8 & 30--Moundsview	3/15
NC 8373	515 Oliver Av N	3/13	12th & Emerson N	3/13
AJ 9014	3308 Chicago	3/13	3311 Elliot	3/13
AD 9305	Sharon & Warwick SE	3/14	3425-44th Av S	3/14
[redacted]9341	#74 S 11th St	3/11	1008 Bryant Av N	3/14
MJ 9863	3806-4th St N	3/13	Anoka County SO	3/13
D17-464	24th St & 13th Av S	3/12	22nd & Hiawatha	3/15
Neb.89-A223	1420 Elliot	2/28	2548 Hennepin	3/14

Vehicles RECOVERED since March 15, 1976 through period ending noon, Friday March 19, 1976:

LICENSE	STOLEN LOCATION	DATE	RECOVERED LOCATION	DATE
CV 1015	3811 Aldrich N	3/18	Morgan & Victory Dr	3/18
AP 1459	15th Av S/Lake to 31st	3/17	1856 E.43rd St	3/17
DU 1772	4038 Girard N	3/15	5th & E.Hennepin	3/17
JS 1966	4th to 5th & Park	3/17	Unfounded-misparked	3/17
CX 2192	2414 Park	3/18	2433-5th Av S	3/18
JV 2383	W.33rd St Girard to Henn.	3/17	3219 Pleasant	3/19
KL 2743	1600 Riverside	3/13	530 S.6th St	3/13
JA 3001	1801 E.Lake	3/15	3328-21st Av S	3/17
IN 3093	17th & Washington Av N	3/15	3212 Garfield	3/15
MK 3105	2413-31st Av S	3/17	22nd & Seabury	3/18
AG 3383	315 Lowry Av N	3/8	Anoka County SO	3/15
AX 3473	#27 S.6th St	3/18	Unfounded-Son had car	3/18
FE 3483	5051 Drew Av S	3/15	50th & Chowen	3/15
AW 3572	21st Av & 9th St	3/18	25th St & 3rd Av S	3/18
KJ 3740	#12 S 5th St	3/17	9th & Hennepin	3/17
AY 4358	2540 Park	3/18	2100 Bloomington	3/18
DH 4453	1527 W.22nd St	3/14	2221 Irving S	3/14
EZ 4741	1516-4th St NE	3/10	5th & Central NE	3/16
HJ 4843	2631 Portland	3/16	2732-2nd Av S	3/16
EP 4874	2922 Cedar S	3/15	28th & 17th Av S	3/15
DP 4901	1615 S 4th St	2/21	3908-4th Av S	2/26
AT 4932	1930 Aldrich Av S	3/14	415-30th Av N	3/17
EC 4965	49th & Pleasant	3/16	43rd & Stevens	3/17
AG 5165	#15 NE 5th St	3/17	Unfounded-misparked	3/18
FS 5345	University and Bedford SE	3/15	520 Malcom SE	3/15
DW 6238	3605 Portland	3/18	40th & 5th Av S	3/18
DE 6568	2211 S.9th St	3/17	175 S Western-St Paul PD	3/18
HW 6918	1918 Dupont Av S	3/15	2637 Girard Av S	3/15
HW 6918	1912 Dupont Av S	3/18	35th & Stevens	3/18
EP 7043	#24 S 8th St	3/18	16th & James N	3/19
HK 7174	Hennepin to LaSalle & 9th	3/17	9th & Hennepin	3/18
AE 7205	1943 W Broadway	3/16	Lyndale & Linden	3/17
HA 7448	3724 Cedar	3/18	E.36th St/12 to 13th Av S	3/19
HZ 7766	23rd & 14th Av S	3/14	28th & 38th Av S	3/15
HG 7818	Grant & 2nd Av S	3/16	117 S 7th St	3/17
IN 7830	3110 Emerson N	2/18	Old Hwy 8 & 30-Moundsview PD	3/15
JT 8470	301 Harrison NE	3/16	1618-5th St NE	3/18
AL 8545	4033 Lyndale N	3/17	19th & Jefferson NE	3/17
AK 8609	112 E Hennepin	3/16	St Anthony PD	3/16
HJ 8650	5221-43 Av S	3/16	45th & Grand	3/18
KK 8862	9th St & 3rd Av S	3/16	10th St and 5th Av S	3/17
DE 8931	28th Av NE & Fillmore	3/19	28th & Polk NE	3/19
YU 10167	418 W Lake	3/16	Lake to 31st & Grand	3/17
YC 81830	2920-15th Av S	3/17	901 E 24th St	3/17
DL0640	2501-35th Av S	3/13	Lowery Terr & Scott N-G.V.PD	3/16
DL5001	3500 Lyndale S	5/18	Cedar Lake RR yards	3/18
148230(75)	1[illegible] W 25th St	7/11/75	279 Etna-St Paul PD	3/18
36903 ND	61[illegible] Av S	3/13	5845 Clinton	3/14

LD-74

INTEROFFICE COMMUNICATION

TO: Deputy Chief Al Pufahl **DATE:** March 29, 1976

FROM: Lynn E. DeLong **SUBJECT:** Auto Theft Mapping System

I have studied the questions posed by you to Sergeant Lloyd Berg of the Auto Desk in your memo of March 22, 1976. There are a number of crime analysis possibilities in dealing with the thefts of motor vehicles. Some of these possibilities will be examined in the new crime and investigative analysis system project. That project will analyze the informational needs of the police department in order to increase clearances by the arrest of criminal perpetrators.

In the interim, I recommend that a motor vehicle theft mapping system be designed and that that system be implemented by the Auto Desk as a means of communicating motor vehicle theft trends to patrol officers.

Attached you will find a recommended auto theft mapping system.

MINNEAPOLIS POLICE PATROL EMPHASIS PROJECT
RECOMMENDED AUTO THEFT MAPPING SYSTEM

It is recommended that the Minneapolis Police Department design and implement an auto theft mapping system which will facilitate the visual analysis of auto theft trends. This system should consist of 7 maps prepared and distributed on a weekly basis as follows:

AUTO THEFT MAP #

1	Vehicles stolen from the 1st precinct matched with the location of recovery.
2	Vehicles stolen from the 2nd precinct matched with the location of recovery.
3	Vehicles stolen from the 3rd precinct matched with the location of recovery.
4	Vehicles stolen from the 4th precinct matched with the location of recovery.
5	Vehicles stolen from the 5th precinct matched with the location of recovery.
6	Vehicles stolen from the 6th precinct matched with the location of recovery.
7	Vehicles stolen from outside the City of Minneapolis matched with the location of recovery inside the City of Minneapolis

It is recommended that the maps include the vehicles stolen from Monday thru Sunday and be distributed on the following Tuesday after the last update of recovered vehicles.

It is recommended that these maps be manually updated on a daily basis on census tract maps using symbols for the day of the week of theft and indicating within the symbol the hour of the theft. A line should be used to connect the location of the theft with the location of the recovery. The recommended medium of distribution is as follows:

(a) The original shall be maintained at the Auto Desk.
(b) White paper copies of each map distributed to each commander, supervisor and patrol unit.
(c) Xeroxed transparency copies distributed to each affected division and precinct (xeroxed transparencies can be used as plastic overlays to analyze long-term trends).

It is recommended that this system be implemented on a trial basis for two weeks.

APPENDIX I

CALL SCREENING & EXPEDITING

A PROPOSAL

JANUARY 21, 1976

PREPARED BY

LYNN E. DELONG

PUBLIC PRODUCTIVITY INSTITUTE

MINNEAPOLIS POLICE DEPARTMENT

LD-77

INTEROFFICE COMMUNICATION

TO: Deputy Chief Jon Prentice DATE: January 21, 1976

FROM: Lynn E. DeLong SUBJECT: Call Screening & Expediting

Based upon an analysis of call for service handling procedure of the Minneapolis Police Department and the analysis of other police departments' call for service handling procedures, I recommend for your consideration a call for service screening and expediting program. This program will enable the department to make more efficient use of a screening process in the complaint center which will categorize the request for police service in rank of priority; i.e., emergency, routine and low. The service requests categorized as emergency and routine will be handled by transferring the request to the dispatcher who will dispatch a unit to service the request in the field. Those requests classified as low priority will be referred to a call expeditor.

The call expeditor can either be a civilian or a police officer who has been specially trained to provide a broad range of police services by telephone. In many respects, the functions of the expeditors are identical to those of the patrol units in the field. An expeditor may handle five or six calls for service in the time required for a patrol unit to respond and handle a single call. The basic purpose of the expeditor program is to provide more available patrol units to handle the higher priority calls.

The expediting procedure will be implemented when the complaint taker receives a citizen's call for police assistance and determines that it meets the following criteria:

1.) suspects are not known
2.) suspects have left the scene
3.) there exists no apparent need for on-scene investigation
4.) there appears to be no physical evidence
5.) the requesting party is amenable to the expediting procedure

If these conditions are not met, the request for service will be given a higher priority and a patrol unit will be dispatched to the call.

When the conditions are met the complaint taker will transfer the request for service to the expeditor. This transfer may be either a direct telephone transfer with the calling party remaining on the line or a transfer of the request via the computer assisted dispatching to the expeditor who will initiate a phone call to the requesting party.

SUGGESTED TYPES OF CALLS TO BE HANDLED BY EXPEDITORS

The call expeditors will handle by telephone the following types of calls:

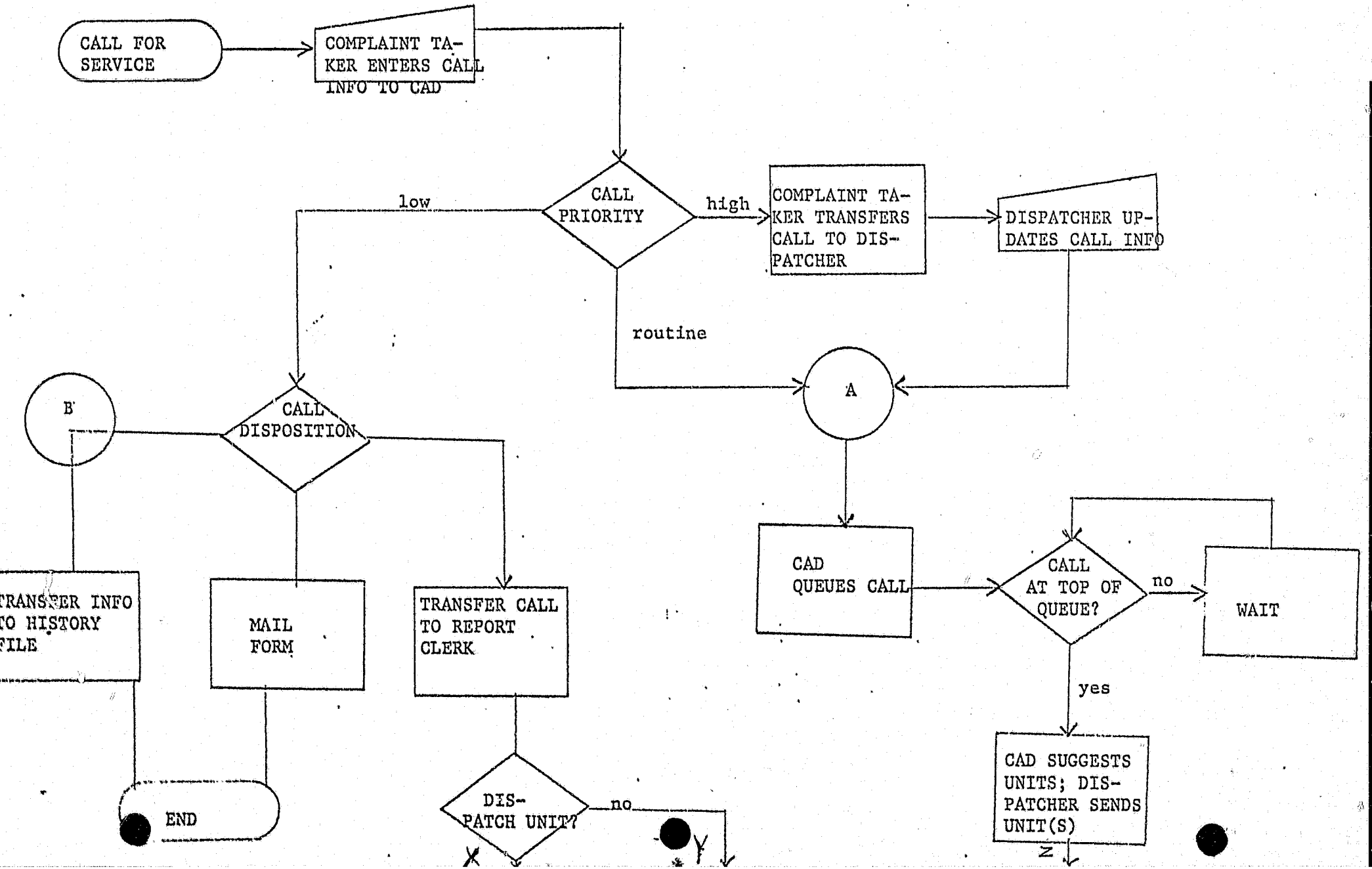
damage to property
theft, minor
lost property reports
information requests

PRECINCT INFORMATION

The call expeditors shall send a carbon copy of all reports made to the precinct in which the incident reported had occurred. If several calls of a similar pattern occurred within a precinct during a specific period of time, the call expeditor shall immediately notify the on-duty supervisor of the precinct of occurrence.

(Attached is a system flow chart of the complaint taking, dispatching, expediting and reporting system.)

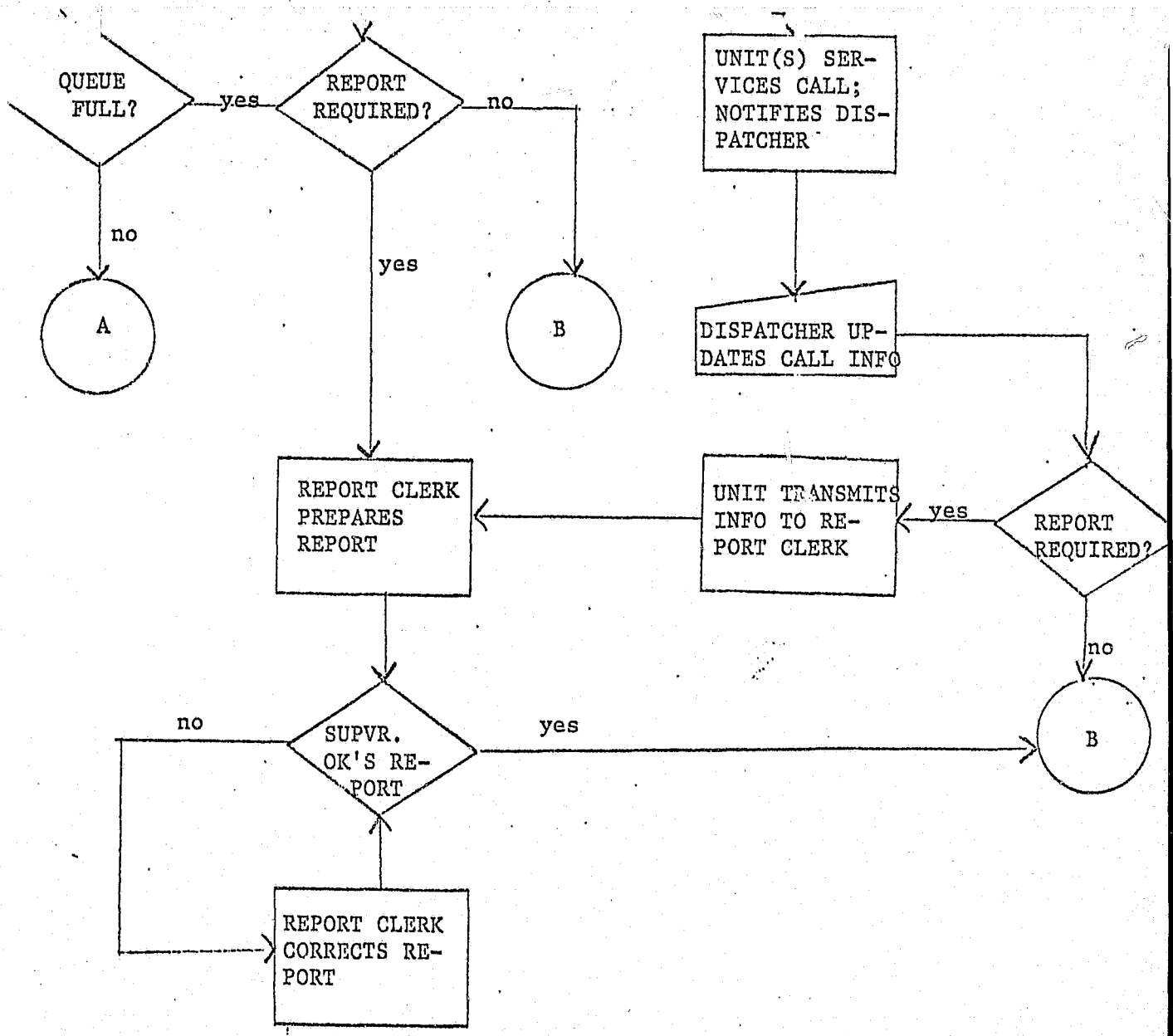
NOTE: I have examined the operation of two telephone expediting systems that are similar to the one proposed here. The two are Dallas, Texas and Toledo, Ohio.


CALL FOR SERVICE
COMPLAINT TAKER ENTERS CALL INFO TO CAD
CALL PRIORITY
low
high
routine
COMPLAINT TAKER TRANSFERS CALL TO DISPATCHER
DISPATCHER UPDATES CALL INFO
A
B
CALL DISPOSITION
CAD QUEUES CALL
CALL AT TOP OF QUEUE?
no
WAIT
yes
CAD SUGGESTS UNITS; DISPATCHER SENDS UNIT(S)
TRANSFER INFO TO HISTORY FILE
MAIL FORM
TRANSFER CALL TO REPORT CLERK
END
DISPATCH UNIT?
no

CONTINUED

1 OF 2

LD-80


QUEUE FULL?
yes
REPORT REQUIRED?
no
no
yes
A
B
UNIT(S) SERVICES CALL; NOTIFIES DISPATCHER
DISPATCHER UPDATES CALL INFO
REPORT CLERK PREPARES REPORT
UNIT TRANSMITS INFO TO REPORT CLERK
yes
REPORT REQUIRED?
no
B
no
SUPVR. OK'S REPORT
yes
REPORT CLERK CORRECTS REPORT

APPENDIX J

MANAGEMENT DEVELOPMENT PROGRAM

A PROPOSAL

MAY 1976

PREPARED BY

LYNN E. DELONG

PUBLIC PRODUCTIVITY INSTITUTE

MINNEAPOLIS POLICE DEPARTMENT
MANAGEMENT DEVELOPMENT PROGRAM

This is a proposal for the initiation of a permanent Management Development Program for the Minneapolis Police Department. The initial target group is defined as the current administrative and command staff (i.e. the Chief , Deputy Chiefs, Inspectors, Captains, and selected Lieutenants). The program can be later used for career development of those officials aspiring to obtain management positions.

It is recommended that the program be offered as a series of half-day presentations. Following each presentation a post-session assignment should be given; this assignment will require the participants to utilize the material presented in the session by applying it to the Minneapolis Police Department.

It is recommended that the half-day sessions be scheduled approximately one to two weeks apart. An exception to this recommendation should be made for certain topic matters.

This recommendation is consistent in part with the recommendations of the National Advisory Commission of Criminal Justice Standards and Goals. Their recommendation included the establishment of a formal personnel development program but they recommended that it consist of at least forty consecutive hours of formal classroom training. The program recommended in this proposal urges that the formal classroom training not be given for forty consecutive hours. Educational psychologists have done extensive studies which indicate that lengthy training programs result in a "regressive learning inhibition," i.e. the material that is learned last interferes with the retention of what is learned first. Readings in adult education indicate that this is particularly true of older students. Researchers also indicate that the greatest retention levels are achieved by requiring the practical application of concepts taught in the classroom immediately after the student has been taught the concept.

(Attached is the curriculum outline for the first four sessions of the recommended program.) These are for your review and comment only and are not to be distributed.

MINNEAPOLIS POLICE DEPARTMENT
MANAGEMENT DEVELOPMENT PROGRAM

SESSION 1

TOPIC: The coming challenge in Criminal Justice

TIME: 4 hours on one day

RESOURCE: Professor Gus Economos
DePaul University, Chicago

PURPOSE: Keynote and motivate. Develop the objective, analytical approach to management.

POST-SESSION ASSIGNMENT: List and define the top ten critical issues facing the Minneapolis Police Department and state how you feel these issues should be addressed. This is an individual project and you shall not work together on this project. This assignment is due in the Personnel Division Office no later than noon next Monday.

SESSION 2

TOPIC: Affirmative Management and Constructive Discipline

TIME: 4 hours on one day

RESOURCE: Attorney James Everson
Mulcahy and Whirry, Milwaukee (also Green Bay, Madison, & Wausau)

PURPOSE: To present various approaches to effective leadership and discipline in police departments.

POST-SESSION ASSIGNMENT: Choose one of the following:

A.) Prepare a concept paper describing how you feel the Minneapolis Police Department can improve its management organization. Propose needed ordinance and policy changes; or

B.) Prepare a concept paper describing how you feel the Minneapolis Police Department can improve its disciplinary policy and procedure. Prepare a proposed policy and procedural statement.

SESSION 3

TOPIC: Reforming the Investigative Process

TIME: 4 hours on one day

RESOURCE: Peter Greenwood and Jan Chaiken
RAND Corporation

PURPOSE: To review the findings of the RAND study on the investigative process and respond to comments and questions; the role of patrol officers in the investigative process will be discussed.

POST-SESSION ASSIGNMENT: Analyze and describe briefly the investigative process of the unit you are assigned to. It is presumed that all units carry on some type of investigative function, i.e. in the Communications Division, the complaint takers screen calls and gather information.

SESSION 4

TOPIC: Resource Allocation - Patrol

TIME: 4 hours on one day

RESOURCE: Jan Chaiken
RAND Corporation

PURPOSE: To present the various methodology used by police departments and evaluate the relative effectiveness.

POST-SESSION ASSIGNEMENT: Choose two of the following:

A.) Define the current role of the patrol officer and describe what you think the role should be.

B.) Prepare a concept paper stating your position on the following topics:

1.) one-man vs two-man patrol cars
2.) one-man vs two-man investigative units
3.) one-man vs two-man beat teams
4.) use of K-9's

C.) Prepare a plan which you would use to improve police service levels without increasing fiscal resources. Justify your plan.

And, in addition to two of the above, answer and justify your answer to the following questions:

1.) What should be the average and maximum lengths of time callers must wait until units are dispatched?

2.) What should be the average and maximum travel time to a scene?

3.) a. When should units be dispatched outside of its assigned district?
b. When should units be dispatched outside of its assigned precinct?

4.) How much time should a patrol unit have available for the following:

a. preventive patrol?
b. meals?
c. coffee breaks?
d. equipment and vehicle maintenance?
e. interaction with citizens?
f. physical fitness?

APPENDIX K

RESPONSE TIME REPORT

AND

PASSES OF PATROL VEHICLES REPORT

PREPARED BY

THE CRIME ANALYSIS UNIT

RESPONSE TIME

GENERAL NOTE: Measurements were taken only on occasions which observers were either within the responding unit or monitored the dispatch and were in a position to observe the arrival. Response Time = T. Arrival - T. Dispatch.

Precinct	# of Observations	Mean Response T	Min. Resp. T
1	6	4:37	:31
2	4	4:52	2:30
3	2	5:28	4:40
4	22	4:26	:15
5	5	5:24	2:30
6	20	4:10	:22

NOTE: There was no audit to check on how long the calls were queued (awaiting dispatch). There are no conclusions to be drawn from these statistics since the incidental sample was small and subject to incidental bias.

The evaluation unit from the start of the project had attempted to obtain time data from the communication center, but found that available data suffered from inaccuracy and inadequacy. The most accurate and adequate data from the communication center was that kept on audio tape. It was determined that this data would be too costly to collect and would not be of value in measuring patrol performance for it did not contain arrival times for other than exceptional cases. When the observers monitored response times, it was noted that where arrivals were noted via radio to the dispatcher (primarily emergency calls) the unit would announce its arrival prior to actual arrival. It was also noted that non-assigned units frequently arrived before assigned units and did not announce their arrivals.

The observers also monitored service times (i.e., T. clearance - T. dispatch). The latter is collected both on tape and on cards. An examination showed the cards to be nearly accurate in relation to the tapes, but observers found that the practice of announcing clearance (i.e., the unit is available for service) varied from unit to unit. Units were observed to announce clearance while still at the scene before actually completing service on one extreme and on the other, waiting as until after driving to headquarters, taking a coffee break, and completing reports.

The primary modal phenomena was to announce clearance within 2 minutes of driving away from the scene. The secondary phenomena was to wait 10-20 minutes after leaving the scene before announcing clearance in those cases not involving booking or similar follow-up.

PASSES OF PATROL VEHICLES

Precinct	No. of Observation Points	Average # of Passes During Two-hour Periods	Note
1	5	4	1
2	6	2.3	4
3	6	1	
4	12	3.25	2
5	6	1.75	
6	12	2.25	3

Note 1 - In the First Precinct 75% of the marked patrol vehicles observed were from divisions and precincts other than the first. This was expected due to the central location of the First Precinct in the court hours, as it is the Minneapolis Police Department's main headquarters and the police fleet service center is in the 1st precinct. A sixth observation post on Nicollet Mall and South 5th Street was excluded from the sample since during a series of two-hour observations, observers counted 18 passes (mainly 3rd, 5th and 6th precinct units).

Note 2 - Of the 12 observation points in the fourth precinct, the seven close to or South of West Broadway had significantly higher observed passes than the five north of the Broadway area. This was somewhat expected due to the precinct station being on Broadway and that most traffic between the precinct and the central headquarters pass through the southern part of the 4th and that the call rate is higher from Broadway South.

Note 3 - The result for mean number of passes in the sixth precinct was expected to be at least equal to or greater than that of the fourth precinct, since the amount of manpower staffing the precinct was equal, the areas was smaller, and that third and fifth precinct cars while enroute to central headquarters could pass through the sixth. The out of precinct pass throughs observed were 2 out of 27; the special units passes were 7 out of 27. (Compared to the fourth where out of precinct was 1 of 39 and special units

9 out of 39). Deviation from expected does not appear attributable to chance, but manning practices.

Note 4 - Sample excluded observations made during the periods which out of precinct vehicles were enroute to the indoor range.

END