

Police Department Operational Analysis
Bethlehem, NY
May 2015

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Prepared with data and assistance from the Bethlehem Police Department and other town offices.

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Introduction

In the fall of 2014, James E. McCabe, Ph.D. was retained to assist with collective bargaining and administrative goals informed by a review of the operations of the Bethlehem Police Department.

Dr. McCabe is an Associate Professor, Department Chair and Director of the Graduate Program in Criminal Justice at Sacred Heart University in Fairfield, CT. He took on this position after completing 21 years of service with the New York City Police Department. In the NYPD, he held numerous command level assignments including the Commanding Officer of Labor Relations, Commanding Officer of the Training Bureau, Commanding Officer of the Police Academy, and the Commanding Officer of the 110th Precinct in Elmhurst/Corona, Queens. He was also assigned as the Executive Officer of the Police Commissioner's Office and the 113th Precinct in South Jamaica. He retired in 2006 from the NYPD with the rank of Inspector to assume a new career in academia at Sacred Heart.

Dr. McCabe has a BA in Psychology from Queens College, and MA in Labor Studies from Empire State College, an MA in Criminal Justice from John Jay College, and a Ph.D. in Criminal Justice from the CUNY Graduate Center. He is a graduate of the 189th Session of the FBI National Academy, and Executive Programs at Columbia University's Police Management Institute and the JFK School of Government at Harvard University. He has published numerous scholarly articles and book chapters on the subject of police effectiveness and has been the principal investigator in more than 50 studies examining police operations in 30 states and in every region of the country. He has lectured around the country to both police and academic audiences about organizational behavior, leadership, supervisory communications, and the impact of police operations on public safety and neighborhood satisfaction with police services.

The analysis covered numerous aspects of the department's operations, a particular focus of our study was on identifying appropriate staffing for the agency, as well as an examination of its overtime use and control policies. This report was prepared to summarize the analysis and policy issues uncovered, while seeking to avoid direct collective bargaining advice. Given the strong linkage between these areas, however, it was not possible to avoid discussion of some of these collective bargaining issues.

Since the initial study period, the BPD has implemented several key recommendations identified through the analysis. The changes implemented on scheduling, staffing, overtime accountability and sick leave are discussed, as well as the impact. This report provides additional recommendations for consideration, including supervision improvements, scheduling alternatives and overtime control policies. This report will serve as the basis for discussions with BPD and Town management on potential changes in these areas.

The departmental workload was analyzed using operations research methodology and compared that workload to staffing and deployment levels. Other performance indicators were reviewed, which permitted the evaluation of service demand and current staffing. The department's

organizational design was also reviewed to determine if the many functions required of a modern police agency are staffed appropriately. The study involved data collection, interviews with key police and administration personnel, on-site observations of the job environment, data analysis, comparative analyses, and development of alternatives and recommendations. The principal recommendations follow and are described in detail throughout the report.

The appropriate method of evaluating the staffing level of a police department is to first understand the service demands placed upon that department. With an understanding of the service demands, typically calls-for-service (CFS) from 911, patrol shifts schedules can be constructed to “fit” the availability of resources with the times they are needed. The best shift schedules vary the level of personnel as demand changes, and also consider the quality of life of the officers working those schedules. The following discussion first focuses on the demand for police service in Bethlehem, as measured by 911 CFS, and then explores various elements of the patrol schedule in place in the department to meet that demand.

Patrol Staffing

Patrol staffing in the Bethlehem Police Department is achieved through the deployment of 20 officers working 8-hour shifts. Officers are on duty for five days in a row and have two days off each week, and are generally assigned to one of three shifts, or “lines.” The A-Line (or night shift) works 11:00 p.m. to 7:00 a.m. and has five officers assigned. B-Line (days) works 7:00 a.m. to 3:00 p.m. and has seven officers assigned. C-Line is the afternoon/evening shift and works 3:00 p.m. to 11:00 p.m. with six officers assigned. Personnel generally work steady shifts and have fixed days off, although in some cases “split shifts” have been assigned to some officers where they work different shifts on different days. Schedules, including lines and days off, are selected each year through a “shift bid” conducted in seniority order, with the most senior officers selecting first. The schedule for sergeants is created separately, in a similar fashion. Table 3 shows the distribution of personnel by shift and day of the week, both for the 2014 and 2015 schedules.

Service Demands

Tables # 1 and 2 illustrate the demand for police services. In table #1, the total number of “incidents” reported to the BPD are presented by day of week and hour per day. In the leftmost column, the hours of the day appear. The total number of incidents by hour and by day of week are presented by Line.

Table #2, converts these total incidents into daily averages. For example, in the Monday 11pm hour, there were 49 incidents recorded in 2013. This translates into 0.94 incidents reported in that hourly period on the average day (Table 2 calculations = Table 1 Number/52). Using the data in table #2 allow for an understanding of the workload levels and the appropriateness of the number of personnel assigned to handle this workload.

For clarification, the data reported are “incidents” – the data do not indicate the type of incident, nor is there information presented about the amount of time and the number of officers assigned to handle these incidents. An incident could be a traffic stop that is handled by one officer for five minutes, or a domestic altercation handled by three officers for 60 minutes. Actual workload demands would take into account these other variables, and a more sophisticated and accurate account of workload could be determined. This analysis is more simplistic and reports the number of incidents recorded without an accounting for the amount of resources actually necessary to properly handle these incidents. Nonetheless, these data are useful in understanding the relative busy times of the day and days of the week for officers on patrol. Similarly, the data presented are from calendar year 2013, simply because at the time of analysis 2013 was the last year when a full year of data were available. Undoubtedly, different years would produce different types of CFS, but the general structure of the demand for services in Bethlehem is not likely to change from year to year.¹

¹ In fact the demand curve for 911 CFS in Bethlehem is typical of a Town with similar demographics

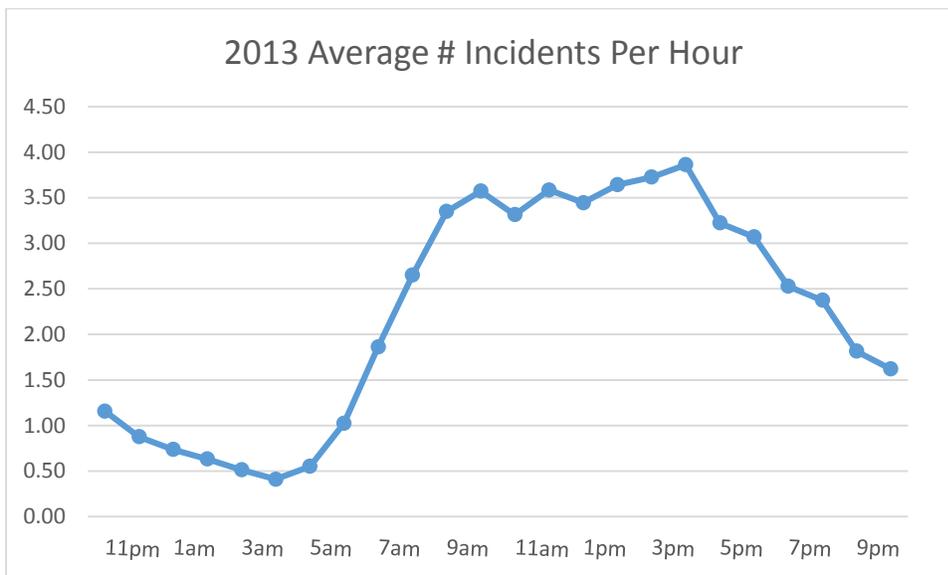
Table #1 – 2013 Incident Data by Hour and Day of Week

TIME	MON	TUES	WED	THU	FRI	SAT	SUN	TOTAL
11pm	49	61	55	52	79	73	52	421
12am	40	41	39	37	45	57	60	319
1am	35	33	38	28	38	50	46	268
2am	31	26	22	32	43	30	46	230
3am	25	21	22	21	31	40	33	187
4am	11	9	20	13	30	40	26	149
5am	18	27	29	28	32	25	42	201
6am	56	57	53	64	61	43	39	373
A-LINE TOTAL	216	214	223	223	280	285	292	1727
7am	117	92	129	104	92	78	66	678
8am	149	167	137	155	170	99	88	965
9am	163	244	204	188	181	136	103	1219
10am	160	197	188	185	212	247	111	1300
11am	178	197	172	165	188	193	113	1206
12pm	203	219	162	174	198	210	139	1305
1pm	157	188	175	204	201	195	134	1254
2pm	198	226	201	206	195	173	127	1326
B-LINE TOTAL	1325	1530	1368	1381	1437	1331	881	9253
3pm	206	238	209	219	200	140	144	1356
4pm	209	258	243	196	205	157	138	1406
5pm	201	177	187	176	161	156	115	1173
6pm	147	193	193	158	180	130	116	1117
7pm	113	166	138	146	136	112	109	920
8pm	123	157	130	127	110	106	111	864
9pm	97	81	88	94	109	95	97	661
10pm	56	68	81	105	92	108	80	590
C-LINE TOTAL	1152	1338	1269	1221	1193	1004	910	8087
TOTAL	2742	3143	2915	2877	2989	2687	2135	19495

Table #2 – Average Incidents by Hour and Day of Week

TIME	MON	TUES	WED	THUR	FRI	SAT	SUN	TOTAL	Rank
11pm	0.94	1.17	1.06	1.00	1.52	1.40	1.00	8.10	17
12am	0.77	0.79	0.75	0.71	0.87	1.10	1.15	6.13	19
1am	0.67	0.63	0.73	0.54	0.73	0.96	0.88	5.15	20
2am	0.60	0.50	0.42	0.62	0.83	0.58	0.88	4.42	21
3am	0.48	0.40	0.42	0.40	0.60	0.77	0.63	3.60	23
4am	0.21	0.17	0.38	0.25	0.58	0.77	0.50	2.87	24
5am	0.35	0.52	0.56	0.54	0.62	0.48	0.81	3.87	22
6am	1.08	1.10	1.02	1.23	1.17	0.83	0.75	7.17	18
A-LINE TOTAL	5.10	5.29	5.35	5.29	6.90	6.88	6.62	41.31	
7am	2.25	1.77	2.48	2.00	1.77	1.50	1.27	13.04	14
8am	2.87	3.21	2.63	2.98	3.27	1.90	1.69	18.56	11
9am	3.13	4.69	3.92	3.62	3.48	2.62	1.98	23.44	7
10am	3.08	3.79	3.62	3.56	4.08	4.75	2.13	25.00	5
11am	3.42	3.79	3.31	3.17	3.62	3.71	2.17	23.19	8
12pm	3.90	4.21	3.12	3.35	3.81	4.04	2.67	25.10	4
1pm	3.02	3.62	3.37	3.92	3.87	3.75	2.58	24.12	6
2pm	3.81	4.35	3.87	3.96	3.75	3.33	2.44	25.50	3
B-LINE TOTAL	25.48	29.42	26.31	26.56	27.63	25.60	16.94	177.94	
3pm	3.96	4.58	4.02	4.21	3.85	2.69	2.77	26.08	2
4pm	4.02	4.96	4.67	3.77	3.94	3.02	2.65	27.04	1
5pm	3.87	3.40	3.60	3.38	3.10	3.00	2.21	22.56	9
6pm	2.83	3.71	3.71	3.04	3.46	2.50	2.23	21.48	10
7pm	2.17	3.19	2.65	2.81	2.62	2.15	2.10	17.69	12
8pm	2.37	3.02	2.50	2.44	2.12	2.04	2.13	16.62	13
9pm	1.87	1.56	1.69	1.81	2.10	1.83	1.87	12.71	15
10pm	1.08	1.31	1.56	2.02	1.77	2.08	1.54	11.35	16
C-LINE TOTAL	22.15	25.73	24.40	23.48	22.94	19.31	17.50	155.52	
TOTAL	52.73	60.44	56.06	55.33	57.48	51.67	41.06	374.90	

Figure #1 – 2013 Average Number of Incidents per Hour



The data presented in tables and figure 1 illustrate the relative workload demands for patrol officers. The slowest time for demand is during the time between 4:00 a.m. and 5:00 a.m. with an average of 2.87 incidents per week. The busiest time is between 4:00 p.m. and 5:00 p.m. with 27.04 incidents per week. The slowest day is Sunday with 41.06 incidents on average, and the busiest day is Tuesday with 60.44 incidents. The A-Line has the fewest incidents on average, with only 41.31 incidents per week, and the B-Line is the busiest with an average of 177.94 incidents per week. The busiest 8-hour block is between 9:00 a.m. and 5:00 p.m. Ideally, these data would be used to inform staffing decisions for patrol officers in order to supply personnel during the days and times when they are needed the most.

Observations on Demand

Looking at the demand for police services as measured by the number of incidents recorded by the BPD, and the supply of officers as indicated by the shift bids, Lines, and personnel available, indicate that the deployment of patrol resources in the BPD is inefficient. It appears there are too many officers assigned when they are needed the least, and not enough officers assigned when they are needed the most. During the A-Line (night shift) there is less than one incident per hour and the minimum staffing is four sworn officers during the shift. Conversely, on the B-Line (day shift) the average number of incidents per hour is greater than 3.5, and the same minimum applies. A strict interpretation of these data would indicate that the A-Line would require one-third the number of officers to handle the work compared to their counterparts on the B-Line and C-Line.

An exact method for determining the number of officers to allocate to patrol has not yet been developed. Police staffing models in the U.S. are generally determined by one of five common methods. Departments traditionally have used crime trends, an officers per-capita approach, minimum-manning levels, authorized head-count/budgeted levels, and least-commonly, workload-based models to make staffing decisions. The preferred way of determining staffing levels is through workload calculations that incorporate the amount of time and number of officers required for the actual number of calls for service received. In addition to this method, there is a certain “art” of assigning officers to ensure that workload demands are met, and that there are enough officers available above those workload demands to perform proactive patrol and be available for emergencies. The BPD allocates officers to patrol using the minimum-manning approach, which is the least effective method. It would also appear that the minimums applied in the BPD are imbalanced. Having a the same fixed minimum required staffing level at all times during the day ignores the operational realities of police workload as illustrated above. Minimum staffing levels on the A-Line, especially during the weekdays, can easily be reduced without compromising service. Additionally, a strong argument could be made that the minimum-manning levels set by the BPD are not only arbitrary, but too high. It is feasible that patrol could be covered by one sergeant and two patrol officers on any given shift. Additional analysis on type of incident by shift and hour, as well as geographic location, would better inform staffing decisions.

Supervision

It is strongly recommended that at least one sergeant be assigned to supervise patrol operations at all times, particularly during evening, night and weekend hours when the BPD Command staff are not present. The policy of assigning the senior officer on the shift as “Officer in Charge” should be discontinued. At a minimum, one sergeant MUST be assigned to supervise patrol and this position should be backfilled with overtime if a supervisor (sergeant or lieutenant) is not available.

In general, available research indicates that approximately 5.6 people are required to staff one position, 24 hours per day, and 365 days per year. This figure, known as the “relief factor” accounts for around the clock coverage of one position and factors in vacation time, sick time, administrative time (court, training, etc.). The relief factor was not specifically calculated for the BPD, but is derived from empirical research on other police departments. Therefore, to staff one police position around the clock, a minimum of six people are necessary. With less than six people, there will invariably be vacancies throughout the year.

In 2014 the BPD assigned five sergeants to supervise patrol operations. With five sergeants assigned, it would have been necessary to backfill these positions with overtime to provide continuous supervision. It must be understood that with five sergeants available for deployment overtime will be inevitable.

Like the patrol officers, sergeants bid for assignment in seniority order by date in rank. In 2014 two sergeants were assigned to each of the A-Line and C-Line and one sergeant is assigned to

the B-Line. All of the sergeants were given either Friday/Saturday or Sunday/Monday off. On the B-Line, no supervisors were scheduled to work on Fridays or Saturdays and the BPD permitted this shift to go unsupervised by a sergeant and allowed the senior police officer to act as “Officer in Charge.” Thus, the schedule very poorly reflected the need for supervision.

Changes in 2015 Schedule

For the 2015 shift bid, a sixth sergeant was added to patrol, and the days-off combinations were adjusted to maximize staffing during the times when it was most needed. Table #3 below shows the staffing for sergeants, patrol officers and total for each shift and day of the week.

The adjustments made to the 2015 patrol staffing schedule were a substantial improvement over the 2014 version. The additional sergeant on patrol covered the gaps in supervision. Table 3 shows that supervision was increased on Friday and Saturday and decreased on Tuesday and Wednesday, and no day is uncovered by a sergeant. In contrast, the 2014 schedule had no sergeant scheduled on for weekends from 7am-3:00; this was covered by assigning the senior patrol officer to be the “officer in charge.” The schedule also allows for supervisory assignments on every Line on every day and uses the overlapping periods (when more than one sergeant is scheduled to work) better, by placing them at peak periods rather than weekday midnight shifts.

Similarly, officers were added to the A and C lines in critical positions to provide better patrol coverage and address the staffing needs at court. The proposed schedule assigns additional officers on the C-Line on Tuesdays and the B-Line on Wednesdays to support court operations. This deployment will likely minimize overtime expenses in this area. Two officers on the B line are scheduled off on Sun/Mon. This creates a situation where 6 officers are assigned on Tuesdays and Wednesdays and 4 officers on Sunday and Monday. This ensures additional officers are present during Wednesday morning court, but lowers the number of officers available on Sundays and Mondays. Essentially, this is a trade-off where more officers are scheduled during court times to avoid court overtime, compared to scheduling more officers on Sunday when demand for time off would be greater. A more detailed analysis is necessary to see which situation generates the greatest overtime costs.

The BPD also employs a “hard” minimum staffing level for patrol deployments. The department requires a minimum of four cars to be assigned to each shift and will backfill positions by calling officers in on overtime whenever this minimum is breached. Sergeants are included in this minimum. Therefore, on each shift a minimum of four sworn personnel must be assigned. This could occur in various combinations: 1 sergeant and 3 officers, 4 officers, etc.

Table #3 – Distribution of Police Personnel by Line and Day of Week, 2014 and 2015

2015 Patrol Schedule		MON	TUE	WED	THU	FRI	SAT	SUN
A-line “nights” 11pm-7am	Sergeants	1	1	1	2	2	2	1
	Officers	4	4	4	4	4	4	4
	Total Patrol	5	5	5	6	6	6	5
B-line “days” 7am-3pm	Sergeants	1	2	2	2	1	1	1
	Officers	4	6	6	5	5	5	4
	Total Patrol	5	8	8	7	6	7	5
C-line “aft/eve” 3pm-11pm	Sergeants	1	2	1	1	2	2	1
	Officers	6	6	5	5	5	5	5
	Total Patrol	7	8	6	6	7	7	6
Change in Staffing		MON	TUE	WED	THU	FRI	SAT	SUN
A-line	Sergeants	0	-1	-1	0	1	1	0
	Officers	0	-1	0	1	1	1	1
	Total Patrol	0	-2	-1	1	2	2	1
B-line	Sergeants	0	1	1	1	1	1	0
	Officers	0	0	0	0	0	0	0
	Total Patrol	0	1	1	1	1	1	0
C-line	Sergeants	0	0	-1	-1	1	1	0
	Officers	1	1	1	1	1	1	1
	Total Patrol	1	1	0	0	2	2	1
2014 Patrol Schedule		MON	TUE	WED	THU	FRI	SAT	SUN
A-line “nights” 11pm-7am	Sergeants	1	2	2	2	1	1	1
	Officers	4	5	4	3	3	3	3
	Total Patrol	5	7	6	5	4	4	4
B-line “days” 7am-3pm	Sergeants	1	1	1	1	0	0	1
	Officers	4	5	6	5	5	5	5
	Total Patrol	5	6	7	6	5	5	6
C-line “aft/eve” 3pm-11pm	Sergeants	1	2	2	2	1	1	1
	Officers	5	5	4	4	4	4	4
	Total Patrol	6	7	6	6	5	5	5

The BPD should be commended for structuring days-off combinations and Line deployments that created maximized coverage when it was needed most.

Inspection of Table #3 indicates that there is a narrow margin between the number of officers assigned and the “hard” minimum staffing levels required for patrol, although this situation has been substantially improved by the 2015 schedule changes and use of the headquarters sergeant for patrol. Compounding this situation is that the BPD granted leave on any given shift. In about one-third of the days/shifts, the BPD created the possibility that overtime could be used to backfill patrol deployment. This does not include circumstances where officers call-in sick, require emergency leave, or are not assigned for other reasons like training, line of duty injuries, court, etc.

The combination of the “hard” minimum patrol staffing levels, the number of officers assigned, and realities of police operational and administrative requirements, created a situation in the BPD where substantial amounts of overtime were necessary just to accommodate basic patrol operations.

Although the 2015 shift bid is a substantial improvement over 2014, additional adjustments could be made in the future to enhance productivity. Days-off combinations can be modified, minimum-manning levels could be adjusted to reflect demand, and even an alternative work schedule could be implemented that would address service demands more effectively.

Concluding Observations

As discussed above, the fixed and uniform “hard” minimums for patrol staffing are an irrational use of resources. The number of officers assigned to the A-Line during the weekdays could be reduced without any compromise in service.

In addition, the BPD should discontinue permitting two officer/sergeants off each shift. By allowing two people granted off each shift, the BPD put itself in a position where at as much as 50 percent of the available number of personnel can be permitted to take off in advance of the shift. This does not include sick days or emergencies. When combined with a “hard” minimum and backfilling of positions on overtime, the BPD has created an untenable situation unnecessarily driving up the cost of staffing patrol.

This approach has been revised, with the number of leave days per shift permitted in advance that is based on the operational needs of the department. If minimum staffing levels are compromised discretionary leave should not be authorized. Additionally, if there comes a time to authorize more than one officer being granted leave on a given shift, then the “hard” minimums should be relaxed. Having a flexible policy that combines the operational realities and the demand for time off would be much more cost effective.

The BPD patrol staffing model used for many years is not efficient. While substantial improvements have been made with the 2015 schedule changes, there are several features of the BPD staffing model that should be abandoned or altered, some of which would be subject to collective bargaining.

Beyond the changes made in the 2015 schedule, the BPD should consider eliminating the fixed and mandated set of weekend days off which is mandated for nine positions by contract. In other words, three officers on each Line (9 officers total) are scheduled to have a least one day during the weekend off each week. The remaining eleven never get a weekend day off scheduled any time during the year. Essentially, this structure benefits the minority of officers with the greatest seniority. This puts enormous stress on the department and substantially constrains the ability to have an efficient deployment of personnel.

Under this shift schedule, for example, the majority of officers never have weekends off scheduled during the year. Most important social and personal functions occur on the weekends, which requires officers to request individual days off to participate in these functions. This results in several negative outcomes. First, officers must use their vacation time to accommodate the time-off request, therefore lowering the actual number of vacations they can take. Second, with time off granted on the weekends the department, with a "hard" staffing minimum is often required to backfill those positions with overtime pay, thus driving up costs to the Town. Third, the officer already with weekends off could be mandated to work to cover time-off requests, thus extending their work-week, or officers already working the weekends forced to work extended shifts, which both impact negatively the ability to rest between shifts. And lastly, with everyone on the Lines having different days off, officers seldom work with the same officers or supervisions. This is a breakdown in the unity of command and inhibits effective organizational communication and esprit de corps.

As discussed above, the arbitrary "hard" minimums also inhibit scheduling and drive overtime costs. Requiring a minimum of four cars on patrol, combined with the ability to have 40 percent of the personnel off on any given shift, is creating a lose-lose situation. In addition, the four-car minimum forces the BPD to staff at essentially fixed levels of personnel in the context of variable levels of demand. This should be changed, preferably after carrying out a more detailed review of calls for service.

Alternative Shift Model

The available literature on shift length provides no definitive conclusions on an appropriate shift length. A recent study published by the Police Foundation examined 8-hour, 10-hour, and 12-hour shifts and found positive and negative characteristics associated with all three options.² The length of the shift is secondary to the application of that shift to meet service demands.

The 12-hour shift also poses advantages and disadvantages. On the positive side, the 12-hour shift requires fewer work appearances for officers and supervisors. Presumably, fewer appearances translates into a higher quality of life away from work. From an operational perspective, the 12-hour shift results in a greater percentage of officers working on any given day, thus more officers to deploy toward crime, traffic, disorder, and community issues at any one time. This shift also affords a tight unity of command with supervisors and officers working together each shift. This promotes better supervision and better esprit de corps among employees.

On the negative side, a 12-hour shift configuration with four equally staffed squads results in a constant and fixed level of patrol staffing throughout the day. Service demands vary, peaking in the evening hours and waning in the early morning hours. With a constant supply of personnel and a variable demand for their services there will be a continual surplus and shortage of resources. Also, with a four squad configuration a “silo” effect is often created. The natural rotation of this shift configuration creates four separate squads that do not interact often, this creating personnel “silos.” Similarly, it is difficult to communicate between the “silos” and between the squads and the executive management of the department.

In its totality, however, the patrol shift schedule in the BPD is inefficient. The best possible shift configuration appears to be the 12-hour shift model, utilizing six squads: four equally staffed teams to provide a constant supply of officers and supervisors, with two additional “power” squads of officers covering the busiest times. The six squad, 12-hour shift alternative appears to overcome the negative elements of the current shift, and addresses operational needs more effectively. This shift plan maximizes coverage when it is needed most and minimizes coverage when it is needed the least. It also provides for all officers to experience weekends off every other week. This type of schedule is the “norm” in numerous police departments in the United States. Experience with this schedule indicates that it addresses both operational needs and employee quality of life concerns.

There are numerous shift schedules that would be improvements over the one being used by the BPD and serious consideration should be given to exploring other options. It appears the one in currently in use protects the officers with the most seniority at the expense of the quality of life of the junior officers, the operational efficiency of the department, and the financial concerns of the Town.

² Karen L. Amendola, et al, *The Shift Length Experiment: What We Know about 8-, 10-, and 12-hour Shifts in Policing* (Washington, DC: Police Foundation, 2012).

Overtime Control

During calendar year 2014, the Bethlehem Police Department logged 11,571 hours of overtime, resulting in the payment of \$605,911 in overtime to officers and sergeants in the department. The BPD averages more than \$10,000 per week in overtime payments. The highest amount paid was \$50,833 to a police officer. Two sergeants were paid over \$40,000 in overtime, and had the highest compensation overall among all town employees (earning \$136,268 and \$131,164).

The “Benchmark Cities Survey” managed by the Overland Park, KS police department captures information about 30 police departments in the U.S. on numerous variables. Community demographics, programs, administrative and operational information is self-reported by the departments and used as benchmarks to evaluate management functions. Overtime expense is one of the categories reported by these departments. The average overtime expense, as a percentage of personnel budget is approximately 3.5 percent. Of the departments in the survey, Cedar Rapids, IA has the lowest expense at 1.5 percent, and Fremont, CA has the highest percent at 6.2 percent. In 2012, The Bethlehem police department with a personnel budget of \$5,606,592 incurred \$569,554 in overtime. The overtime cost in the BPD, therefore, is 10.05 percent of personnel budget. This is more than three times greater than the average in the Benchmark Survey and 62 percent higher than the highest department in the survey. Applying the average benchmark from the Benchmark Cities Survey to Bethlehem, 3.5 percent of the \$5,606,592 personnel budget would be approximately \$196,000. The amount budgeted by the Town of Bethlehem is substantially higher than the expected overtime expenses and the department should be able to bring costs down consisted with this figure and within the budgeted amount.

During the previous 10 fiscal years overtime spending exceeded the overtime budget by a considerable margin. Table 4 illustrates BPD overtime spending over the last decade:

Table # 4 – Overtime 2005 through 2014

Year	Sworn Officers (end of year)	OT Hours	OT Budget	OT Spending	% Spending Over Budget
2005	39	10,238	\$375,000	\$413,919	10.4%
2006	39	11,123	\$400,000	\$486,477	21.6%
2007	41	11,185	\$425,000	\$513,849	20.9%
2008	41	11,454	\$400,000	\$557,181	39.3%
2009	39	11,159	\$450,000	\$553,789	23.1%
2010	40	11,464	\$449,680	\$569,300	26.6%
2011	40	11,695	\$500,300	\$592,300	18.4%
2012	36	11,006	\$439,943	\$569,554	29.5%
2013*	36	12,572*	\$439,129	\$666,211*	51.4%
2014	37	11,571	\$498,529	\$605,911	24.5%

* Note: 2013 OT is skewed by a single major overtime detail, where security was reimbursed by a private company. "Private duty" overtime is frowned upon by the State Comptroller and no longer permitted in Bethlehem.

In general, overtime expenses in the BPD appear very high. Considering the steady rise of the overtime expenditures over this 10 year period, there also does not appear to be any meaningful attempt to manage these expenses. Similarly, the amount of hours expended on overtime appear relatively constant, and except for calendar year 2013, the previous eight years are less than 10 percent deviation from the average annual number of hours.

Bethlehem is a low-crime community. The demographics of the town indicate a stable, homogenous, and affluent community that enjoys a high quality of life with a very low amount of crime and violence. While overtime is essential for the efficient operation of any police department, the overtime experience in the BPD indicates it is being mismanaged. Common sense and widely used policies can be implemented to reign-in these seemingly out-of-control expenses.

The BPD does not have an overtime control policy. Part of this analysis was to examine current overtime control policies and provide recommendations to strengthen those policies. An attempt was made to obtain the BPD overtime control policies and it was discovered that none existed. It is strongly recommended that a comprehensive overtime reduction policy be implemented in the BPD that accounts for the realities of police operations, the need for overtime to ensure efficient operations and the administration of justice. Fiscal responsibility and the judicious use of overtime expenses as a last resort should be the foundation of this policy and overtime should only be used once other measures have been implemented. The following information is provided to support the development and implementation of overtime control policies.

In general, the following policies should be adopted:

1. The practices on granting leave requests should be more flexible and consider operational needs of the department. The BPD should prohibit planned time off when it would create personnel levels to go below minimum staffing, thus requiring overtime (backfill). Officers should request leave at least two weeks in advance. The most senior officer, or the officer with the most urgent need for time off, should be granted leave. All others should be denied, although the Chief and his command staff would have discretion to offer leave if circumstances warranted.

Sergeants should be considered separately from officers when considering time off decisions. One sergeant must be assigned to patrol supervision at all times and leave should be granted primarily in consideration of whether another sergeant is available. Vacation selections should be taken by sergeants in a manner that provides the best possible supervision. To the greatest extent possible, the patrol commander should act as the patrol supervisor during sergeant vacation periods.

2. The BPD engages in the practice of paying overtime pay for "Line Ups." This practice should be revisited and an alternative method should be explored to create a more

efficient and cost-effective transition between shifts. The BPD could stagger the start times of personnel to ensure patrol is covered at all times.

3. As discussed in the previous section, fixed days off for patrol officers should be revisited. A more efficient and user-friendly schedule should be created that meets both the coverage needs for patrol and the officers working it.
4. The BPD should consider eliminating the “hard” minimum manning threshold for patrol. Targeted, or “soft” minimum staffing levels could be used instead of “hard” minimums. In other words, for the purposes of staffing shifts, every attempt should be made to ensure an appropriate minimum number of officers and supervisors are available. The current shift minimums are four sworn officers on each shift.
 - This should be changed to one sergeant and three officers per shift.
 - Every attempt should be made to adhere to this minimum staffing level and personnel should be assigned to accommodate this level. Days off should be granted in light of this minimum level. This minimum should be flexible and it should be permissible to go below these levels under certain circumstances (weekday midnight shifts for example, or holidays, or special events where multiple officers need leave for the same occasion, etc.)
5. Overtime spent to support training should be kept to a minimum.
6. Overtime for officers to appear at court should be managed aggressively. The BPD should have the authority to reschedule shifts for officers on patrol. Detectives should be required to adjust their shifts to appear in court on regular duty time.
7. Overtime for administrative activities should be prohibited.
8. Except in extreme emergencies, overtime should be prohibited for report writing.
9. The detective “call-out” policy should be revisited. Only in extreme emergencies should detectives be called to police incidents during their off-duty hours.
10. Every pay period information should be distributed to each supervisor reporting on the amount of overtime, and reasons for overtime, paid to officers under their supervision for the previous period. Supervisors should be held accountable to justify each expense, and be responsible for identifying and implementing measures to reduce future incidents of unnecessary overtime.
 - Adherence to overtime control policies, and fiscal responsibility should be included in the performance evaluations of sergeants and lieutenants.

11. A large category of overtime is used to backfill officers calling in sick. Examination of sick leave usage in BPD indicates a serious problem. In 2013, officers incurred over 5,086 sick hours, in 2014 there were over 4,500 hours of sick time used. This is more than the equivalent of 2 full-time police officer positions. All but one sworn member of the department call-out sick in 2013, and only three officer had zero sick incidents in 2014. The following table illustrates sick usage in the BPD in 2013 and 2014:

Table #5 – Sick Time Usage 2013 and 2014*

	2013		2014			
	days	Staff*	Avg. days	Days	Staff	Avg. days
Total Sick Time	635.8	30	21.2	565.6	33	17.1
w/o line of duty injury	563.8	30	18.8	546.0	33	16.5

*Only staff employed for the full year are included in the calculation, and the command staff (Chief and 2 Lieutenants) who are not eligible for overtime are not included.

The average sworn officer in 2013 used 21.2 sick days. Removing sick time for line-of-duty injuries reduces this to 18.8 days. The sick rate improved in 2014 with the average sick time of 17.1 incidents per officer, 16.5 incidents if line-of-duty injuries are removed. For 2013 and 2014, a special analysis was done to separate long-term injuries or illnesses that were not duty-related, because police officers with patrol duties cannot report for duty unless they are physically capable of it. For 2013, if long-term sick incidents resulting from off-duty injuries or surgeries are removed from the data, average sick time usage is reduced to 14.3 sick days per officer. In 2014, there were an unusually high number of long term sick incidents, including 7 incidents for various surgeries (357 days in total, or an average of 51 days per incident). If these are removed, the average drops to 7.1 days. While there is no “industry standard” on the use of sick leave for police departments, these figures appear high.

There appears to be a sick abuse issue in the BPD. Considering the “hard” minimums used for patrol staffing, sick time can drive up overtime costs. Similarly, the high amounts of overtime worked by officers could contribute to fatigue and compromising officer wellness, thus generating sick time. The specific dynamics of the sick time experience in the BPD is beyond the scope of this report, but it is problematic. It undoubtedly is a major driver of overtime and could also be a sign of poor morale, employee dissatisfaction and fatigue, and mismanagement, or all of the above.

12. An Overtime Equalization policy should be implemented, subjected to collective bargaining. Too much overtime worked by one individual could lead to performance problems.

- Overtime expenses should be distributed evenly throughout the department.
- A “rolling” 12-month period should be used to create a list of overtime earnings. This list should be then used to determine which officers are offered/ordered overtime, assigning it to the person on the list with the least amount worked in the previous 12-months.
- Officers in the top 50% of overtime earners from the previous 12 months should then be prohibited from working overtime in the 13th month.

There appears to be a pervasive culture of overtime use in the BPD. Staffing policies facilitate to the excessive use of overtime to support basic operations. There does not appear to be any semblance of basic management structures to minimize overtime expenses. Supervisors do not appear to be held accountable for overtime expenses. With reasonable and deliberate oversight overtime expense in the BPD could be cut 50 percent, and budgeted targets easily reached.

Implementation

In light of the observations made above the BPD made several important modifications to the patrol schedule, leave requests, and sick time policies. In general, these are excellent initial steps and the department and Town should be commended for these actions.

Patrol Staffing

As shown in the section on patrol staffing, the BPD implemented a 2015 patrol schedule designed to better match resources with service needs. This schedule, while not as efficient as it could be, was a step in the right direction, and provided more resources when they were needed. The busiest times of the day, under the 2015 schedule, have more officer working. Staffing levels were changed to provide an adequate minimum number of personnel every day, with adjustments to provide more officers working when they were needed most.

A sixth sergeant was added to the patrol schedule by reassigning the sergeant previously assigned solely to administrative functions. This is an excellent development from an operational perspective. Providing supervisory coverage on all shifts on patrol is essential and this will allow the BPD to provide this coverage more effectively. Reassigning the administrative sergeant also presents some challenges and opportunities for the BPD. Clearly, the functions performed in the administrative sergeants role need to be continued. It is recommended that the BPD explore the distribution of these functions throughout the department. In other words, do not replace this position, simply diffuse the duties and responsibilities of this position, as has already occurred with pistol permit review which was shifted to the Detectives Office. It is impossible to make concrete recommendations on which duties belong with which supervisor, but the opportunity presents itself for more supervisors to be engaged in the administration of the department.

As noted in the discussion above, the days off assigned to the sergeants on patrol do not maximize efficiency from a coverage standpoint. Adjustments could be made to the sergeants' schedule to improve coverage. The 2015 patrol schedule provides four of the six sergeants with part of the weekend off each week. While not optimal coverage-wise, the BPD should be commended for recognizing the quality of life needs of the sergeants in constructing the schedule. Alternative schedules may be even more effective at meeting quality of life needs.

Time-Off Requests

In December 2014 the BPD issued a memorandum requiring a more vigorous application of General Order 58 that governs requests for leave. Most notably, this order, in effect since 1990, mandates that vacation time will be granted only if it does not cause a personnel shortage. Through this memorandum, the BPD limits the granting of time off that would impact staffing minimums or create personnel shortages that would require overtime to remedy. This policy does not impact officers' ability to take sick leave or annual vacation leave, but it does balance the needs of the officers requesting leave with the operational needs of the department.

In consideration of the operational demands to provide coverage to Justice Court on Tuesdays and Wednesdays, the BPD issued a time off policy specifically for these days. Essentially,

officers are prohibited from taking occasional leave on Tuesdays during the C-Line (3pm to 11pm), or on Tuesdays during the B-Line (7am to 3pm) when Justice Court is in session if it incurs the payment of overtime. This policy does not apply to sick, emergencies, or annual leave requests for a week's vacation. It should be noted here that the patrol schedule was changed for the 2015 bid to provide for additional personnel scheduled during these same days and times. This not only provides personnel when they are needed but minimizes the need to deny requests for leave and pay overtime during these periods.

Overtime and Sick Time Control

The BPD is implementing an Overtime Reporting and Accountability Plan. This is another excellent development and the department should be commended for this effort. According to this plan, annual and monthly overtime targets are established, and BPD seeks to remain within those targets. Every two payroll periods the BPD overtime data is extracted for a comparison to targets. The Chief is required to report to the Town Board if the department does exceeds the target for any reporting period. In addition, the overtime report shows the broad categories of overtime expenses (minimum staffing, court appearances, court security, detectives, etc.). Disaggregating the data in this fashion will allow the BPD to focus its efforts on specific areas of activities that might be driving overtime expenses over the targeted amounts.

According to data obtained for the first two reporting periods under this plan indicate a 28% reduction in the number of overtime hours. In the eight-week period from January 11, 2015 to March 7, 2015 the BPD incurred 466 fewer hours of overtime (1,664.5 in 2014 compared to 1,198.5 in 2015). Translated into annual cost savings, based on these two weeks, the BPD is on target to save more than \$175,000 in overtime expenses.

Even with these impressive first steps, the BPD would still be considered spending more than expected on overtime as compared to departments in the Benchmark Cities Survey. The BPD, however, is saddled with restrictive scheduling and personnel practices. The nature of the patrol schedule, "hard" minimum staffing levels, line-up pay, and court security demands, will continue to drive much of the department's overtime costs. Undoubtedly, this is just the beginning of the process, and the measures recommended above will also be considered. BPD should continue to monitor overtime and seek ways to provide essential services more efficiently, without overtime.

This policy as implemented, however, will help the department break the culture of overtime abuse which seems to exist. There are sure to be "growing-pains" as the department and the officers adjust to the new policy, but the early signs are promising.

In light of the data on seemingly excessive sick leave usage, the BPD began to enforce policies already in existence. The core elements of the sick leave policy provided officers by contract was not changed. Officers are still entitled to unlimited sick leave (after two years of service) and may use that leave at their discretion. The BPD now requires that officers to provide written verification from the officer's physician when they use more than one sick leave day in any sick incident. The formal collective bargaining agreement between the Police Benevolent Association and the Town has such a provision, but the BPD is now enforcing this provision more aggressively.

Additional Recommendations for Consideration

In a very short time the BPD has made substantial improvements in operational and financial efficiency. There is potential, however, to make even greater improvements to BPD operations.

Making change in any organization is difficult. People prefer the status quo and developing and implementing new policies and procedures brings psychological and organizational discomfort. In order to minimize the adverse impacts of the changes necessary, it is recommended that the BPD work closely with the Town and its sergeants and officers. These changes and should be undertaken with the best interests of the community, the Department, and the officers in mind. The following items should be explored by the BPD:

- An alternative shift schedule should be explored.
- The practice of compensating officers with “line up pay” should be revisited.
- A full assessment of the organizational structure of the department should be made, focused on command and administration. The BPD should continue with the overtime reporting and accountability plan and expand the plan to include the practices recommended in the Overtime Control section of this port, as well as using the data to identify problematic practices.
- Overtime control should include a policy to equalize overtime across all personnel, with limits on the amount of overtime any one officer or sergeant can earn; this approach could help curtail fatigue and more broadly share the benefits and burdens of overtime among BPD sworn officers, and would be subject to collective bargaining constraints.
- Sick time control policy alternatives should be explored, consistent with collective bargaining constraints.
- Security management of the Justice Court should be evaluated. There could be physical and process improvements made to make security more efficient and effective.
- Hard and fixed minimums for patrol staffing should be re-visited with an eye towards making them variable (more officers on during peak service needs, less when the needs are less) and flexible to meet the needs of the department and the officers. This will require a more rigorous evaluation of service calls by type, time of day and location.

Continued implementation of the current steps taken by the BPD along with the recommendations above will substantially improve operations, lead to greater efficiency, and improve the quality of life for officers in the department at all ranks and seniority levels.