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DEFINITION OF POLICE BEATS



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TABLE OF CONTENTS

	Page
FOREWORD	1
INTRODUCTION	2
THE SPONSOR	4
PROJECT PROCEDURE	
Part I - Locating Offenses and Crime Hazards	5
Deciding the Unit Areas	5
Selecting Police Services to be Considered	6
Time Intervals	7
Tabulation of Police Incidents	8
Locating Crime Hazards	14
Miscellaneous	19
Part II- Time Study of Patrol Activities	23
Part III- Determining Police Time Needs of Unit Areas	28
Combining the Data	28
Computing Final Time Requirements	31
RESULTS	36
THE COST OF THE PROJECT	37
MATERIALS AND EQUIPMENT NEEDED	39
APPENDIX	40
Working Procedures	41
Exhibit I - Classification of Police Incidents	49
Exhibit II - Instructions to the Checkers for Filling Out Form 7	50
Exhibit III - Sample Form 7, Patrol Activities Report	55
References	58
FORMS	
Form 1 Data Collecting Card	9
Form 2 Code of "Police Incidents"	9
Form 3 Code of "Types of Business"	9
Form 4 Summary of Police Incidents	13
Form 5 Crime Hazard Summary Sheet	16
Form 6 General Information Sheet	21
Form 6 Sample Unit Area Sketches	22
Form 7 Patrol Activities Report	25
Form 8 Time-Study Calculation Sheet	27
Form 9 Time Analysis of Activities	29
Form 9 Sample Filled in	33
Form 10 Physical Progress Report	56

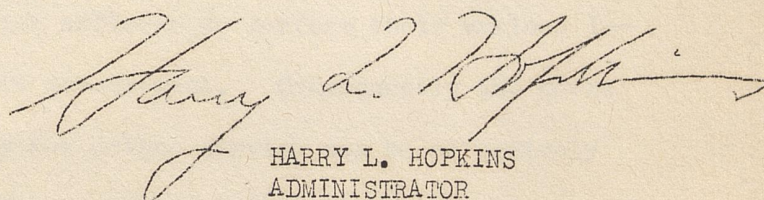
FOREWORD

Sponsors have indicated particular interest in certain projects which provide professional and clerical aid to governmental units. Requests for information concerning the technique of operating certain of these public administration projects have led to the preparation of several circulars in the WPA Technical Series.

It is hoped that this circular will be a guide, to the extent that the suggestions are pertinent, which will assist in securing competent technical supervision and successful project operation.

The procedure suggested herein is not mandatory. Local conditions and legal requirements may necessitate some changes. It has been demonstrated, however, that the procedure and forms shown in this circular are adequate to accomplish the objective of the project.

The procedures contained herein have to do entirely with the technique of project operation and nothing in this circular is to be construed to affect or modify in any way administrative procedures of the Works Progress Administration.



HARRY L. HOPKINS
ADMINISTRATOR

The objective of the distribution of uniformed patrolmen throughout a municipality is to attain a maximum of protection to persons and property with the available force. However, the effective distribution of available patrolmen is probably one of the most troublesome problems confronting police administrators.

Broadly speaking there should be a correlation between crime hazards and available police force. The number of men on the force is known, but what elements compose crime hazards? And how can hazards be translated into terms of hours of patrol time?

The procedure detailed in this circular describes a method whereby such information may be secured through the efforts of WPA workers - assuming, of course, that these workers are competently supervised.

It has been repeatedly shown that over a period of time the frequency of crime and the amount of crime hazard in a particular area remain fairly constant. Therefore this project is designed to measure the amount of police service which will be required in small unit areas in the future, on the basis of the analyzed past records for these same areas. The amounts of time required by police officers to perform their various duties also are subject to definite measurement. Consequently the needs of particular sections of a city for police service may be effectively and accurately translated into the amount of police time required to furnish these services. As a final result, police beats may be rationally

defined in accordance with the amount of police work to be done.

The project may be divided into three major divisions: (1) the location of offenses, crime hazards and other actual needs for police services within small unit areas; (2) a time-study measurement of the amount of time involved in the performance of these services; and (3) a determination of the police time needs of unit areas through the application of the time indexes to the area records of crime hazards and other needs. All information is therefore available for building up rational beat boundaries.

The project may be prosecuted as a whole or it may be divided into the three parts if local circumstances render such division desirable. If, for example, a police department has already built up information showing the location of offenses and crime hazards, that part of the project need not be repeated. This circular is written so that the three divisions are separate and complete, each within itself. It may be used, therefore, as a guide for the entire project or for any of its subdivisions.

Separate Working Procedures for each part, Part 1, "Locating Offenses and Crime Hazards", Part 2, "Time-Study of Police Activities", and Part 3, "Police Time Needs of Unit Areas" are contained in the Appendix, as well as a Working Procedure for the project as a whole, "Definition of Police Beats". There is also included a sample report form which has been used successfully as an aid in supervising or reporting physical progress on this kind of project.

THE SPONSOR

The value of this project lies almost wholly within the field of technical administration of a police department. While the data obtained in regard to the location of offenses and crime hazards are of some general interest, the underlying usefulness of such data is for a rationalization of the patrol service furnished by the police department. For this reason the project must be sponsored by the police department or department of safety.

Immediate supervision may be furnished by the police official in charge of crime statistics and crime reporting, though it would be equally desirable to have the official in charge of patrol activities oversee the work. Certainly both the patrol division and the crime statistics division should concern themselves intimately with the operation and use the results of the project.

PROJECT PROCEDURE

PART 1

LOCATING OFFENSES AND CRIME HAZARDS

Deciding the Unit Areas

The unit areas to be selected for the collection of data should be considerably smaller than the anticipated police beats, since the final outlines of the police beats will be determined by adding together in various combinations the unit areas which have been analyzed. Obviously the areas must be small enough to provide flexibility in considering alternative schemes of grouping.

From experience it has been found desirable to use single blocks as unit areas in congested sections of a municipality. Similarly, block units are advisable in slum and other areas in which police incidents occur frequently. The size of the unit areas may be larger in suburban and residential sections of the city.

No general rule, except that of common sense, can be given for fixing area sizes if a police department does not have available spot maps showing the location of police incidents in the past. If such maps are available, the selection of unit areas will be a relatively simple matter.

The tentative unit areas should be roughly sketched upon a working map. After the areas have been finally determined, they should be outlined upon large scale maps and numbered for cross reference to the forms

and tabulation sheets used in the project.

Selecting Police Services To Be Considered

All police services which involve the attention of the beat patrolmen, as distinguished from special squads, should be included in the project. In a given city, traffic duties may be performed by a special squad or by the beat patrolman. If traffic is the responsibility of a separate squad, then these activities should be omitted from the survey.

Consequently it is first necessary to list in detail all activities performed by beat patrolmen. Included should be not only police activities as such, but necessary routine matters which engage the time of patrolmen while actually patrolling beats.

These services should be broken down into broad classifications which are homogeneous as to the type and kind of police attention required. There are several reasons for making these classifications: (1) There may be duties now assigned to beat patrolmen which will be found to be better handled by special patrols. (2) It is desirable to distinguish between the ordinary police activities and other work which, though a necessary accompaniment to police work, cannot be considered police services as such. (3) It is desirable to distinguish between the type of police activities which might be performed by a foot patrolman and that type which should be the function of a radio patrol car.

It is held by some authorities that crimes against property can be more effectively checked by radio patrol cars, while crimes against persons are best supervised by foot patrolmen. Other authorities hold exactly the reverse. It is not within the province of this circular to

decide this question. The classification of incidents should observe the distinction between crimes against persons and crimes against property, whichever theory of policing, by foot patrolmen and radio cars, is held by the police administrator.

Another distinction which must be carefully noted is that between the actual arrests and investigations. If members of the uniformed force spend time investigating felony cases, it will be necessary to consider investigations as distinct from actual arrests, since the time required and the character of police work are quite different for the two phases. A suggested classification of police incidents for tabulation purposes is shown in Exhibit I of the Appendix. The classification is in the greatest detail which would ever be found necessary. In most instances the number of classes probably will be reduced through combination of certain of the items. Certainly the items in the classification should be combined or altered to conform with local police practices and conditions.

Time Intervals

Criminal and police activities vary widely according to the time of day. Robberies, for example, occur most frequently during the late evening and early night hours. Traffic accidents tend to reach a peak during the rush hours of traffic. Drunk-rolling usually reaches a maximum during late twilight and the hours immediately following darkness. In general, it has been found that the amount of police activity required will fluctuate by more than three times according to the time of day.

Therefore it is desirable to tabulate the occurrence of arrests and other police activities according to the time of day. The division

may be made upon an hour basis, but for the purpose of this analysis it is believed sufficient to divide the day into six four-hour periods. Time intervals, of course, should be selected so that the divisions correspond to the hours of police reliefs. The four-hour period will fit into both eight-hour and twelve-hour platoon systems. Where platoons are not divided into 8-8-8 or 12-12 hours, it may be necessary to use a different time period classification.

In those unit areas which have a moderately high frequency of crimes the tabulation described in the next section should cover a period of one year. In outlying sections where the frequency of crimes is quite low, it may be necessary to study the statistics over a longer period than one year. In this event the statistics should be reduced to a one year basis, for comparison. In any unit area a length of time should be used which will give a large enough number of events so that chance errors are reduced to a minimum.

Tabulation of Police Incidents.

The data collecting card Form 1, to be used in securing the necessary information, is shown on the next page. A list of these activities from which the "Type of Incident" code used at the upper right hand corner of this card is constructed, appears in Form 2. The incidents listed in this code are samples only, and the number of such incidents will vary in each locality, depending on local circumstances as mentioned previously (Page 6, "Selecting Police Services to be Considered"). One data collecting card will be required for each incident recorded and considered. One code card or list will be required for each person collecting or tabulating this information.

Police Beats - Form 1. Data Collecting Card

Unit Area	Relief	Period	Incident Code	Business Code	
(Street)			(Number)		
Time of Occurrence of Incident	DATE			HOOR	
	Year	Month	Day	A.M.	P.M.
Actual Time of Occurrence Not Known _____					
(Type of Business)			(Source Reference)		

Police Beats - Form 2.

Police Beats - Form 3.

Type of Incident, Code	Type of Business Code
1. Felony Against Property - Reported or Investigated	A Automobile Salesrooms
2. Felony Against Property - Arrest Made	B Banks
3. Felony Against Persons - Reported or Investigated	C Cleaning and Laundry
4. Felony Against Persons - Arrest Made	D Clothing Stores (Men)
5. Misdemeanor Against Property - Reported or Investigated	E Clothing Stores (Women)
6. Misdemeanor Against Property - Arrest Made	F Dance Halls and Night Clubs
7. Misdemeanor Against Persons - Reported or Investigated	G Department Stores
8. Misdemeanor Against Persons Arrest Made	H Drug and Cigar Stores
9. Accident and Aided Cases, Including Autos.	I Filling Stations
10. Fires	J Fur Stores
11. Miscellaneous	K Furniture Stores
	L Garages
	M Groceries and Markets
	N Hotels
	O Jewelry Stores
	P Manufacturing Plants
	Q Office Buildings
	R Other Retail Stores
	S Public Parks
	T Railroads
	U Restaurants
	V Saloons or Taverns (Bars)
	W Theatres
	Y Warehouses
	Z Wholesale Stores
	Designate Chain Stores by X

The information called for on these forms is to be secured from police records. The information is best collected from a record which shows the total work of all beat patrolmen. Arrangements should be made for access to records at times when their use will not interfere with normal police work. The exact procedure of transcription will depend upon the type of police records.

Form 1, "Data Collecting Cards," are first filled in, one card for each police incident. On each card, the street address at which the event occurred should be filled in first. The year, month, day and hour of the occurrence of the incident should next be entered in the boxes in the middle of the card. The type of business carried on where the crime was committed, if not available from the police record, must be left to be entered later from the City Directory or similar source. The type of incident by code number as shown in Form 2, is entered in its proper space (Incident Code). Lastly, the source reference shown in the lower right-hand corner of the card is filled in. If the data are copied from the police blotter, the page and line of such blotter may be used as the source reference. For instance, the number 375-24 would indicate that the original record is located on the 24th line of page 375 of the police blotter. If records are filed by days without page numbers, the month, day and line of the record may be used as the number. For example, 216-15 would be the 15th line of the record for February 16. If each individual patrolman's records are used as a source, the officer's badge number combined with the page and line of the record, or with the date and line of the report, would satisfactorily indicate the source of record.

If the time at which a crime was committed is not shown, such time should, if possible, be fixed within relief or period limits. It will be found in some cases that it is impossible to determine the exact time of occurrence of the crime. For example, a house may be burglarized and the crime not discovered until the next morning or even later. Very often, however, the time of occurrence may be narrowed within certain limits. It may be shown, for instance, that the householder volunteered the information that the family retired at 11:00 p.m. and that the house was entered sometime subsequent to that hour but before the time of arising at 7:00 a.m. This definitely fixes the time of occurrence of the crime to the third relief. If it is not possible to allot the time of the occurrence of the incident within periods of a relief, the time of the investigation or arrest should be filled in and the space after "actual time of occurrence not known" should be checked. A separate record should be kept of such crimes in order to compare their number with that of those whose time of commission is known. If the number of events of indeterminate times bulks large, then an allocation must be made on the basis of the period of known time incidents, and the adjusted figures added in.

The boxes across the top of Form 1 for Unit Area, Relief, Period and possibly Business Code are then filled in as a separate operation, from the information already entered.

In order to locate in which unit area an incident occurred, tabulators should have some means of locating street addresses within areas. For this purpose there should be entered upon a large map the street numbers of each street intersection. This will enable the tabulators to locate each incident within a certain city block. Unit area outlines

and unit area numbers should likewise be entered on this map, and the exact unit area location of each incident will then be readily obtainable.

Whether done at this stage, or previously along with the entry of the original information upon Form 1, the type of business should be coded from Form 3 and the code symbol entered in the upper right-hand corner under Business Code. When the business is a chain store, the symbol indicating the type of business should be followed by the letter "X" indicating chain stores. Clothing, drug and cigar stores, groceries and markets, and filling stations might be of this type. When the crime takes place in a store located within an office building, it should be coded under the type of store, rather than under office buildings. Likewise, a pay roll robbery occurring in the office of a manufacturing plant would be coded under manufacturing plants. A crime occurring in a wholesale warehouse would be included under warehouses, whereas if the incident takes place in the office of a wholesale business, it would be coded under wholesale store. Banks include building and loan associations; garages include both repair and storage garages. Crimes committed against railroads include those crimes taking place on the tracks, in the yards, at stations, or at bus terminals.

Following completion of all Forms 1, these cards should first be sorted by unit area numbers. Following this, the cards within each unit area should be sorted by the time of occurrence of the incident, separating the first, second, and third reliefs, and again separating the first and second period of each relief. They should then be finally sorted by type of incident.

The total number of incidents of each type occurring in each period of each relief should then be counted and entered on Form 4, "Summary of Police

12037

Police Beats - Form 4.

SUMMARY OF POLICE INCIDENTS

Unit Area Number _____

Type of Incident	Number of Incidents					
	First Relief		Second Relief		Third Relief	
	7-11 AM	11 AM-3 PM	3-7 PM	7-11 PM	11 PM-3AM	3-7 AM
1 Felony Cases Against Property Reported or Investigated						
2 Felony Cases Against Property Arrests Made						
3 Felony Cases Against Persons Reported or Investigated						
4 Felony Cases Against Persons Arrests Made						
5 Misdemeanors Against Property Reported or Investigated						
6 Misdemeanors Against Property Arrests Made						
7 Misdemeanors Against Persons Reported or Investigated						
8 Misdemeanors Against Persons Arrests Made						
9 Accidents and Aid Cases Including Autos						
10 Fires						
11 Miscellaneous						
Totals						

Total Number of Incidents _____

Incidents", using a separate copy of this form for each unit area. As a check on the accuracy of the results obtained, the total number of incidents for all reliefs for each unit area may be noted in the lower right-hand corner of the sheet. When these totals for every sheet (that is for all unit areas) are added together, the result must be the total number of cards handled.

These Forms 4 summarize the frequency of police incidents by unit areas according to time intervals and type of crimes or incidents. They show the prevalence of crimes and other incidents which have actually occurred in the past. These incidents, classified and segregated, are an important factor in the determination of police time needs throughout the community.

Locating Crime Hazards

In addition to the classified data based upon actual past records of offenses committed, it is desirable that further information be secured, showing special crime hazards. It is commonly known, for example, that dance halls require greater surveillance than do residences, and the added hazard is usually reflected in the crime statistics. However, the amount of crime that has occurred in a small unit area within a given time may not actually express the crime hazard of that area. To do this, it is necessary to know the crime record of types of business by types of crime and time intervals. The crime hazards of types of businesses vary both as to quantity and severity of crime and as to time of commission.

The ultimate determination of crime hazards involves the exercise of judgment by the sponsor or his agents. Therefore, this section of the study prepares the information for those officials for their analysis and completion.

All Forms 1 for crimes against property are segregated from the complete file of Forms 1. They are then sorted into misdemeanors and felonies. Each group is then sorted by the Business Code. Finally, each subsidiary group is sorted by relief and time periods.

The cards thus sorted are counted and the numbers of incidents entered on Form 5. "Crime Hazard Summary Sheet." One Form 5 is used for felonies and one for misdemeanors.

Next, the offenses affecting each business type for the city as a whole, during each period of each relief, should be classified by police officials into high, medium and low hazards, based upon the rate of the number of crimes to the number of businesses during that time interval, and the severity of the crimes committed. In addition to the information developed in the two Forms 5, this classification procedure calls for mature judgment, an intimate knowledge of local crime conditions and a full realization of potential hazards inherent in certain types of business. Potential hazards may be well illustrated by citing the case of banks. Although a felony may never have been committed against any of the banks in a given city, banks potentially may present an extremely high hazard by reason of the nature of their business. Somewhat similar hazards are gold and silversmiths, jewelry stores, silk warehouses, and fur warehouses and storage plants.

All of these factors must be carefully considered by police officials in evaluating the hazard presented by each particular type of business.

Tabulation of Offenses Occurring Against, Within or by Reason of Various Types of Business

Business Type	7AM-11AM	11AM-3PM	3PM-7PM	7PM-11PM	11PM-3AM	3AM-7AM
A Automobile Sales Rooms						
B Banks						
C Cleaning & Laundry						
D Clothing Stores (Men)						
E Clothing Stores (Women)						
F Dance Halls & Night Clubs						
G Department Stores						
H Drug and Cigar Stores						
I Filling Stations						
J Fur Stores						
K Furniture Stores						
L Garages						
M Groceries & Markets						
N Hotels						
O Jewelry Stores						
P Manufacturing Plants						
Q Office Buildings						
R Other Retail Stores						
S Public Parks						
T Railroads						
U Restaurants						
V Saloons or Taverns (Bars)						
W Theatres						
Y Warehouses						
Z Wholesale Stores						
DX Clothing Men (Chain)						
EX Clothing Women (Chain)						
HX Drug & Cigar Stores (Chain)						
IX Filling Stations (Chain)						
MX Groceries & Markets (Chain)						
Totals High Hazard						
Medium Hazard						
Low Hazard						

When the hazard of each type of business for each time interval has been determined, these hazards must next be applied by survey workers to the unit areas. From the City Directory or a similar source, the businesses within each unit area are classified by types and their numbers are tabulated on Form 5, using one form for each unit area. In each time interval space are entered both the number of businesses of each type existing in each unit area and their previously determined crime hazard class. For example, if, within a unit area, there are three furniture stores, the entry for the 11:00 a.m. to 3:00 p.m. period might read "3 Low", indicating that for this time interval these stores constituted a low hazard, whereas the entry for these same stores for the 11:00 p.m. to 3:00 a.m. period might be "3 Medium".

The number of the three hazard types (high, medium and low) during each time interval, is totalized at the bottom of each time interval column, as, say, in the 7:00 -- 11:00 p.m. column, "6 High, 12 Medium, 17 Low".

At this juncture, the police officials must determine a rating or index for the unit areas as a whole into high, medium, or low hazard. Judgment must enter into this process, for not only will the pattern of business hazards vary by areas, but the numbers of businesses will differ among areas and the relative importance of misdemeanors and felonies will influence the final rating. It should be pointed out that a unit area may have a different rating or index according to the time interval.

Large maps covering the entire city are to be prepared for each relief. If the 8-hour relief platoon system is in effect, three such maps will be required, or if the 12-12 hour system is operated, but two maps

will be needed. Unit areas must be outlined on each map. On each must be entered the crime hazard for each unit area during the time interval (relief) represented by that map. A red dot is entered for each high crime hazard, a black dot for each medium crime hazard, and a blue dot for each low crime hazard. These dots do not indicate spot locations of crime occurrences, but simply present a tally of the low, medium, and high crime hazards presented by various businesses during the particular time interval represented by the map (i.e., 7:00 a.m. to 3:00 p.m., etc.). As beat reliefs for the purpose of this survey have been broken into two periods, or in the case of the 8 -- hour platoon system into three periods, and as a place of business may present two or three hazards during a beat interval, it may be necessary to place two or three dots of different colors to show the hazard of one business. In this case, the dots should be enclosed by a circle, thus (:) or thus (:.) to denote that they refer to the same hazard. These maps, showing a spot pattern of hazards throughout the city during various beat intervals give a comprehensive visual picture of the relative hazards distributed throughout the municipality. Next, six more maps should be prepared, one for each beat period, showing the unit areas. Each unit area should be hatched with diagonal lines in red, black, or blue, depending upon whether it has been designated as a high, medium, or low hazard for that time interval. In lieu of preparing these six new maps, the supervisor may, if he desires, impose the diagonal lines upon the three maps already prepared and marked with dots to show the relative crime hazards. In case the crime hazard varies in the two periods of a beat interval, the upper left-hand diagonal portion of the unit area should be hatched in the color of the hazard

during the first period and the lower right-hand corner should be hatched in the hazard color for the second beat period. This summary map will rate each area for visual comparison as to whether it falls into a general low, medium, or high classification. This summary map is made for purposes of convenience.

Miscellaneous

Certain other information must be secured in order to obtain a comprehensive picture of each unit area. Form 6, on page 21, is used for the assembly of this information for each unit area. At the top of the form a space is provided in which a sketch map of the unit area may be drawn, showing boundary and other streets, and the location of topographical and other features which provide limitations or barriers that must be considered in combining unit areas into beats. Such barriers include streams not crossed by bridges; bluffs or sharp promontories; ravines and railroad tracks; walls, and viaducts in some instances; also blind streets or blind alleys, etc. Chart 1 on page 22 shows sketches of typical unit areas with symbols depicting some limitations normally encountered.

Item 1 on Form 6 is a summary of the crime hazards as determined in the previous section. Item 2 is the frontage and alley length which may be calculated from large scale street maps. Each side of the street should be treated as a separate frontage. Alley measurement, except for blind alleys, should be single. This work can be done by the draftsmen on the project while other staff members are securing the data called for in the previous sections. If during certain hours policemen inspect doors of businesses other than those of Item 4, the number of such businesses

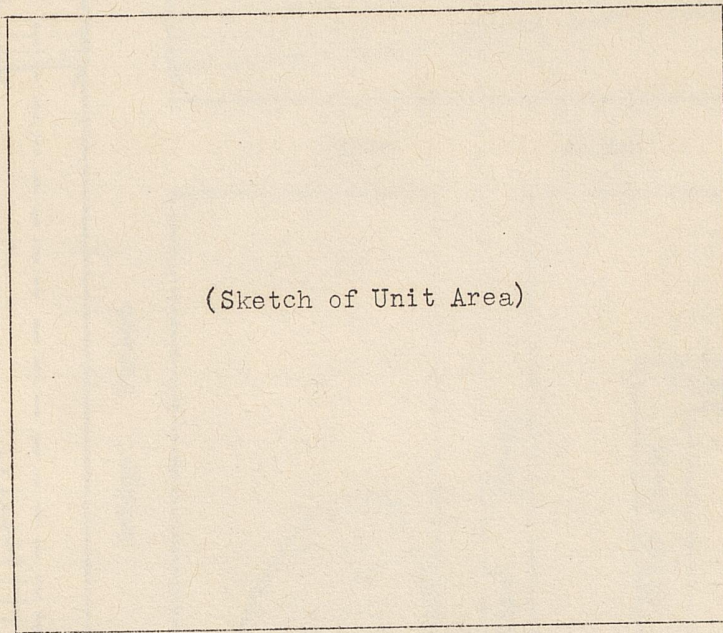
should be entered on Item 3. Item 4 may be determined from the business classification of unit areas previously made. The item includes saloons, night clubs, and other businesses whose closing is fixed by law. This information should be checked with data obtained in the time-study of police activities, which is outlined in the following section. Other pertinent information, such as that indicated by Items 5 and 6, should later be entered from the data secured in Part 2 (see page 25).

12037

Police Beats, Form 6.

GENERAL INFORMATION SHEET

Unit Area No. _____



(Sketch of Unit Area)

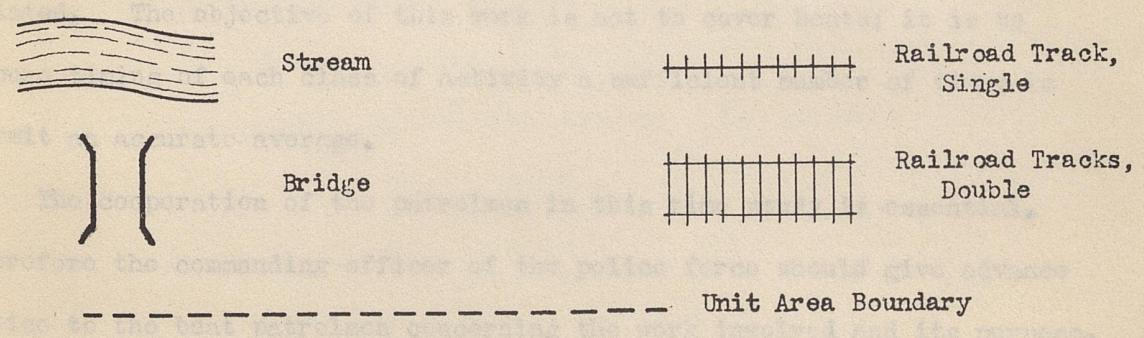
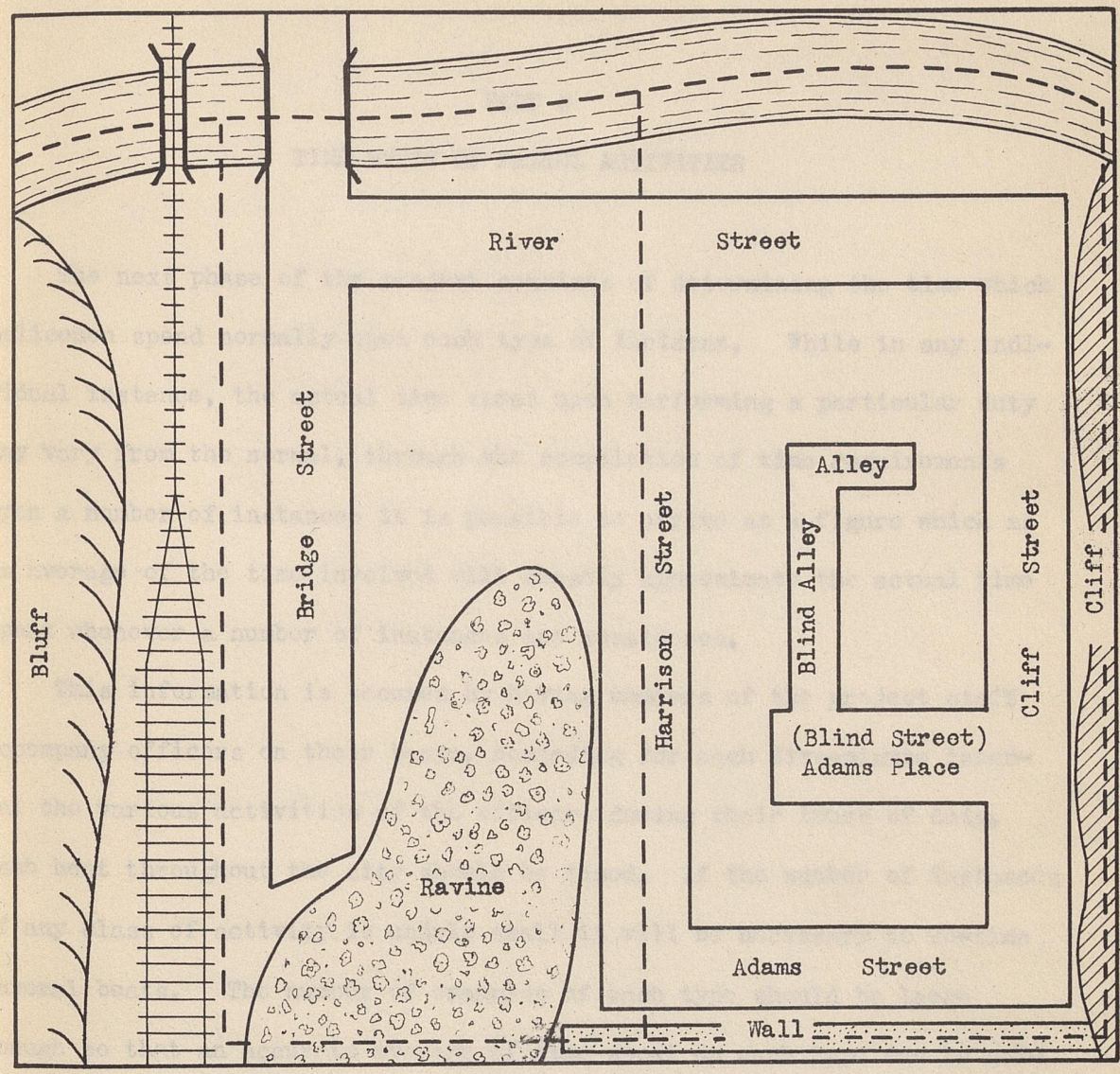
No. of Businesses and Relative Risk.

1.

		7AM-11AM	11AM-3PM	3PM-7PM	7PM-11PM	11PM-3AM	3AM-7AM
No. of Businesses	Low						
	Medium						
	High						
Gen'l Index							

2. Street Frontage Plus Alley Length _____ Ft.
3. No. of Businesses Requiring Door Checking _____
4. No. of Businesses Requiring Closing Inspection _____
5. No. of Handbooks in Area _____
6. No. of "Joints" Requiring Special Attention _____
7. Remarks:

Police Beats, Form 6
Sample Unit Area Sketches, Beat Limitations



Sketches of two Unit Areas, with Symbols for Normal Characteristics.

PART 2

TIME STUDY OF PATROL ACTIVITIES

The next phase of the project consists of determining the time which policemen spend normally upon each type of incident. While in any individual instance, the actual time spent upon performing a particular duty may vary from the normal, through the compilation of time requirements upon a number of instances it is possible to arrive at a figure which as an average of the time involved will closely approximate the actual time spent whenever a number of instances are considered.

This information is secured by having members of the project staff accompany officers on their beats, recording for each five-minute interval the various activities of the officers during their tours of duty. Each beat throughout the city should be timed. If the number of instances of any class of activity is unduly small it will be necessary to re-time several beats. The number of examples of each type should be large enough so that an accurate average of time spent on each type can be calculated. The objective of this work is not to cover beats; it is to secure timing of each class of activity a sufficient number of times to permit an accurate average.

The cooperation of the patrolmen in this time study is essential. Therefore the commanding officer of the police force should give advance notice to the beat patrolmen concerning the work involved and its purpose.

It should be carefully explained that this is not a checkup on the activities of individual officers; it is solely for the collection of sufficient information to insure an accurate determination of the average time required for each type of patrol activity.

A convenient form for recording this information is illustrated on page 25, Form 7, "Patrol Activities Report." One of these forms is required for each beat and each relief. Three would be necessary to show twenty-four hour (three 8-hour reliefs) coverage for a single beat. If the number of beats varies according to the relief, this, of course, will not be exactly true. If, also, it is necessary to re-time any beat or beats, additional copies of the Form will have to be available. A list of instructions to the project time-study men for using Form 7 is shown in Exhibit II of the Appendix, and a sample Form 7 as filled in is shown in Exhibit III.

Each time-study man must be equipped with an ordinary watch. It is necessary to show five-minute intervals only, so stop watches are not required.

The time-study men should be cautioned to record the location of all suspected handbooks, gambling houses and houses of prostitution which come within the knowledge of the officer. Notations as to their location should be made on the back of the Form 7 sheet. The three forms covering each beat may then be compared in this regard in order to determine and then reconcile discrepancies in this information. The location of all businesses regarding closing or routine inspection, door checking, or other special police attention, should also be recorded on the reverse of Form 7.

In tabulating the data recorded upon Form 7, foot beats, motor beats and radio patrol beats should be segregated. If any beats are covered by two-way radio, these beats must be separated also. It will be found that

PATROL ACTIVITIES REPORT

Officer's Name _____ District No. _____ Beat No. _____
 Officer's No. _____ Type of Patrol _____ Relief No. _____ Date _____ Checker _____
 As far as possible, description of activities should be confined to the following:

1. Patrolling	9. Arrest Misdemeanor Personal
2. Investigate Felony Property	10. Accidents and Aided Cases
3. Arrest Felony Property	11. Fires
4. Investigate Felony Personal	12. Miscellaneous
5. Arrest Felony Personal	13. Check Store Doors
6. Investigate Misdemeanor Property	14. Investigate Handbooks
7. Arrest Misdemeanor Property	15. Investigate Closing
8. Investigate Misdemeanor Personal	16. Investigate "Joints"

Time	Time
.00	.00
.05	.05
.10	.10
.15	.15
.20	.20
.25	.25
.30	.30
.35	.35
.40	.40
.45	.45
.50	.50
.55	.55
.00	.00
.05	.05
.10	.10
.15	.15
.20	.20
.25	.25
.30	.30
.35	.35
.40	.40
.45	.45
.50	.50
.55	.55
.00	.00
.05	.05
.10	.10
.15	.15
.20	.20
.25	.25
.30	.30
.35	.35
.40	.40
.45	.45
.50	.50
.55	.55
.00	.00
.05	.05
.10	.10
.15	.15
.20	.20
.25	.25
.30	.30
.35	.35
.40	.40
.45	.45
.50	.50
.55	.55
.00	.00
.05	.05
.10	.10
.15	.15
.20	.20
.25	.25
.30	.30
.35	.35
.40	.40
.45	.45
.50	.50
.55	.55
.00	.00
.05	.05
.10	.10
.15	.15
.20	.20
.25	.25
.30	.30
.35	.35
.40	.40
.45	.45
.50	.50
.55	.55
.00	.00

the average time requirements for the same offenses will vary according to the manner in which the beat is covered, foot beat time being the greatest and two-way radio time the least. It is not believed necessary to segregate the tabulation by reliefs because the variation in time required according to the various hours of the day is too small to merit special attention.

The tabulators in the office will then make up classified check sheets from the Form 7, showing the amounts of time actually used in performing the services necessary under the various classifications. The form to be used for this purpose is Form 8, "Time Study Calculation Sheet," as illustrated on page 27.

The incidents tabulated by the field time-study workers upon Form 7 are classified under the proper column headings shown on Form 8. The number of minutes consumed by each incident is calculated by subtracting the time of the day at the beginning of the occurrences from that at the end of the occurrence. The time requirement in minutes of each incident is entered on a separate line. There will be one Form 8 for each Form 7.

A summary Form 8 will then be filled out from the column totals of the Forms 8, indicating the total number of incidents and total time consumed.

The normal time requirement for each class of activity is then found by simply averaging the actual times as recorded. For example, from the summary Form 8, it may be found that there was a total of 40 Felony Property Arrests requiring 1000 minutes. The average time for this period of activity would therefore be 25 minutes.

After the normal time requirement for each type of activity has been calculated, a number of copies of these standard time schedules should be made as they will be used in Part 3 in calculating total time requirements of unit areas.

Police Beats - Form 8

TIME-STUDY CALCULATION SHEET

Type of Patrol _____
District No. _____

Beat No. _____
Relief No. _____

No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	No.
	Patrol	Felony Prop. Invest.	Felony Prop. Arrests	Felony Pers. Invest.	Felony Pers. Arrests	Misdem. Prop. Invest.	Misdem. Prop. Arrests	Misdem. Pers. Invest.	Misdem. Pers. Arrests	Accdts & Aided Cases	Fires	Miscellaneous	Check Store Doors	Investigate Handb'ks	Investigate Closings	Investigate "Joint"	
1																	1
2																	2
3																	3
4																	4
5																	5
6																	6
7																	7
8																	8
9																	9
10																	10
11																	11
12																	12
13																	13
14																	14
15																	15
16																	16
17																	17
18																	18
19																	19
20																	20
21																	21
22																	22
23																	23
24																	24
25																	25
26																	26
27																	27
28																	28
29																	29
30																	30
Min.																	Min
Inc.																	Inc

Enter Column Totals in Minutes Below the Double Line;
Also the Total Number of Incidents in Each Column.

CHECK: ADDED NO. MINUTES
CALCULATED NO. MINUTES

PART 3

DETERMINING POLICE TIME NEEDS OF UNIT AREAS

Combining the Data

This section of the project consists of combining the information secured in Parts 1 and 2 into resultant police time needs of the unit areas. No field work is necessary during this stage of the project. A summary sheet is prepared for each unit area, using Form 9, "Time Analysis of Activities", illustrated on page 29. These summary sheets will contain the final assembled policing time needs, for setting up police beats.

The Form 9 illustrated contains the classification of police activity previously adopted as an example. A more detailed classification of activity will require a more detailed Form 9; a simpler classification, a simpler Form 9.

In column 1, on lines 1, 2, 5, 6, 9, 10, 13, 14, 17, 18, 19, 28, 29, and 30, are entered the normal time requirements for each type of activity as determined in Part 2, Form 8. The time requirements for lines 24, 25, and 26 should be arbitrarily estimated by police officials, and quite likely will vary according to the time of day.

In columns 2a, 3a, 4a, 5a, 6a, and 7a, are entered the numbers of times per year which, as listed on the corresponding Form 4, each type of activity enumerated in the above paragraph has occurred within the particular unit area. Care should be taken in entering activity figures to be sure they are in the proper time interval.

TIME ANALYSIS OF ACTIVITIES

Year _____

Unit Area No. _____

Types of Activity	Unit Time #1	7AM - 11AM		11AM - 3PM		3PM - 7PM		7PM - 11PM		11PM - 3AM		3AM-7AM	
		No. #2a	Time #2b	No. #3a	Time #3b	No. #4a	Time #4b	No. #5a	Time #5b	No. #6a	Time #6b	No. #7a	Time #7b
1 Felonies Property, Investigate													
2 Felonies Property, Arrests													
3 Totals for Year		XXX		XXX		XXX		XXX		XXX		XXX	
4 Max. Day (Aver. Month; Divide by 12)	XX	XXX		XXX		XXX		XXX		XXX		XXX	
5 Felonies Personal, Investigate													
6 Felonies Personal, Arrests													
7 Totals for Year	XX	XXX		XXX		XXX		XXX		XXX		XXX	
8 Max. Day (Aver. Month; Divide by 12)	XX	XXX		XXX		XXX		XXX		XXX		XXX	
9 Misdemeanors Property, Investigate													
10 Misdemeanors Property, Arrests													
11 Totals for Year	XX	XXX		XXX		XXX		XXX		XXX		XXX	
12 Max. Day (Aver. 2 Weeks; Divide by 26)	XX	XXX		XXX		XXX		XXX		XXX		XXX	
13 Misdemeanors Personal, Investigate													
14 Misdemeanors Personal, Arrests													
15 Totals for Year	XX	XXX		XXX		XXX		XXX		XXX		XXX	
16 Max. Day (Aver. 2 Weeks; Divide by 26)	XX	XXX		XXX		XXX		XXX		XXX		XXX	
17 Accidents and Aided Cases													
18 Fires													
19 Miscellaneous													
20 Totals for Year	XX	XXX		XXX		XXX		XXX		XXX		XXX	
21 Max. Day (Aver. Week; Divide by 52)	XX	XXX		XXX		XXX		XXX		XXX		XXX	
22 Street Frontage and Alley Length _____ Ft.													
23 Net Patrol Time @ _____ Ft. per Min. _____ Min.	XX												
24 Low Hazard Stores Check Doors _____ Min. Ea.	XX												
25 Med. Hazard Stores Check Doors _____ Min. Ea.	XX												
26 Hi. Hazard Stores Check Doors _____ Min. Ea.	XX												
27 Patrol Time Plus Store Hazard	XX	XXX		XXX		XXX		XXX		XXX		XXX	
28 Handbook Inspection													
29 Closing Inspection													
30 "Joint" Inspection													
31 Total Inspection Time	XX	XXX		XXX		XXX		XXX		XXX		XXX	
32 Totals Lines 4, 8, 12, 16, and 21	XX	XXX		XXX		XXX		XXX		XXX		XXX	
33 Totals Lines 27 and 31	XX	XXX		XXX		XXX		XXX		XXX		XXX	
34 GRAND TOTALS (Lines 32 and 33)	XX	XXX		XXX		XXX		XXX		XXX		XXX	

The figure on line 22 is obtained from Form 6, Item 2. Line 23 will be calculated by first multiplying the figure on line 22 by the rate of speed of patrol. For foot beats, assume that the rate of speed will be two and one-half ($2\frac{1}{2}$) miles per hour or two hundred and twenty (220) feet per minute. The rate of speed for both motor patrol and radio motor patrol will be ten (10) miles per hour or eight hundred and eighty (880) feet per minute.

Next, since the frontage in each unit area will be patrolled more than once during each time interval, it will be necessary for the police officials to determine the number of times that the unit area needs to be patrolled during each four-hour period. Helpful information in determining the number of rounds essential in each unit area is shown on the Unit Area Crime Hazard Summary Sheets (Form 6). The degree of hazard offered by the stores in a block must be considered in determining the number of times a patrolman shall patrol that block in each period of his relief. A unit area, where the majority of stores present low hazards, may require only one patrolling in each four-hour period in the opinion of police officials. In blocks where the stores present medium or high hazards, two or more rounds in the same period may be considered necessary.

The number of times the unit area needs to be patrolled during each time period throughout the day may vary. For each period the number must be multiplied by the calculated time of patrolling the area once.

The activity figures in columns 2a, 3a, etc., for lines 24, 25, 26, 28, 29, and 30, are also secured from Form 6. Care must be taken to enter each

time load in the proper time interval. Handbooks, for instance, will be inspected only just prior to and during racing hours; all closing inspections will in all probability be made during one time interval; etc.

Columns 2b, 3b, 4b, 5b, 6b, and 7b represent the total times involved in the performance of each type of activity within the unit area during each of the four-hour time intervals. Each entry is obtained by multiplying the unit time requirements, column 1, by the number of occurrences as found in columns 2a, 3a, 4a, etc. The calculations are made upon lines 1, 2, 5, 6, 9, 10, 13, 14, 17, 18, 19, 23, 24, 25, 26, 28, 29, and 30.

It should be cautioned that the entries in columns 2b, 3b, etc., on lines 23, 24, 25, and 26 will vary according to the number of times that the unit area should be patrolled during each four-hour period. The entries on line 23 in columns 2a, 3a, etc., represent the number of times the unit area must be patrolled. On line 23, the entries in columns 2b, 3b, etc., are the net patrol time multiplied by the number of times the area must be patrolled. On lines 24, 25, and 26, the entries in columns 2b, 3b, etc., are obtained by multiplying the corresponding entries in columns 2a, 3a, etc., by the unit number of minutes for checking one store, and again multiplying by the appropriate entries in columns 2a, 3a, etc., on line 23.

Computing Final Time Requirements

The next step consists of filling in lines 4, 8, 12, 16, 21, 27, and 31. In the computation of total police time requirements for each unit area, the basis used is called a "Maximum Day". The "Maximum Day" denotes the maximum amount of time a patrolman may reasonably be expected to spend

performing the various classes of activity listed.

The activity figures, or frequency of incidents, obtained in Part 1 and summarized on Form 4, represent yearly totals. These activity statistics were not summarized by days and consequently do not show the high or low figures which might occur on any particular day. A Maximum Day, therefore, cannot be derived by dividing the yearly total of incidents by 365. The resultant figure would be an average, while the figure which must be used in this study should be "padded" in order to allow for the very natural possibility that an unusual number of incidents may happen in one day.

To facilitate the description of the computation of maximum day requirements, a sample form has been filled out and is shown on the next page, designated as Form 9 (Sample). "Time Analysis of Activities".

In the following explanation, figures from this sample will be quoted, it being understood that such figures are fictitious and used as examples only. On the sample shown, it is seen that during the year 1935, three incidents have been entered on lines 1 and 2 between the hours of 7 P. M. and 11 P. M., and that a total of 85 minutes was required to handle these incidents. If this figure were divided by 365 to figure the daily average, a negligible allowance would result. This allowance must be raised to provide for a likely maximum. It is probable that in any one period of four hours not more than the total of an average month would be required for these particular duties. Consequently, 85 minutes are divided by 12 instead of 365, and the result, 7 minutes, accepted as an average maximum time requirement for the particular time interval. A similar result is shown in the sample, upon line 4.

Types of Activity	Unit Time #1	7AM - 11AM		11AM - 3PM		3PM - 7PM		7PM - 11 PM		11PM - 3AM		3AM-7AM	
		No. #2a	Time #2b	No. #3a	Time #3b	No. #4a	Time #4b	No. #5a	Time #5b	No. #6a	Time #6b	No. #7a	Time #7b
1 Felonies Property, Investigated	25	0	0	0	0	0	0	1	25	2	50	1	25
2 Felonies Property, Arrests	30	0	0	1	30	2	60	2	60	0	0	0	0
3 Totals for Year	XX	XXX	0	XXX	30	XXX	60	XXX	85	XXX	50	XXX	25
4 Max. Day (Aver. Month; Divide by 12)	XX	XXX	0	XXX	3	XXX	5	XXX	7	XXX	4	XXX	2
5 Felonies Personal, Investigated	20	2	40	0	0	0	0	1	20	0	0	0	0
6 Felonies Personal, Arrests	25	0	0	0	0	1	25	2	50	0	0	0	0
7 Totals for Year	XX	XXX	40	XXX	0	XXX	25	XXX	70	XXX	0	XXX	0
8 Max. Day (Aver. Month; Divide by 12)	XX	XXX	4	XXX	0	XXX	2	XXX	6	XXX	0	XXX	0
9 Misdemeanors Property, Investigated	15	3	45	2	30	2	30	5	75	3	45	1	15
10 Misdemeanors Property, Arrests	10	6	60	14	140	17	170	13	130	7	70	2	20
11 Totals for Year	XX	XXX	105	XXX	170	XXX	200	XXX	205	XXX	115	XXX	35
12 Max. Day (Aver. 2 Weeks; Divide by 26)	XX	XXX	4	XXX	7	XXX	8	XXX	8	XXX	5	XXX	2
13 Misdemeanors Personal, Investigated	20	2	40	1	20	0	0	3	60	0	0	0	0
14 Misdemeanors Personal, Arrests	25	9	225	18	450	21	525	17	425	13	325	7	175
15 Totals for Year	XX	XXX	265	XXX	470	XXX	525	XXX	485	XXX	325	XXX	175
16 Max. Day (Aver. 2 Weeks; Divide by 26)	XX	XXX	10	XXX	18	XXX	20	XXX	19	XXX	12	XXX	7
17 Accidents and Aided Cases	25	4	100	4	100	7	175	3	75	3	75	3	75
18 Fires	30	2	60	1	30	1	30	2	60	0	0	1	30
19 Miscellaneous	20	2	40	0	0	1	20	4	80	2	40	3	60
20 Totals for Year	XX	XXX	200	XXX	130	XXX	225	XXX	215	XXX	115	XXX	165
21 Max. Day (Aver. Week; Divide by 52)	XX	XXX	4	XXX	3	XXX	5	XXX	4	XXX	2	XXX	3
22 Street Frontage and Alley Length 1930 Ft.													
23 Net Patrol Time @ 220 Ft. per Min. 9 Min.	9	1	9	1	9	1	9	2	18	2	18	2	18
24 Low Hazard Stores Check Doors Min. Ea.	XX	34	9	34	9	24	6	20	10	15	8	20	10
25 Med. Hazard Stores Check Doors Min. Ea.	XX	2	1	2	1	12	6	14	14	19	20	14	14
26 Hi. Hazard Stores Check Doors 1 Min. Ea.	XX	3	3	3	3	3	3	5	10	5	10	5	10
27 Patrol Time Plus Store Hazard	XX	XXX	22	XXX	22	XXX	24	XXX	52	XXX	56	XXX	52
28 Handbook Inspection	10	0	0	3	30	3	30	0	0	0	0	0	0
29 Closing Inspection	5	0	0	0	0	0	0	0	0	2	10	0	0
30 "Joint" Inspection	4	0	0	0	0	0	0	0	0	0	0	0	0
31 Total Inspection Time	XX	XXX	22	XXX	30	XXX	30	XXX	0	XXX	10	XXX	0
32 Totals Lines 4, 8, 12, 16, and 21	XX	XXX	22	XXX	31	XXX	40	XXX	44	XXX	23	XXX	14
33 Totals Lines 27 and 31	XX	XXX	22	XXX	52	XXX	54	XXX	52	XXX	66	XXX	52
34 GRAND TOTALS (Lines 32 and 33)	XX	XXX	44	XXX	83	XXX	94	XXX	96	XXX	89	XXX	66

For misdemeanors, lines 12 and 16, a two-week average is taken as the maximum day requirement. For miscellaneous direct activities, line 21, a one-week average. These occurrences take place much more frequently than do felonies, therefore it is less necessary to provide a comparatively large maximum day time allowance, and the division should be by 26 and 52 in these respective instances.

Next lines 32 and 33 are filled in. Line 32 is a total of lines 4, 8, 12, 16, and 21. Line 33 is a total of lines 27 and 31. This method of summarization groups police activities into two major classes: the first represents time spent by patrolmen in investigating crimes, making arrests, attending fires and performing other work directly concerned with actual incidence of crime and other occurrences requiring the presence of a patrolman. In a sense this first class represents productive police work. The second class of activity consists of time spent in patrolling and surveillance and may be called police activity of a preventive and supervisory, rather than productive, nature.

Line 34 is a total of lines 32 and 33. Line 34 shows the total police time needs for each unit areas as divided into the four-hour time intervals.

Following the sample, it is apparent that between the hours of 7 P.M. and 11 P.M., a total of 44 minutes can normally be expected to be required for all activities of the first class in this particular unit area as entered on line 32. Patrolling and special patrolling will require normally 52 minutes as shown on line 33. It is apparent that this unit area will possibly require a grand total of 96 minutes of police time in order to patrol it adequately between the hours of 7 P.M. and 11 P.M.

If a particular unit area might be covered by either foot or motor patrols or both, line 23 should be calculated with the alternative methods of coverage. For such unit areas, there would be two grand totals, one for foot patrol time and the other for motor patrol time.

If a city has deemed desirable the isolation of petit larcenies as a separate activity, the calculation of maximum day time requirements will differ from that of other felonies and misdemeanors because of the vast number of such incidents. The total yearly time requirements as shown on Form 9 should be divided by 52 instead of 12 for felonies and 26 for misdemeanors. If petit larcenies are not segregated, they should be included with other misdemeanors.

Finally, there should be constructed a set of six city-wide maps, one for each time interval. On each map the unit areas are outlined and the total patrolling time entered within the outline of each unit area. These maps enable the officials to see at a glance the police time requirements of all unit areas.

RESULTS

The project may be terminated upon the completion of the summary sheets for each unit area, Forms 9, and the six city-wide maps showing the police time requirements of each area for the time intervals (one for each four-hour period). The final determination of proper police beats involves consideration of other factors, such as natural boundaries, neighborhood characteristics, etc., with which only police officials are intimately acquainted. Since beats cannot be built up by the mere addition of unit area time requirements, the project staff is not qualified to perform this final step.

However, when police officials themselves have established tentative satisfactory beat boundaries for each relief or platoon, project workers may perform two additional steps. First, maps may be prepared showing the tentative beat boundaries for each relief and the location of the call boxes.

As the second step there should be prepared a simple table for each district or precinct commanding officer indicating what part of each beat patrolman's time is required to cover the beat during each of the time intervals during the day. This table will show the times during which the work load on various beats is light. The tables will aid the commanding officers in making beat consolidations without reducing patrol effectiveness, in order to allow for special details, sick and injury leaves, days off and vacations.

THE COST OF THE PROJECT

The cost of the project will depend upon the type of records available in the police department. Where all required information is found upon relatively few forms which are contained in adjacent files, the collection of the necessary statistical material will be a simple task. On the other hand, where data must be secured from several sources and keyed together, or where crime statistics must be obtained from primary records, the amount of work required on the project will be increased considerably.

Part 1, Locating Offenses and Crime Hazards, contains two steps of major proportions. Forms 1 may be entered complete at the rate of 10 to 20 cards per hour per clerk. There are two complete sorts and subsequent tabulations of these cards; by incident locations and by businesses. The various steps in each of these processes should not consume more time in total than the original entry of the Forms 1.

Part 2, Time-Study of Police Activities, is relatively simple from a standpoint of cost estimating. One time-study man is required per beat covered per relief. A 30% margin of safety should be added for re-making studies of certain beats. In the office, each statistical clerk can calculate the time-study data at the rate of four Forms 7 per hour.

Part 3, Police Time Needs of Unit Areas, is performed within the project headquarters. One worker can calculate one area sheet per hour. The remaining steps of this section will require at least half as much time again.

In only very large projects will more than one draftsman be required. The amount of typing will also be relatively minor.

A factor of safety of 25% should be added to estimated time requirements in order to provide for instruction of workers and unforeseen contingencies. If the project application contains careful estimates based upon the factors explained in this section, there should be no occasion for supplementing the project.

MATERIALS AND EQUIPMENT NEEDED

The forms used on the survey should be mimeographed upon a good grade of 20 lb. mimeograph paper, in quantities as determined from the Section on Procedure, pages 7 and following. Black on white prints of the city map must be provided for plotting of unit areas and hazards. The map used should not be smaller than 400 feet to one inch in scale. Other stationery and supplies will be used in moderate quantities.

Drafting supplies and equipment will be required. A plywood board, 11 in. x 20 in. with attached clip must be provided each time-study man. Each time-study man should be equipped with an ordinary watch.

Arithmetical computations are simple and a calculating machine should be used only if one is readily available. Slide rules are faster and sufficiently accurate.

12037

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APPENDIX

Public Administration Series
635-11

WORKING PROCEDURE

TYPE OF WORK
Symbol 1820

March 12, 1937

DEFINITION OF POLICE BEATS

DESCRIPTION:

Definition of Police Beats by the collection and tabulation of information concerning: (1) the types, locations, and times of occurrences of all incidents requiring the attention of police patrolmen, (2) the relative crime hazards presented by various types of businesses, (3) the time required by patrolmen to perform their functions, and (4) the police time necessary to patrol properly the areas within the city. The work proposed is a new undertaking complete in itself, not of a continuing nature; usual services incident to normal operations are not to be furnished as this is not normal budgetary work and regular employees will not be displaced. (Series No. 635-11)

(Note: If circumstances do not permit prosecution of the study as a whole this project may be divided into three parts. See WPA Working Procedures entitled "Locating Offenses and Crime Hazards" (Part I). "Time-Study of Police Activities" (Part II,) and "Police-Time Needs of Unit Areas" (Part III). These projects correspond in number to the major subdivisions of the following schedule and of the WPA Manual of Operating Procedure on "Definition of Police Beats.")

SPONSOR:

City Council, Mayor, Safety Director, Chief of Police, or other police authority.

PLANT AND EQUIPMENT:

Office space, tables, drafting boards, typewriter, adding machines.

MATERIALS:

Standard forms, city maps, drafting materials, stationery, and office supplies.

PERSONNEL:

Qualified supervisor (to be furnished by the sponsor), map draftsmen, statistical clerks, time-study men, and typists.

SCHEDULE:

Part I Locating Offenses and Crime Hazards

1. Select types of police incidents to be studied.
2. Define and map small areas to be used as units in tabulating locations of incidents.
3. Tabulate police incidents occurring in past years according to type, location by unit area, and time of day.
4. Prepare summary tables from 3.
5. Tabulate offenses against or occurring within various types of businesses.
6. Prepare, from Item 5, tables showing relative crime hazards presented by various types of businesses.

Part II Time-Study of Patrol Activities

1. If circumstances do not permit full 24-hour coverage of all beats, select typical patrol beats to be studied.
2. Observe patrolmen (and motor patrols) on duty, timing by 5-minute intervals, duties performed and time required to perform them.
3. Derive from Item 2, the average or "normal" time involved in performance of each type of police activity.

Part III Police Time Needs of Unit Areas

1. Derive total time required to handle all police incidents normally occurring within each unit area of the city. (involves multiplication of normal times found in Item 3 of Part II by number of incidents found in Item 3, Part I).
2. Measure street frontage and time required to patrol each unit area.
3. Derive time involved in special inspections necessary in each area.
4. Derive time involved in performance of all police functions in each unit area at various hours of the day.
5. Map unit areas and insert in each, total police time requirements.

PRODUCT:

Assignment of patrolmen so as to assure maximum territorial coverage with due consideration to crime hazards requires analysis of all incidents known to the police and a computation of the average or usual police time needed in each small unit area of the city. This project provides a method of making such calculations and furnishes:

1. Information necessary to police officials for a measured distribution of their patrol force according to actual needs of various areas of the city for police services at different times of day.
2. Valuable information concerning activities and duties of various members of force, permitting proper reorganizations.
3. Information concerning type and location of offenses valuable to social agencies as indication of where their efforts should be concentrated.

This procedure may be improved or modified to meet local conditions. Suggested alterations should be sent to:

DIVISION OF WOMEN'S AND PROFESSIONAL PROJECTS
WORKS PROGRESS ADMINISTRATION
1734 New York Avenue
Washington, D. C.

WORKS PROGRESS ADMINISTRATION

WORKING PROCEDURE

Public Administration Series
635-111

TYPE OF WORK
Symbol 1820

March 12, 1937

LOCATING OFFENSES AND CRIME HAZARDS

DESCRIPTION:

Locating Offenses and Crime Hazards by collecting and tabulating information concerning the types, locations, and times of occurrences of all incidents requiring the attention of police patrolmen and the tabulation of various types of business by locations and inherent crime hazards. The work proposed is a new undertaking complete in itself, not of a continuing nature; usual services incident to normal operations are not to be furnished as this is not normal budgetary work and regular employees will not be displaced. (Series No. 635-111).

(Note: This project is the first in a series designed to provide police officials with information concerning the needs of various areas of the city for police protection. The project may be operated by itself, or in conjunction with the second in the series entitled "Time-Study of Patrol Activities.")

SPONSOR:

City Council, Mayor, Safety-Director, Chief of Police, or other police authority.

PLANT AND EQUIPMENT:

Office space, tables, drafting boards, typewriter, and an adding machine.

MATERIALS:

Standard forms, maps, drafting materials, stationery, and office supplies.

PERSONNEL:

Qualified supervisor (to be furnished by the sponsor); map draftsman, statistical clerks, and typists.

SCHEDULE:

1. Select types of police incidents to be studied.
2. Define and map small areas to be used as units in tabulating incident locations.
3. Tabulate police incidents occurring in past year according to type, location by unit area, and time of day.

4. Prepare summary tables from item 3.
5. Tabulate offenses according to the type of business establishment against which, or in which the offense was committed.
6. Prepare, from item 5, tables showing relative crime hazards presented by various businesses.

PRODUCT:

1. Information of value to police officials as an indication of where and when police activities should be concentrated and, therefore, as a guide in the distribution of the patrol force.
2. Information useful to various social agencies, showing where there is a need for their services.

This procedure may be improved or modified to meet local conditions. Suggestions and alterations should be sent to:

DIVISION OF WOMEN'S AND PROFESSIONAL PROJECTS
WORKS PROGRESS ADMINISTRATION
1734 New York Avenue
Washington, D. C.

WORKS PROGRESS ADMINISTRATION

WORKING PROCEDURE

Public Administration Series
635-112

TYPE OF WORK
Symbol 1820

March 12, 1937

TIME-STUDY OF PATROL ACTIVITIES

DEFINITION:

Time-Study of Patrol Activities by collecting, through actual observation of patrolmen on duty, information concerning the time required by police officers for the performance of their various duties. The work proposed is a new undertaking complete in itself, not of a continuing nature; usual services incident to normal operation are not to be furnished as this is not normal budgetary work and regular employees will not be displaced. (Series No. 635-112)

(Note: This project constitutes the second of a series designed to provide police authorities with the basic information required for a re-definition of police beats of various areas of the city for police services at different times of the day according to measured needs. This study must be carried on subsequent to or at the same time as the project for "Locating Offenses and Crime Hazards.")

SPONSOR:

City Council, Mayor, Safety Director, Chief of Police, or other police authority.

PLANT AND EQUIPMENT:

Office space, desks or tables, and a typewriter.

MATERIALS:

Standard forms, stationery, and office supplies.

PERSONNEL:

Competent supervisor (to be furnished by the sponsor); time-study men (able to make simple recordings of observations); statistical clerks, and typists.

SCHEDULE:

1. If circumstances do not permit full 24-hour coverage of all beats, select typical police beats.
2. Observe patrolmen on duty, tabulating activities during each 5-minute interval, so as to show time required for each function.
3. Derive from item 2 the average or "normal" time involved in the performance of each type of activity.

PRODUCT:

Information will be available concerning types of activities performed by patrolmen and time required for performance; this information is useful in helping police officials to arrive at measured distribution of patrol force and points out conflicting or over-lapping duties and activities.

This procedure may be improved or modified to meet local conditions.
Suggested alterations should be sent to:

DIVISION OF WOMEN'S AND PROFESSIONAL PROJECTS
WORKS PROGRESS ADMINISTRATION
1734 New York Avenue, N. W.
Washington, D. C.

WORKS PROGRESS ADMINISTRATION

WORKING PROCEDURE

Public Administration Series
635-113

TYPE OF WORK
Symbol 1820

March 12, 1937

POLICE TIME NEEDS OF UNIT AREAS

DESCRIPTION:

Determining Police Time Needs of Unit Areas by calculating, from the number of police incidents occurring in small unit areas and the time required for handling each incident, the total time necessary for proper performance of patrol functions in those areas. The work proposed is a new undertaking complete in itself, not of a continuing nature; usual services incident to normal operations are not to be furnished as this is not normal budgetary work and regular employees will not be displaced. (Series No. 635-113)

(Note: This constitutes the third and final project in a series designed to provide police authorities with the information necessary for a redefinition of police beats for police services in various areas of the city on the basis of actual needs. Because the computations in this project utilize data resulting from the preceding projects in the series, it will be approved only in connection with, or following the completion of, two projects entitled "Locating Offenses and Crime Hazards", Code No. 635-111, and "Time-Study of Patrol Activities", Series No. 635-112.)

SPONSOR:

City Council, Mayor, Safety Director, Chief of Police, or other police authority.

PLANT AND EQUIPMENT:

Office space, desks or tables, drafting equipment, typewriter.

MATERIALS:

Standard forms, maps, drafting materials, stationery and office supplies.

PERSONNEL:

Qualified supervisor (to be furnished by the sponsor), map draftsman, statistical clerks, and typists.

SCHEDULE:

1. Derive from previously gathered information total time required to handle all police incidents normally occurring within each unit area of the city.
2. Measure street frontage and time required to patrol each unit area.
3. Derive time involved in special inspections and check-ups necessary in unit area.
4. Derive total time involved in performance of all police functions in each unit area at various hours of the day.
5. Map unit areas and insert in each the total police time requirements.

-2-

PRODUCT:

1. Information indicating the time required for proper performance of police functions in each area of the city.
2. By combining groups of those areas, police officials may build up police beats large enough to keep patrolmen busy at all times, but not so large as to cause the patrolman to neglect any duties.

This procedure may be improved or modified to meet local conditions. Suggested alterations should be sent to:

DIVISION OF WOMEN'S AND PROFESSIONAL PROJECTS
WORKS PROGRESS ADMINISTRATION
1734 New York Avenue, N. W.
Washington, D. C.

EXHIBIT I

Classification of Police Incidents

1. Felonies Against Property, Cases Investigated or Reported
2. Felonies Against Property, Arrests
3. Felonies Against Persons, Cases Investigated or Reported
4. Felonies Against Persons, Arrests
5. Misdemeanors Against Property, Cases Investigated or Reported
6. Misdemeanors Against Property, Arrests
7. Misdemeanors Against Persons, Cases Investigated or Reported
8. Misdemeanors Against Persons, Arrests
9. Petit Larceny
10. Auto Accidents
11. Other Accidents and Aided Cases
12. Traffic
13. School Traffic
14. Fires
15. Miscellaneous

Where patrolmen perform duties of some moment which are not considered police work within the ordinary meaning of the phrase - such as taking a census, or investigating welfare cases - it may be necessary to set up such work as a separate activity.

EXHIBIT II

Instructions to Checkers for Filling Out Form 7

- A. Fill in all spaces in the heading before leaving the station. Also fill in proper hour numerals in time columns.
- B. Do not attempt to break up time intervals into units of less than five minutes. If a certain activity occupies an additional number of minutes, count the nearest time interval. For example, if an investigation requires seventeen minutes, count it as fifteen minutes; if eighteen minutes, score it as twenty minutes, etc.
- C. Use brackets, not ditto marks, to indicate that more than one time-interval was occupied by the same activity, and place the code number descriptive of the incident in front of the bracket.
- D. Start timing activities from the moment your patrolman is called to attention in the station house at the beginning of his relief, and continue until he is officially dismissed at the end of his tour of duty. Note carefully just what the patrolman does before and after his period of active patrol duty.
- E. All time intervals must be accounted for.
- F. Time included in reliefs is as follows: (indicate time by entering hour, etc.)

First relief ("morning run") -- 7:a.m. to 3:p.m.
(2 time intervals)

Second relief ("afternoon run") -- 3:p.m. to 11:p.m.
(2 time intervals)

Third relief ("night run") -- 11:p.m. to 7:a.m.
(2 time intervals)

G. Upon leaving the station, request your patrolman to tell you when he enters the boundaries of his beat, so that you may note the time required to go from station to beat.

H. Definition of Terms:

At the heading of your Patrol Activities Report, you will note sixteen types of activity coded by numbers. Your "activity" columns should contain only these sixteen types, with all duties and incidents which are not otherwise designated included under #12, "miscellaneous." If additional columns are necessary, make these on the back of the report form.

1. "Patrol" - described as the time spent walking or cruising the beat without performing any special activity.
2. "Investigate Felony Property" - time spent in investigating cases involving burglary, robbery, auto theft, grand larceny. Time spent by officer either by himself or accompanying other officers of such investigations.

When an officer is called by radio, call-box, or citizen on the street, to take any action concerning one of these offenses, score under this code number and title the time involved. Include the total time which is required for a complete handling of the case from the time the officer receives the first notice until he reports back to the station as being "on track." Also note the manner in which the complaint was received and the final report made; e.g., "9:00 to 9:10 (2) investigate radio (or call-box or citizen) complaint of felony against property and report by call-box (or at station or to other officer)".

If an arrest is made as a result of the complaint, note this fact, the number of persons arrested and how they were sent to the station; e.g., "2 arrests -- turned over to cruiser (or patrol wagon or scout car)".

3. "Arrest Felony Property" -- the time involved for making "on view" arrest or arrests by warrant, where no investigation is required.
4. "Investigate Felony Personal" -- same as Item 2, for murder, manslaughter, rape, aggravated assault.
5. "Arrest Felony Personal" -- same as Item 3, for murder, manslaughter, rape, aggravated assault.
6. "Investigate Misdemeanor Property" -- includes all other offenses against property including petit larceny.
7. "Arrest Misdemeanor Property" -- similar to Item 3 above.
8. "Investigate Misdemeanor Personal" -- includes all other offenses against the person.
9. "Arrest Misdemeanor Personal" -- similar to Item 5 above.
10. "Accident and Aided Cases" -- time involved in handling sick persons, accidents including automobiles, etc. Time of incident should start with moment officer receives notice of incident and end with moment officer reports back "on track" ready for further duty.
11. "Fires" -- time on duty at fires from time first ordered to attend fire is received until officer reports back "on track".

12. "Miscellaneous" -- any action not falling under one of the above or following headings should be entered as miscellaneous and an explanation entered on the back of the report form.
13. "Check Stores" -- ask your officers to point out to you those business places which he notices on his rounds. Note the address of these places and enter in the corresponding time intervals the time when he checks them. Do not assign any time value unless he spends three (3) or more minutes in such checks, then note the number of doors tried, stores looked at, etc., e.g., "10:00 to 10:30 -- patrolling -- check stores at 1630 Rockdale," or "10:00 to 10:05 -- tried four store doors near Reading and Rockdale."
14. "Investigate Handbooks" -- these investigations of suspected handbooks are made at the time when races are being run. The time actually spent in the inspection of these books should be entered and the address of the place should also be noted.
15. "Investigate Closings" -- all businesses which are required by the law to close at stated times must be inspected by the officer at or shortly after these times, to insure that the law is being complied with. Note time of these inspections and location and character of the places inspected.
16. "Investigate Joints" -- this term applies to the time actually spent in beer parlors, suspected bootleg places, suspected houses of prostitution, disorderly places, etc. It applies to all places entered without a complaint having been made. The address and character of the places entered should also be noted, e.g., "11:00 to 11:05 investigated 'joint', suspected bootlegger in 1120 Central."

DO NOT HESITATE TO ASK QUESTIONS IF AT ANY TIME YOU DO NOT UNDER-
STAND JUST WHAT THE OFFICER IS DOING, OR WHY. The purpose of this survey
is to learn exactly how long patrolmen take to perform certain duties.
It is also important to know just what they do.

PATROL ACTIVITIES REPORT

Officer's Name O'Sullivan District No. 4 Beat No. 402
 Officer's No. 118 Type of Patrol Foot Relief No. 2 Date 4/15/56 Checker FEK
 As far as possible, description of activities should be confined to the following:

- | | |
|-------------------------------------|--------------------------------|
| 1. Patrolling | 9. Arrest Misdemeanor Personal |
| 2. Investigate Felony Property | 10. Accidents and Aided Cases |
| 3. Arrest Felony Property | 11. Fires |
| 4. Investigate Felony Personal | 12. Miscellaneous |
| 5. Arrest Felony Personal | 13. Check Store Doors |
| 6. Investigate Misdemeanor Property | 14. Investigate Handbooks |
| 7. Arrest Misdemeanor Property | 15. Investigate Closing |
| 8. Investigate Misdemeanor Personal | 16. Investigate "Joints" |

Time		Time	
5:00	Rollcall, Inspection.	7:00	Notified man at 1610 16th Street
12:05	Bulletin and Instructions.	12:05	to appear in Court tomorrow
:10	Walk to Beat.	:10	morning.
:15		:15	
1:20	Patrolling.	:20	Questioned occupants at 1505 1/2
:25	Arrested man wanted for murder,	:25	Centre Street about burglary.
:30	Phoned H'dq'ters from Box #216	2:30	
5:35	and delivered prisoner to	:35	
:40	patrol wagon.	:40	
:45		:45	Fire in alley back of 17th
1:50	Patrolling.	:50	Street Warehouse.
:55	Checked suspected handbook at	11:55	
14:4:00	325 West 16th Street.	8:00	
:05		:05	
:10		:10	Investigated suspected "joint"
1:15	Report Call Box #216	16:15	at Erkenbrecher and 16th Street
:20	Accident at Hancock and 16th	:20	
:25	Streets - Aided party until	1:25	Report Call Box #216
10:30	ambulance arrived	:30	Patrolling.
:35	then cleared traffic.	:35	
:40	Directed traffic, 17th and	:40	
12:45	Erkenbrecher Streets	1:45	
12:50		:50	
:55		:55	
6:00		9:00	Broke up gang of boys breaking
8:05	Chased a sneak thief 3 blocks	6:05	windows at 1615 Centre
:10		:10	Street.
:15	Directed traffic, 17th and	:15	
12:20	Erkenbrecher Streets.	1:20	Patrolling.
:25		:25	Arrested John Doe, wanted
:30		:30	for theft of cigarette
:35		7:35	and delivered him to patrol
:40		:40	wagon.
12:45	Relief.	:45	
:50		:50	Checked store doors on 16th St.
1:55	Report Call Box #207	:55	between Main and Erkenbrecher
6:00	Checked store doors on 16th	13:10:00	52 doors.
13:05	Street between Main and	:05	
:10	Erkenbrecher - 46 Stores	:10	
:15		1:15	Report Call Box #207
:20	Investigated complaint of	:20	Went to 1633 Erkenbrecher,
8:25	radio creating disturbance	12:25	Sick person, called doctor.
:30	at 1630 16th Street.	:30	
:35		1:35	Patrolling.
1:40	Report Call Box #215	8:40	Searched suspicious character
:45	Patrolling.	:45	in alley off Centre Street.
1:50		:50	Walked to Station from beat
:55		:55	and made out daily report.
		12:11:00	Checked out.
		:05	Off duty.

PHYSICAL PROGRESS REPORT (Typical Sample)

POLICE BEATS STUDY

Report No. _____

Location _____
 (City) _____ (County) _____ (State) _____
 Covering Period From _____ to _____ Date Submitted _____
 Official Project No. _____ State No. _____ Work Project No. _____
 Brief Description of Project _____

Physical Progress by Operating Stages	Work Units Completed			Man Hours Worked		
	1 Prior to This Period	2 During This Period	3 Totals (1 plus 2)	4 Prior to This Period	5 During This Period	6 Totals (4 plus 5)
1 Preliminary and Instruction						
2 No. Forms 1 Transcribed and Coded						
3 No. Forms 4 Entered						
4 No. Forms 5 Entered and Summary Maps Completed						
5 No. Forms 6 Entered, "Hazard" Data and Door Inspections						
6 No. Forms 6 Entered, Sketch and Patrol Distance						
7 No. Time Studies of Beat Reliefs (Forms 7)						
8 No. Forms 7 Transcribed to Form 8						
9 No. Forms 6 Completed (Items #4 and #5)						
10 No. Forms 9 Entered (Incident Data, from Form 4)						
11 No. Forms 9 Entered (patrol and Store Data, from Form 6)						
12 No. Forms 9 Calculated as to Time Requirements						
13 No. Unit areas Mapped on Summary Maps						
14 General Supervision						
15						
16						
17						
18						
19						
20						

Police Beats - Form 10 (Reverse)

	Authorized	Used Previously	Used This Period	Used To Date
Federal Funds	*\$ _____	*\$ _____	*\$ _____	*\$ _____
Man Months	_____	_____	_____	_____
Man Hours	_____	_____	_____	_____

*These figures may have to be supplied by the District Office of the Works Progress Administration.

SKILLS, SEX, COLOR AND NUMBER OF WORKERS				
Occupational Skills	Employed at End of Pay Roll Period			
	Male		Female	
	Certified	Non-Certified	Certified	Non-Certified
Unskilled				
Intermediate				
Skilled				
Prof. & Technical				
Supervisory				
Totals				
White, Male _____		Colored, Male _____		
White, Female _____		Colored, Female _____		
Grand Total _____				

NARRATIVE REPORT
(Supervisor's Comments on Operation and Condition of the Project)

Supervisor's Signature

REFERENCES

There is practically no published material dealing with the technique of defining police beats. An excellent treatise on the subject, however, is "The Police Beat", by August Vollmer, contained in the Proceedings of the Fortieth Annual Convention of the International Association of Chiefs of Police, pages 304 to 318, and published by the Association, 850 East Fifty-eighth Street, Chicago, Illinois. A more specific text is "The Cincinnati Police Beat Survey," prepared by the Cincinnati Regional Crime Committee and published by the American Public Welfare Association, 850 East Fifty-eighth Street, Chicago, Illinois. This latter publication reports a survey carried on in Cincinnati as a WPA Project.

