



U. S. DEPARTMENT OF JUSTICE
LAW ENFORCEMENT ASSISTANCE ADMINISTRATION

MAY 26 1976

DISCRETIONARY GRANT
PROGRESS REPORT

GRANTEE Wisc. Council on Criminal Justice 122 W. Washington Avenue Madison, Wisconsin 53703		LEAA GRANT NO. <u>74-DF-05-0032</u> 74-12-01-02	DATE OF REPORT 5/10/76	REPORT NO. 6
IMPLEMENTING SUBGRANTEE Beloit Police Department 220 W. Grand Avenue Beloit, Wisconsin 53511		TYPE OF REPORT <input type="checkbox"/> REGULAR <input type="checkbox"/> SPECIAL REQUEST <input checked="" type="checkbox"/> FINAL REPORT		
SHORT TITLE OF PROJECT Police Patrol Emphasis		GRANT AMOUNT \$84,734.00		
REPORT IS SUBMITTED FOR THE PERIOD 8/1/74		THROUGH 2/29/76		
SIGNATURE OF PROJECT DIRECTOR <i>Roger D. Helser</i>		TYPED NAME & TITLE OF PROJECT DIRECTOR Roger D. Helser Chief of Police		

COMMENCE REPORT HERE (Add continuation pages as required.)

The scope of the project as defined in the grant application is listed below. The results of the project are included as sub-sections under each objective.

A. SCIENTIFIC PLANNING OF PATROL RESOURCE DEPLOYMENT:

1. Shift hours: Calls for service and selected crimes will be studied by time of day and day of week. The hours selected should meet the following criteria:
 - a. Lowest minimum deviation in called-for-service for three (8) hour periods.
 - b. The human element must be considered (working conditions of personnel).

ANALYSIS AND SOLUTIONS

Since August 1974, a study of the patrol and services functions of our department has been conducted. Sections I, II and III of this report deals with a capsule summary of the problems analyzed by the department. After much study a reorganization took place on July 7, 1975.

SECTION I - PROBLEM ANALYSIS

PROBLEM I

On five (5) days of each fifteen (15) a Sergeant must replace the Shift Captain. During these five days, on two of the three shifts, the Sergeant is not replaced by anyone. This situation causes a conflict since the Sergeant must do both his work and the Captain's work for Sergeant's pay. It also causes a reduction in the amount of supervision available.

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PROBLEM II

Since the reorganizations of 1969 and 1971, the Police Captain's role as shift commander has never been re-established. What is his real role in the Police Department's structure? Also, the need for a day shift Captain is questioned when the Chief or Inspector are on duty.

PROBLEM III

The changing and conflicting roles of the Sergeant and Captain that exist due to interchanging roles has created mass confusion. Placing of responsibility on one individual for the conduct of a man or a shift does not exist. Patrolmen bear the burden of this dual role in not knowing to whom they are responsible. A given patrolman may have direct accountability to two Sergeants and a Captain in the fifteen day cycle of rotation. This then provides a complete breakdown in the unity of command and must be corrected.

PROBLEM IV - Rank of Sergeant

There are 15 Sergeants on the Beloit Police Department and there are currently 7 Sergeants who actually are supervisors, 5 Sergeants who are Detectives, 1 Sergeant who is an Identification Officer and 2 Sergeants performing specialized functions in the services division. As can be seen, these are very diverse roles with different responsibilities and job descriptions. It is very apparent that we do something about redefining the role of the Sergeants.

PROBLEM V - Patrol Work Schedules

The patrol officers and supervisors are currently working a 5-day on 2-day off, 5-day on 3-day off work schedule. This is a contractual obligation and cannot be altered. This particular work schedule makes it very difficult to schedule manpower in accordance with the need for it as indicated by the 168 hour activity graph.
(See Attachment I)

PROBLEM VI - Report Writing

Reports are written by hand under the present system. A Staff study indicates that our officers spend about 28% of their time writing reports and filling out forms. A study of report writing needs and forms changes has been conducted.

ANALYSIS AND SOLUTION TO THE PROBLEMS

It is clear that many of the problems previously mentioned are caused by the evolution of the Beloit Police Department's organizational and rank structure over the period of the last twenty years. It therefore is apparent that it will be necessary to re-define the role of Sergeant and the Captain and reorganize the Department in terms of a new structure.

I. Captain's Role

It is clear that the role of the Captain has become more of a Watch Commander than shift Captain. With this in mind the role of the Captain should be re-defined. Since the Patrol Sergeant normally relieves the Captain for five out of fifteen days each working period, an attempt should be made to relieve the Patrol Sergeant of this responsibility because he does not receive extra pay for assuming this role.

Due to budget considerations, we are not able to "beef up" the Captain ranks by adding a fourth Captain to swing through the other shifts. We therefore believe that the following solution will most readily solve the problem:

Since the Operations Director is working the day shift and is always available to everyone by radio and pager, he will assume the duties of the Day Shift Watch Commander. He will have overall responsibility for the Operations Division during the period of time from 7:00 A.M. to 3:00 P.M. A Second Watch Commander will have the time period from 3:00 to 11:00 P.M. A Third Watch Commander will have the overall responsibility for the Operations Division from 11:00 P.M. to 7:00 A.M. An alternate Watch Commander will relieve the second shift and third shift commanders on their days off. The second shift, third shift and swing shift Watch Commanders will be the existing Captains of the Police Department.

The Watch Commanders will, in all cases, be directly responsible to the Director of Operations. This change in organization will clearly define the role of the Watch Commander, who will have overall control of the operations division during the period of time in which he is in charge. He will primarily be in charge of In-House Operations of the Police Department. He will also be in charge of supervising the Police Dispatcher at all times. When a Watch Commander is

not available due to vacations, sick time, schooling, etc., he will be relieved by a Sergeant and the Sergeant will assume the title of Acting Watch Commander and be compensated accordingly.

II. Role of the Sergeant

It is clear due to problems expressed during wage negotiations that the duties and responsibilities of the various Sergeants break down into three different Sergeant roles on the Police Department. The Sergeant defined as a Sergeant I is an officer that performs a specialized function such as criminal investigator, court officer, etc., but who has no supervision responsibility whatsoever.

The second group of Sergeants that we shall call the Sergeant II is an officer who has a specialized function requiring advanced training or education or spends a portion of the time, less than 50%, in supervision.

The third type of Sergeant we will refer to as Sergeant III is a full time supervisor spending more than 50% of his time in the supervision of employees.

The definition of these roles more clearly states the duties and responsibilities which the various Sergeants perform. It provides the basis for giving them more guidance in terms of where they actually fit into the organizational structure and also sets a base upon which salaries can be calculated.

III. ANALYSIS OF THE REORGANIZATION OF THE POLICE DEPARTMENT STRUCTURE

A. Operations Division

1. Under the direction of an Inspector, responsible for the Patrol Division.

- a. Watch Commanders

- (1) 7:00 A.M. to 3:00 P.M. - The Operations Director will be Watch Commander.

- (a) When the Operations Director is on a day off, is sick, on vacation, or out of town, the shift Sergeant scheduled to work will assume the

duties of Watch Commander and will be compensated at the rate of Captain's pay.

- (b) 3:00 to 11:00 P.M. - A Captain will be the Watch Commander and have direct responsibility for all operations.
- (b-c) The 3rd Shift Captain will be the relief for the 2nd Shift and the 3rd Shift Watch Commanders will have all of that position during his relief period.
- (d) When the Operations Director is absent from the City, the Chief of Police or his designate will assume the duties and responsibilities of Director of Operations and will be accessible to the Watch Commanders at all times.

2. Patrol Unit Leaders

Patrol Unit Leaders under the reorganization will directly command and be responsible for each unit. All Sergeants will be full time supervisors and classified as Sergeant III.

(1) There will be six supervisors and shifts.

- (a) Shift No. 1, also known as Unit A will work 7:00 A.M. to 3:00 P.M. This shift will have eight men.
- (b) Shift No. 2, also known as Unit B will have six men working 3:00 P.M. to 11:00 P.M.
- (c) Shift No. 3, also known as Unit C will have six men and will work from 5:00 P.M. to 1:00 A.M.
- (d) Shift No. 4, also known as Unit D will have eight men and will work from 11:00 P.M. to 7:00 A.M.
- (e) Shift No. 5, also known as Unit E will have seven men. This shift would relieve Unit A on their days off and Unit B on their days off.

- (f) Shift No. 6, also known as the Task Force will have eight men. This Unit will be the Emergency Operations Unit and will receive appropriate additional training and will also have the responsibility of relieving Shift C that works 5:00 P.M. to 1:00 A.M. on C's days off and Shift D working 11:00 P.M. to 7:00 A.M. on Shift D's days off. This organization will provide complete unity of command because each group of men will be under one supervisor and all men on the shift will have the same days off. When the shift is off, an entirely new group of people will come in to replace them, giving a great deal of continuity to the functions of the organization.

(2) Distribution and Deployment Justification:

Monthly and annual reports showing the following information are produced:

- a. Uniform Crime Statistics
- b. District Incident Distribution
- c. Officer Activity Summary
- d. Property Crimes Summary
- e. Crimes against Persons Summary
- f. 168 Hour Graph

Reorganization patrol distribution decisions were based upon the above reports and the unique mathematical progression of the 5-2, 5-3 work schedule. A special shift configuration has been designed and implemented.

2. Response Time: Time study analysis of response time was completed in 1970 and 1973. We intend to conduct a supplementary analysis in 1975.

ANALYSIS AND SOLUTIONS

A time study was conducted during 1975 and response times were found to be:

- a. 3.6 minutes - 1st Shift
- b. 2.8 minutes - 2nd Shift
- c. 2.3 minutes - 3rd Shift

We believe that all response times are within reasonable limits. It has been unnecessary thus far to stack calls. The new whift configuration should reduce response times during peak evening hours. We intend to do a further analysis in the near future. (See attachment II for complete time study)

3. Distribution of Patrol Force: Analysis of calls for service and selected crimes by:

- a. Time of day
- b. Day of week
- c. Location
 - (1) (By hundred block)
 - (2) (By quarter mile grid)
 - (c) (By reporting district)

Patrol distribution will then be made based on the percentage of workload for each shift.

- a. Daily distribution of the work force will be determined by analysis of data by day of week, time of day and location.
(See A - Scientific planning of Patrol Resource Deployment)

B. SCIENTIFIC DEPLOYMENT OF SUPPORT (NON-PATROL)
RESOURCES

A. Staff Services

1. Directed by an Inspector with responsibility for all operations of the division:

a. The Court Sergeant has no supervisory responsibility and therefore will be a Sergeant I in the structure. The Court Sergeant will be relieved for vacations by the Relief Sergeant assigned to the Operations Division.

b. The position of Traffic Sergeant is not being fully utilized by the Police Department. Greater unity and utilization of manpower can be accomplished through closer assignment to the operations unit. Therefore, within the Staff Services Division, the position of Traffic Sergeant will be eliminated and the Sergeant in this position will be assigned to the Operations Division.

(1) The Traffic Function

The Traffic Records function will be performed by the Records Clerks. The traffic analysis will be performed by Sergeants designated by the Director of Operations.

c. Community Relations. The five functions of the Community Relations Sergeant in terms of supervision are J.C.P.C. Programs, The Store-Front Operation and the supervision of the Police Aides. This position also supervises the parking controller and seven school crossing guards. It is felt that this is a highly specialized position with more than 50% responsibility as a supervisor. Therefore, should be classified as a Sergeant III.

d. The Record Sergeant. The Record Sergeant is a full time supervisor, supervising six Cadets, (one patrolman responsible for evidence and vehicle maintenance), five clerks. This position is clearly a Sergeant III position due to the more than 50% responsibility of supervision.

(1) The records bureau is being re-organized in order to increase efficiency and provide (24 hour) service to the patrol division.

(2) New organization

- (a) Day Shift
1 - 3 clerks
- (b) 2nd Shift
1 - 1 clerk
- (c) 3rd Shift
1 - 1 clerk
- (d) Swing Shift
1 - 1 clerk who is assigned to alternate between 2nd and 3rd Shift and relieve clerks listed under C and D

B. REPORT WRITING ANALYSIS

Several report forms have been condensed or eliminated effectively reducing the workload of patrol. A report dictating system has been purchased and is in use. All officers received training in dictation and use of the system. This system has resulted in longer reports with more detail and better organization. A study will be conducted to ascertain the affect of the new system on report writing time.

3. ENHANCEMENT OF THE BASIC PATROL DUTY

Too often the patrol officer involvement in a criminal investigation is limited to taking initial reports. We intend to enrich the patrol officer position by allowing them to conduct complete criminal investigations in all but the most serious crimes. This will be done by training each officer in crime scene investigation techniques including:

- a. Crime scene search
- b. Crime scene photography
- c. Crime scene latent print examination
- d. Techniques for obtaining trace evidence
- e. Training in packaging, labeling and preservation of evidence.

The patrol officer will also be allowed to continue the preliminary investigation and conduct follow-up investigations on cases initially assigned.

Patrol officers are members of the peer group accident review board, which evaluates all accidents and makes recommendations to the Chief.

Scheduled meetings between top command staff and peer-group selected patrol officers will be conducted to:

- a. Alleviate problem situations.
- b. Assist in writing policy and procedure.

Since family trouble calls involved a significant amount of a patrol officer's duties, 5% of calls for service, family crisis intervention training will be provided to all patrol officers in order to enhance their understanding of these situations and improve the officer's ability to cope with the related problems.

Supplementary courses are offered to patrol officers on a regular basis to enrich their understanding of the police task.

Examples:

State Patrol Academy

1. Traffic law enforcement
2. Riot Control
3. Accident Investigation
4. Vascar Operator Certificate
5. Breathalyzer Operator Certificate

Northwestern Traffic Institute

1. Traffic Law Enforcement

Central Missouri State University

1. Traffic Management Institute

ANALYSIS AND SOLUTIONS

1. Patrol officers now trained to:
 - a. Crime scene search
 - b. Crime scene photography
 - c. Crime scene latent examination
 - d. Techniques for obtaining trace evidence
 - e. Evidence handling techniques

The officers are provided with the most modern equipment and are trained to use it. All crime scenes are processed by the first officer on the scene as a matter of procedure.

2. Committees formed to improve communication within the department.
 1. Rules and Regulations Committee
 2. Patrol, Detective Bureau Relations
 3. Patrol Evaluation System
3. Family crisis training was provided through in-service training in 1975
4. EFFECTIVE SUPERVISION AND MONITORING OF THE PATROL ACTIVITY

Several supervisory officers of the department have been trained through programs at the Northwestern Traffic Institute and University of Wisconsin Law Enforcement Extension Division in Effective Supervision Techniques. Continued emphasis shall be placed on adequate new and innovative programs to upgrade such personnel.

In-Service training for supervisors is provided on an annual basis (40 hours). Training for 1975 will be geared to provide the supervisor with motivation and indoctrination on the importance of patrol, the theory of patrol and the effects of patrol.

ANALYSIS AND SOLUTIONS

1. See reorganization in Section (1).
2. Twenty-four officers attended a college level one semester course in basic supervision during 1975.
3. Fourteen officers attended a college level course in middle-management during 1975.
5. MOTIVATION AND INDOCTRINATION OF POLICE PERSONNEL
IN THE IMPORTANCE OF THE PATROL FUNCTION

In-service and Roll Call training for 1975 will be based on a curriculum with the above theme.

ANALYSIS AND SOLUTIONS

1. In-service and roll call training stressed the above doctrine.
6. INCREASED PATROL STRENGTH DURING PEAK PERIODS
 - a. The creation of (6 patrol - 1 sergeant) Task Force to be deployed during peak hours of calls for service and criminal activity will greatly enhance the patrol operation.
 - b. It should have a salutary effect on reducing crime in the community since the increased numbers of officers on patrol represent a visible police presence.
 - c. Projected increase in calls-for-service will be handled without call-stacking procedures being instituted.
 - d. Increased patrol strength during peak periods should reduce response time because of additional patrol officers being available.
 - e. The group of officers working during peak periods will also be able to give special attention to the locations and situations which are the leading causes of our crime rate increases.

GRAPH I

74		75
298		324
VIOLENT CRIMES +26		

74		75
3045		
		2846
PROPERTY CRIMES -199		

74		75
3343		
		3179
ALL CRIMES -173		

GRAPH II
BELOIT, WISCONSIN ALL CRIMES 1974 COMPARED TO 1975

74	75	74	75	74	75	74	75	74	75	74	75	74	75
										2304	2264		
								651	501				
						208	249					90	81
1	3	8	12	81	60								
HOMICIDE		RAPE		ROBBERY		ASSAULTS		BURGLARY		THEFT		AUTO THEFT	
+2		+4		-21		+41		-150		-40		-9	

ANALYSIS AND SOLUTIONS

1. See reorganization Section (1)
2. See Graph I and II for results
3. See response time Survey
4. See 168 Hour Graph

SUMMARY

During the 18 months of the grant period, we achieved a minor reduction of crime in comparison with increases of 24% in 1973 and 28% in 1974. We reorganized the Patrol Division for better span of control and one to one supervisor-employee relationships. We provided a Staff Services function on a 24-hour basis for the first time. We were able to handle significant increases in calls for service without call stacking or priority lists.

In summary we feel the grant achieved its objectives as stated.

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QUANTITATIVE DETERMINATION OF PATROL TIME EXPENDITURES

"Time", the essence of the universe, is no less an important factor in the operation of a modern day emergency or enforcement agency. The rapid deployment of personnel and equipment can mean the difference between effective enforcement, which benefits the community, and nonfunctional movement, which benefits no one. Moreover, the main, immeasurable commodity, the enforcement agency is representing, is the deterrence of crime and unlawful actions. In this light, time spent on mobile patrol can be regarded as the main effect of police deterrence of crime. Therefore, the time spent free of incident reporting, responding, and on the scene work, becomes an important factor in the daily deterrence index of the enforcement agency. With this idea in mind, an effort was made to determine the amount of time an individual incident required the patrolman to be "out of service", and an accumulation of some 459 hours of study was accomplished to arrive at an indicator of the average time required for an incident. Although the study did not encompass a time period of sufficient length to make positive statements, it was of sufficient depth to extend generalizations and arrive at conclusions about the quantitative determination of patrol time expenditures. Here then is a short narrative on the methodology of the study, the method of recording data, the results of the study, and some additional information regarding specific "codes" and report

writing times.

THE STUDY-METHODOLOGY

The major idea behind the study was to spend as much time on patrol as the period of study would permit. Therefore the first major step was to prepare a schedule that would allow the maximum number of days/nights on each shift commensurate with the percentage of activity on that shift. (See schedule, page 3). It was deemed proper to spend (6) six nights on the third shift, which represented 20% of the time available during the study. Further, 50% of the available time was spent of the second shift (3:00-11:00), because this amount of time was found to be commensurate with the activity of that shift. Finally, 30% of the time, nine days, was spent on the first shift for the same reasons as stated for the other two shifts. On each shift an attempt was made to study each day of the week, including Saturdays and Sundays, so as to make the study more valid. As far as possible this was accomplished. However, inasmuch as only six days were spent on the third shift, Saturday had to be surpassed.

Scheduling of the researchers was accomplished by the Captains and Sergeants in charge of the shifts. An attempt was made to place each researcher with a different officer each day/night. Further, one researcher was placed on the East side of the city and the other on the West side during a patrol shift. The sides were then alternated the following

SCHEDULE OF RESEARCHERS

<u>DATE</u>	<u>SHIFT</u>	<u>TIME</u>
PHASE I		
June 11	3	10:30-7:00
June 12	3	10:30-7:00
June 13	3	10:30-7:00
June 14 & 15	Off	
June 16	3	10:30-7:00
June 17	3	10:30-7:00
June 18	3	10:30-7:00
June 19	Calculations	
PHASE II		
June 20	2	2:30-11:00
June 21	2	2:30-11:00
June 22	2	2:30-11:00
June 23 & 24	Off	
June 25	2	2:30-11:00
June 26	2	2:30-11:00
June 27	2	2:30-11:00
June 28	2	2:30-11:00
June 29	2	2:30-11:00
*June 30	2	2:30-11:00
July 1	2	2:30-11:00
July 2	2	2:30-11:00
July 3	2	2:30-11:00
July 4, 5, & 6	Off	
July 7	Calculations	
PHASE III		
July 8	1	6:30-3:00
July 9	1	6:30-3:00
July 10	1	6:30-3:00
July 11	1	6:30-3:00
July 12	1	6:30-3:00
July 13 & 14	Off	
July 15	1	6:30-3:00
July 16	1	6:30-3:00
July 17	1	6:30-3:00
July 18	1	6:30-3:00
July 19 & 20	Off	

*Although the organization of the department was changed on June 30, 1975, this did not affect the schedule.

day. The only trouble that arose from the planned procedure was the reorganization of the departmental structure, and this problem was minor. The problem mentioned was that on three nights after the reorganization of 30 June, 1975, both researchers would spend all but two hours of their time on the West side of the city. This was corrected when mentioned to the sergeants on each shift.

METHOD OF RECORDING DATA

While accompanying an officer, the researchers would record the TIME DISPATCHED, TIME ARRIVED, and the RESPONSE TIME. After the incident investigation was completed, the time the scene was cleared would be recorded, allowing the times to be added or subtracted to arrive at an amount of time needed to accomplish the task. The time incident sheet also contains the date, reporting area, shift, O.C.N., and incident code. When a report was to be written, the time required to accomplish the writing of the report was recorded in the appropriate blank. Booking time, fingerprinting, and time taken to photograph subjects was also recorded. However, the amount of incidents that required booking, fingerprinting, and photographing were not sufficient to allow generalizations or specific statements to be made regarding the time required to accomplish these tasks. (See TIME STUDY INCIDENT SHEET, page 5).

THE RESULTS OF THE STUDY

As stated above, a total of 459 hours was spent to ac-

TIME STUDY INCIDENT SHEET

OFFICER _____ DATE _____ AREA _____ SHIFT _____
 RECORDED BY _____ O.C.N. _____ CODE _____

Time cleared at scene _____

TIME DISPATCHED _____ ARRIVED _____ RESPONSE TIME _____ A

Total time at scene _____ B

TOTAL _____ C

OFFENSE IS DECLARED:

D ___Cleared by arrest

F ___Unfounded

E ___Exceptionally cleared

G ___Inactive(not cleared)

METHOD OF INITIATION:

H ___Radio message

K ___Citizen contact

J ___Observed

L ___Other

PROCESSING:

Report writing	Finish _____	Start _____	Total _____	M
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Booking	Finish _____	Start _____	Total _____	N
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Fingerprinting	Finish _____	Start _____	Total _____	P
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Photographing	Finish _____	Start _____	Total _____	Q
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TOTAL	_____	R
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REMARKS:

comply the study. 102 hours were spent on the third shift, 204 hours on the second shift, and 153 hours on the first shift. During the time span of the study, 656, or 1.429 incidents per hour were recorded by the researchers. For purposes of comparison the hours spent on each shift were calibrated in minutes. Therefore, the third shift spent 6,120 minutes on patrol while being accompanied by the researchers. Of the 6,120 minutes, 3,087 minutes or 34.0% of the time was spent at an incident, while 66% of the time was spent on routine patrol. The second shift spent 12,240 minutes while accompanied by the researchers. 35%, or 4,307 minutes were spent at an incident, while 65% of the time was spent on routine patrol. The first shift spent 36% of the time at an incident and 64% of the time, or 5,794 minutes of the 9,180 minutes studied, on patrol. It can be seen then that over 60% of the time the patrolmen are free to cruise the streets accomplishing self-initiated activities, or serving as a deterrent by their presence. An interesting fact stands out when looking at the statistical information. That is the closeness of the percentage of time spent on patrol that was not needed for incidents between the three shifts. The greatest amount of time free for patrol was on the third shift at 66%. Although that is not a significant difference from the second and first shifts with 65% and 64% respectively, One must use caution when taking the statistical data literally. A point to keep in mind is that

there were only two researchers available on each patrol shift and as many as six or seven patrol cars operating at one time. Therefore the average time spent on patrol as opposed to incident investigation may not hold true for each patrolman, but the time can be used as a level of activity on which a general statement of averages can be produced. Inasmuch as 27,540 minutes were spent on patrol recovering information, and 35%, or 9,780 minutes, of that time were spent at or on an incident, it is deemed that a substantial number of incidents and time has been recorded to show a cross-section of the general activity of the force. (See Tables I-IV, pages 8-14). Further, as stated above, each patrolman was accompanied at least once by a researcher. The only exception to this procedure was with the personnel on the task force, prior to reorganization. In the case of the task force no researcher was allowed to accompany them on patrol.

EXPLANATION OF TABLES I, II, III, AND IV HEADINGS

The table layouts chosen are substantially self-explanatory. However, the writers feel that for complete understanding, some mention should be made for the organization of the tables.

Tables I, II, III, and IV are identical in their organization. The first column, entitled "Number of Incidents", indicates the number of times the researchers were present at a scene involving the corresponding code. For example, on Table I, code 20 has the number twelve (12) preceeding it.

TABLE I
COMPOSITE OF PATROL SHIFTS
"TIME STUDY"

TOTAL NO. OF INCIDENTS	CODE	AVE. RESP. TIME	TOTAL TIME	AVE. TIME AT SCENE	MIN. TIME AT SCENE	MAX. TIME AT SCENE
4	05	5.0	121.0	25.25	14.0	37.0
14	06	3.2	463.0	31.92	5.0	104.0
3	07	1.0	41.0	13.33	4.0	25.0
3	08	2.0	61.0	18.66	12.0	24.0
2	10	3.0	269.0	131.5	29.0	234.0
1	13	3.0	7.0	4.0	4.0	4.0
12	14	3.75	240.0	12.91	6.0	55.0
1	15	----	4.0	4.0	4.0	4.0
12	20	2.36	254.0	18.16	4.0	60.0
1	23	3.0	14.0	11.0	11.0	11.0
37	24	3.11	573.0	12.45	3.0	43.0
2	26	3.0	38.0	16.0	6.0	26.0
7	30	3.71	89.0	9.0	2.0	15.0
17	31	2.81	142.0	6.05	1.0	29.0
1	35	3.0	16.0	13.0	13.0	13.0
13	38	2.33	313.0	21.92	4.0	65.0
1	39	----	10.0	10.0	10.0	10.0
3	40(12)	9.0	57.0	13.0	5.0	29.0
2	40(07)	5.0	38.0	16.5	5.0	28.0
1	40(10)	10.0	18.0	8.0	8.0	8.0
4	40(13)	6.5	72.0	11.5	3.0	19.0

TOTAL NO. OF INCIDENTS	CODE	AVE. RESP. TIME	TOTAL TIME	AVE. TIME AT SCENE	MIN. TIME AT SCENE	MAX. TIME AT SCENE
2	40(02)	2.0	6.0	2.0	2.0	2.0
49	40(06)	4.06	671.0	10.38	1.0	55.0
17	40(08-P)	2.8	194.0	8.64	2.0	22.0
5	40(08-V)	1.66	29.0	4.4	1.0	12.0
1	42	3.0	16.0	13.0	13.0	13.0
1	43	6.0	13.0	7.0	7.0	7.0
3	44	3.0	54.0	17.0	10.0	21.0
9	45	4.0	86.0	7.3	2.0	20.0
7	49	3.66	78.0	8.0	2.0	15.0
1	50	5.0	11.0	6.0	6.0	6.0
4	51	4.35	57.0	10.0	7.0	16.0
46	90	4.63	793.0	15.36	1.0	124.0
70	91	3.57	1071.0	14.31	2.0	55.0
12	92	----	175.0	14.41	5.0	29.0
42	93	----	179.0	4.26	1.0	16.0
32	94	3.0	322.0	6.93	2.0	29.0
*9	95	----	181.0	20.11	2.0	*60.0
53	96L	----	1625.0	30.47	22.0	45.0
73	96 CB	----	878.0	11.94	3.0	24.0
7	97	----	63.0	9.0	5.0	15.0
72	98	----	432.0	6.0	1.0	38.0

* Code 95, Parking Tickets--maximum time at scene represents a continuation of writing 36 parking tickets, for alternate parking violations. Therefore, the average time at scene and maximum time at scene is representative of this factor and is not representative of writing a single parking ticket. The average amount of time per ticket was 1.66 minutes.

TABLE II
PATROL SHIFT # 1 (0700-1500)
"TIME STUDY"

TOTAL NO. OF INCIDENTS	CODE	AVE. RESP. TIME	TOTAL TIME	AVE. TIME AT SCENE	MIN. TIME AT SCENE	MAX. TIME AT SCENE
2	05	3.5	55.0	24.0	14.0	34.0
6	06	2.66	307.0	49.8	10.0	104.0
1	07	----	11.0	11.0	11.0	11.0
1	10	4.0	238.0	234.0	234.0	234.0
2	14	4.5	39.0	15.0	7.0	23.0
3	24	5.0	49.0	11.33	10.0	13.0
3	30	4.0	43.0	10.33	5.0	15.0
3	31	5.0	30.0	5.66	2.0	11.0
2	38	2.0	84.0	40.0	15.0	65.0
2	40(12)	12.0	46.0	17.0	5.0	29.0
1	40(10)	10.0	18.0	8.0	3.0	8.0
3	40(13)	8.0	67.0	14.33	9.0	19.0
10	40(05)	4.71	145.0	11.2	5.0	19.0
3	40(08-P)	3.0	39.0	10.0	4.0	18.0
1	43	6.0	13.0	7.0	7.0	7.0
5	45	4.33	66.0	10.6	3.0	17.0
1	49	5.0	20.0	15.0	15.0	15.0
1	51	5.0	12.0	7.0	7.0	7.0
13	90	5.5	191.0	13.0	2.0	72.0
36	91	4.0	625.0	15.91	3.0	70.0
2	92	----	21.0	10.5	5.0	16.0

TOTAL NO. OF INCIDENTS	CODE	AVE. RESP. TIME	TOTAL TIME	AVE. TIME AT SCENE	MIN. TIME AT SCENE	MAX. TIME AT SCENE
9	93	1.0	46.0	5.0	2.0	12.0
2	94	5.1	43.0	16.0	3.0	29.0
1	95	----	7.0	7.0	7.0	7.0
18	96L	----	551.0	30.61	23.0	36.0
35	96CB	----	451.0	12.82	5.0	24.0
19	98	----	169.0	8.89	1.0	38.0

TABLE III
PATROL SHIFT # 2 (1500-2300)
"TIME STUDY"

Time is in minutes

TOTAL NO. OF INCIDENTS	CODE	AVE. RESP. TIME	TOTAL TIME	AVE. TIME AT SCENE	MIN. TIME AT SCENE	MAX. TIME AT SCENE
2	05	6.50	66	26.50	16.0	37.0
8	06	3.42	162	17.25	5.0	34.0
2	07	1.00	30	14.50	4.0	25.0
3	08	2.00	61	18.66	12.0	24.0
1	10	2.00	31	29.00	29.0	29.0
1	13	3.00	7	4.00	4.0	4.0
3	14	4.33	51	12.66	11.0	14.0
1	15	----	4	4.00	4.0	4.0
6	20	2.60	75	10.33	4.0	19.0
1	23	3.00	14	11.00	11.0	11.0
25	24	3.13	340	10.68	2.0	43.0
2	26	3.00	38	16.00	6.0	26.0
3	30	3.66	39	9.33	2.0	15.0
11	31	2.10	100	7.18	1.0	29.0
1	35	3.00	16	13.00	13.0	13.0
10	38	2.66	219	18.50	4.0	46.0
1	39	----	10	10.00	10.0	10.0
1	40(12)	6.00	11	5.00	5.0	5.0
2	40(07)	5.00	38	16.50	5.0	28.0

TOTAL NO. OF INCIDENTS	CODE	AVE. RESP. TIME	TOTAL TIME	AVE. TIME AT SCENE	MIN.TIME AT SCENE	MAX. TIME AT SCENE
1	40(13)	2.00	5	3.00	3.0	3.0
26	40(06)	3.66	353	11.92	1.0	40.0
5	40(08-P)	5.00	69	10.80	4.0	22.0
4	40(08-V)	1.66	24	4.75	1.0	12.0
1	42	3.00	16	13.00	13.0	13.0
1	44	-----	21	21.00	21.0	21.0
4	45	3.50	20	4.33	2.0	6.0
4	49	3.75	39	6.00	2.0	12.0
1	50	5.00	11	6.00	6.0	6.0
3	51	4.00	45	11.00	7.0	16.0
31	90	4.21	588	17.06	1.0	124.0
29	91	3.50	368	11.96	3.0	42.0
2	92	-----	38	19.00	13.0	25.0
22	93	1.00	91	4.09	2.0	16.0
17	94	2.88	154	6.41	2.0	22.0
3	95	-----	8	2.66	2.0	3.0
22	96L	-----	666	30.77	23.0	40.0
22	96C.B.	-----	224	10.45	3.0	20.0
5	97	-----	41	9.00	5.0	15.0
40	98	-----	214	5.35	1.0	30.0

TABLE IV
PATROL SHIFT # 3 (2300-0700)
"TIME STUDY"

Time is in minutes

TOTAL NO. OF INCIDENTS	CODE	AVE. RESP. TIME	TOTAL TIME	AVE. TIME AT SCENE	MIN. TIME AT SCENE	MAX. TIME AT SCENE
7	14	3.28	150	18.14	6.0	55.0
7	20	2.16	179	17.66	5.0	47.0
9	24	2.66	184	17.77	3.0	40.0
1	30	3.00	7	4.00	4.0	4.0
3	31	1.66	12	2.33	1.0	4.0
1	38	----	10	10.00	10.0	10.0
2	40(02)	2.00	6	2.00	2.0	2.0
13	40(06)	3.09	173	9.92	1.0	55.0
10	40(08-P)	2.87	86	6.30	2.0	12.0
2	40(08-V)	----	5	2.50	2.0	3.0
2	44	3.00	33	15.00	10.0	20.0
2	49	2.00	19	8.50	6.0	11.0
2	90	5.00	14	4.50	4.0	5.0
7	91	1.00	78	11.00	5.0	20.0
8	92	2.00	116	14.25	8.0	29.0
11	93	----	42	3.81	1.0	12.0
13	94	3.00	125	7.50	2.0	23.0
5	95	----	166	33.20	5.0	60.0
12	96L	----	408	29.84	22.0	45.0
15	96C.B.	----	203	13.53	7.0	30.0
2	97	----	22	11.00	9.0	13.0
12	98	----	49	4.08	2.0	7.0

Therefore, the writers recorded twelve (12) incidents that were coded 20's (family problem, fights, overdose). The column entitled "CODE" is the number that corresponds with the codes assigned on the "OFFICER'S DAILY ACTIVITY REPORT". The column labeled "AVE. RESP. TIME", (Average Response Time), indicates the average amount of time officers required to arrive at the scene of an incident. This was calculated by adding the response time, by individual code, and dividing by the number of incidents for that particular code. One note should be mentioned here. The average response time, although representative of required response time, will vary with weather, traffic, and other unusual conditions. These times were recorded during what the writers labeled ideal weather conditions. To gather a more accurate estimation of the time required to arrive at the scene, a study should be made during conditions that are other than ideal, i.e. winter, inclement weather, etc. "TOTAL TIME" is the total amount of time spent, during the study, with a researcher present, for each individual code. The total time column also includes the response time. The column entitled "AVE. TIME AT SCENE" is the number arrived at by dividing the amounts of time spent at a scene, not including the response time, by the total number of incidents recorded for the code indicated. The last two columns, entitled MIN. TIME AT SCENE and MAX. TIME AT SCENE, do not include response time. The reader may note that between the minimum and maximum times there is a great variation on some codes and very little on

others. This is caused by a number of reasons, some of which include seriousness of the incident, amount of persons to be interviewed in connection with the incident, individual officer handling the incident, and climatic conditions.

INDIVIDUAL CODES PLACEMENT

During the study the researchers found that certain incidents appear more often than others. Presuming these types of incidents appear more often than others throughout the year, the researchers took special note of the top twelve time consuming incidents. They are listed on Table V on page 17. The reader will notice that there is a one hundred minute difference between the top time consuming incident and the second place incident. However, that may be a function of the amount of incidents studied rather than the time actually required to accomplish the task.

The writers would further like to stipulate that the average time consumed at an incident, where the total of the incidents encompasses less than four incidents, is inconclusive, and cannot be regarded as a standard average time required for incident investigation. Therefore, in reference to the chart entitled "TOP CODES-TIME SPENT PER INCIDENT", codes 06, 38, 20, 40, 14, and 24 are considered more significant to the time factors involved than are codes 10, 5, 8, 44, 7, and 35. However, the remedy to this situation can be implemented by a continued study encompassing more time, or a seasonal study that takes into account the four major seasons. Other than the above stated exceptions the chart

TABLE V
TOP CODES-TIME SPENT PER INCIDENT
"TIME STUDY"

Time is in minutes

RANK	CODE	TOTAL NO. OF INCIDENTS	AVE. TIME PER INCIDENT
1	10	2	131.5
2	06	14	31.92
3	05	4	25.25
4	38	13	21.92
5	08	3	18.66
6	20	12	18.15
7	44	3	17.0
8	40	73	14.86
9	07	3	13.33
10	35	1	13.0
11	14	12	12.91
12	24	37	12.45

TABLE VI
REPORT WRITING TIME
"TIME STUDY"

TOTAL NO. OF INCIDENTS	REPORT CODE	TOTAL REPORT TIME	AVE. REPORT TIME	MIN. REPORT TIME	MAX. REPORT TIME
4	05	110	27.50	11.0	47.0
11	06	219	19.90	7.0	47.0
2	07	28	14.00	11.0	17.0
3	08	41	13.66	5.0	22.0
1	10	60	60.00	60.0	60.0
1	13	10	10.00	10.0	10.0
9	14	233	25.88	15.0	65.0
7	20	109	15.57	12.0	25.0
11	24	271	24.64	9.0	39.0
1	30	9	9.00	9.0	9.0
6	38	228	38.00	9.0	81.0
4	40	49	12.25	6.0	18.0
1	42	13	13.00	13.0	13.0
1	44	20	20.00	20.0	20.0
1	49	10	10.00	10.0	10.0
1	50	25	25.00	25.0	25.0
1	51	17	17.00	17.0	17.0
11	90	199	18.09	6.0	57.0
1	92	5	5.00	5.0	5.0

entitled "TOP CODES-TIME SPENT PER INCIDENT" is substantially self-explanatory. (See Table V, page 17).

INFORMATION GATHERED ON REPORT WRITING TIME

During the time study, the amount of time required to accomplish the writing of reports was recorded. Inasmuch as a new reporting system is being initiated in the near future, the information gathered is tenuous. However, as part of the time required, during the study, report time required 1,656 minutes, or 6.01% of the total patrol time. For a break down by codes requiring reports, see Table VI, page 18 .

CONCLUDING REMARKS

Inasmuch as the writers wish to keep the level of objectivity that surrounded the initial purpose of the "time study", the narrative portion of this report was kept to a minimum. Further, the writers also feel that the staff of the Beloit Police Department are far more qualified than they to comment on the results of the study. Therefore, keeping with this framework of objectivity, the writers believe that further subjectivity will not be beneficial to the report. However, it is the writers wish that the study will serve the purpose for which it was intended, and that the information has satisfactorily met the requirements.

Respectfully Submitted,

Steven J. Kopp

James A. Wyss

END

7 miss/more