

Seattle, Washington

**ASSESSMENT OF
SWORN STAFFING NEEDS**

March 2016



BERKSHIRE ADVISORS, INC.
General Management Consultants



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To: Brian Maxey, COO, Seattle Police Department

From: Mike Walker, Berkshire Advisors, Inc.

Date: February 24, 2016

Subject: Berkshire Advisors Analysis of Seattle Police Department Staffing

The assessment of the Seattle Police Department's sworn staffing needs performed by Berkshire Advisors is summarized in the attached report. The analysis had three primary objectives:

- To evaluate the size of the patrol force
- To determine the appropriate balance and division of responsibilities between patrol and non-patrol functions
- To evaluate the staffing level used to support special events

The assessment Berkshire Advisors performed was focused primarily on 911 response, staffing levels of specific specialty units and proactive time and provided staffing recommendations for those functions. The results of this assessment should not be viewed as the "final word" relating to department staffing, but rather should be viewed as the first step in developing an understanding of current department resources and a starting point for determining what resources the department may need on an ongoing basis.

As department priorities, community expectations, financial resources, technology, and service demands change in the future, department staffing levels and allocations among units will need to be adjusted to reflect these changes. Berkshire recommends SPD build on the analytic tools and frameworks used to develop the staffing recommendations presented in this report and establish systemic approaches and models for evaluating staffing over time. If structured appropriately these approaches can be used to facilitate productive discussions about the costs and consequences of alternative staffing levels (and allocations among units) and support improved decision making about how best to utilize staffing resources to benefit the citizens of Seattle.

Berkshire recommends that SPD take a thoughtful approach to planning for how to increase department staffing. Care must be taken to ensure that the level of growth does not exceed the department's ability to effectively manage the additional staff into its ranks and that new staff are appropriately trained and supported.

In short, maximizing the value from this report will require the investment of thoughtful and consistent effort by department managers and staff. Making this investment, however, has the potential to help ensure the success of the Seattle Police Department for years to come.

I – INTRODUCTION

Seattle Police Department

ASSESSMENT OF SWORN STAFFING NEEDS

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I - INTRODUCTION

This introductory chapter briefly presents the objectives and scope of the sworn staffing assessment of the Seattle Police Department and the approach used to conduct it. It also presents the organization of this report.

PROJECT OBJECTIVES

The engagement had three primary objectives:

- To evaluate the size of the police patrol force
- To determine the appropriate balance and division of responsibilities between patrol and non-patrol functions
- To evaluate the staffing levels used to support special events

APPROACH

Both quantitative and qualitative analytic methods were used to conduct this study. Extensive interviewing was conducted within the Police Department. More than 115 interviews were conducted with department managers, supervisors, and line employees. Benchmark comparisons were made with other jurisdictions and an activity analysis survey was conducted to understand how much time patrol officers devote to administrative activities. In addition, the study team requested and reviewed a range of documents and data covering all areas of the Seattle Police Department's operations.

ARRANGEMENT OF THE REPORT

This report is divided into twelve chapters and five appendices.

- I – Introduction (this chapter)
- II – Executive Summary
- III – General Approach To Assessing Sworn Staffing Needs
- IV – Patrol Staffing Needed To Respond To Calls-For-Service
- V – Staffing Needed To Handle Low Frequency Incidents Requiring A Skilled Response
- VI – Investigative Staffing
- VII – Staffing For Other Functions
- VIII – Proactive Staffing Needs
- IX – Civilianization Analysis
- X – Special Events Staffing

XI – Staffing Summary

Appendix A – Benchmark Results

Appendix B – Approach To Adjusting Staffing To Account For Expected Absences

Appendix C – Activity Analysis Survey Results

Appendix D – Current Calls-For-Service Response Times

Appendix E – Speed Of Response Assessment

II – EXECUTIVE SUMMARY

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This chapter summarizes the results of an assessment of the Seattle Police Department's sworn staffing needs. The engagement had three primary objectives: to evaluate the size of the police patrol force; to determine the appropriate balance and division of responsibilities between patrol and non-patrol functions; and to evaluate the staffing levels used to support special events.

This executive summary is divided into nine parts: general approach to assessing sworn staffing needs; patrol staffing needed to respond to calls-for-service; staffing needed to handle low frequency incidents requiring a skilled response; investigative staffing; staffing for other functions; proactive staffing needs; civilianization analysis; special events staffing; and staffing summary.

A – GENERAL APPROACH TO ASSESSING SWORN STAFFING NEEDS

In general, there are four ways that police departments create value:

- **Responding.** Respond to requests for assistance from residents and businesses.
- **Being proactive.** Work proactively to reduce crime, improve quality of life, and enhance perceptions of safety and security.
- **Providing direct support.** Perform functions that directly support efforts to provide responsive or proactive services.
- **Providing indirect support.** Perform functions that indirectly support the department's overall operations.

How a department allocates its resources among proactive and responsive activities defines its priorities and reinforces its policing philosophy. By clearly communicating the relative effort that should be devoted to both responsive and proactive activities the department's ability to preserve its proactive capabilities will be enhanced. The analysis presented in this report assumes that the Seattle Police Department should devote equal effort to addressing proactive and responsive needs. This balance reflects the department's commitment to responding effectively when residents request assistance and to taking proactive steps to reduce crime, enhance perceptions of safety and security, and improve quality of life.

When evaluating the staffing needed to support responsive activities the relationship between workload, service levels, and staffing must be defined. A range of analytic approaches can be used to define these relationships including queuing analysis, travel time analysis, workload analysis, and productivity analysis.

The process of determining how staff resources should be allocated to support proactive initiatives is more complex for three primary reasons. First, the range of proactive services a department provides is more closely linked to its mission and policing priorities than is the case for responsive services. Second, the relationship between staffing levels and results is more difficult to articulate for proactive functions than for responsive services. Third, the choices that must be made when determining the level

of staffing needed to support proactive services are less straightforward than the choices that must be made when evaluating responsive staffing needs. The key question that affects resource needs for responsive services is what level of service should be provided. For proactive services, by contrast, choices must be made about whether and how much service should be provided for a broad range of disparate services ranging from creating additional patrol visibility to supporting community outreach to addressing narcotics activities.

The systematic approach that Berkshire Advisors takes to addressing these qualitative issues includes a number of steps.

- Step 1: Establish an appropriate unit of analysis
- Step 2: Make an initial allocation of proactive resources
- Step 3: Develop a framework for assessing the value created by officers assigned to each proactive function
- Step 4: Use the framework to adjust the current allocation of officers assigned to proactive functions based on the overall resources available to support proactive functions

Please note that some functions – most notably patrol – include both responsive and proactive elements. To assess the staffing for these functions both the capacity needed to meet responsive service expectations and the staffing needed to support proactive initiatives must be considered.

B – PATROL STAFFING NEEDED TO RESPOND TO CALLS-FOR-SERVICE

Patrol staffing needed to respond to calls-for-service have been evaluated using two scenarios. Under the first scenario (Scenario A) a range of approaches to handling calls are employed including: sworn patrol officers respond to calls on demand (that is, when the call is received); sworn officers respond to calls on a scheduled basis; civilians respond to calls on demand; civilians respond to calls on a scheduled basis; and calls are handled by telephone. Under the second scenario (Scenario B) sworn patrol officers respond to all calls when received except for calls that are handled by telephone.

Either of the two staffing scenarios will require a significant increase over the 488 positions currently assigned to patrol who are primarily responsible for handling calls. Scenario A will require 551.8 full-time and overtime FTEs¹ (of which 539 are sworn officers).

¹ As discussed in Appendix B, it is cost-effective to use overtime for a large portion of the staffing needed to account for expected absences.

	Full-Time	Overtime FTEs	Total
Patrol (Sworn)	429.0	97.4	526.4
TRU (Sworn)	9.0	3.6	12.6
<i>Subtotal Sworn</i>	<i>438.0</i>	<i>101.0</i>	<i>539.0</i>
Civilian	9.0	3.8	12.8
Total (All Staff)	447.0	104.8	551.8

Scenario B will require 576.8 sworn full-time and overtime FTEs.

	Full-Time	Overtime FTEs	Total
Patrol (Sworn)	461.0	103.2	564.2
TRU (Sworn)	9.0	3.6	12.6
Total	470.0	106.8	576.8

C – STAFFING NEEDED TO HANDLE LOW FREQUENCY INCIDENTS REQUIRING A SKILLED RESPONSE

The Seattle Police Department performs a number of functions that occur relatively infrequently but require a specialized response. These functions/units include the arson bomb squad; SWAT; canine; the force investigation team; crime scene investigations; and the mounted unit. The challenge in staffing such functions is to balance the need for a fast response against the cost of deploying full-time staff who may not be highly utilized.

ARSON BOMB SQUAD (ABS)

Given that an estimated three out of five bomb call outs occur during hours ABS staff are not scheduled to work, deploying trained ABS technicians on all three shifts would be more cost-effective than maintaining a full-time bomb response capacity. Doing so would reduce the costs of paying ABS staff to be on-call and would allow the department to make better use of the capabilities of these officers when not responding to incidents. Please note that because the number of officers assigned to the unit is relatively small options for assigning additional productive activities to unit staff are limited.

Even after this recommendation is implemented some full-time ABS staffing should be retained. Two positions should be retained on the current schedule to conduct follow-up arson investigations (1.2 FTEs) and to maintain equipment and conduct FIT testing of respirators (.6 FTEs). In addition, one sergeant should be retained to coordinate training. The other sergeant and four officers should be deployed across the first and third watches. These staff should be available to participate in training when it is scheduled. They should also share the remaining "on call" responsibilities with the full-time ABS staff.

SWAT

The department's current SWAT capacity (when all positions are filled) – 4 sergeants and 24 officers – is appropriate. On the basis of workload alone, however, maintaining a full-time SWAT capacity is not warranted. From January 1, 2014 to November 27, 2014

there were 103 SWAT events or an average of about one every three days (.31 incidents per day). While this information might suggest that maintaining full-time SWAT capacity is not needed, the costs of SWAT team down time can be mitigated if that downtime is used to support proactive initiatives such as emphasis patrols. To justify current levels of staffing managers should ensure that SWAT team members spend a high percentage of their time (for example, 80 percent) supporting proactive initiatives when not handling SWAT emergencies and training.

CANINE

An analysis of average incidents per dog/handler team suggests that the department has done a very good job of varying the number of teams deployed to match expected workload. Queuing analysis indicates, however, that at current staffing levels (nine canine officers deployed) the department falls short of ensuring that a canine officer will be available when needed 90 percent of the time (during the hours of the day the volume of canine calls justifies canine deployment). If one additional dog/handler team were assigned to each shift, however, the department would substantially increase the likelihood that a team will be available when requested.

No additional staffing, however, is needed to increase the number of canine teams deployed. If the dogs trained for explosive detections are also trained to perform tracking and these dog/handler teams are assigned to the canine unit, the unit will have the recommended 12 teams when the dog/handler team currently in training is deployed.

FORCE INVESTIGATION TEAM (FIT)

The Force Investigation Team's workload is both sporadic and intensive. From January 14, 2014 to February 25, 2015, the Force Investigation Team investigated 51 incidents or one every 8.2 days on average. When an incident takes place, however, both the initial response and the follow up require intensive effort. Given the sporadic and intensive nature of the unit's work it is not surprising that unit staff report working up to 36 hours straight during some periods and experiencing significant lulls during other periods.

The department should consider two options to addressing the sporadic yet intensive nature of the FIT workload. First, the department should explore assigning FIT officers to conduct long-term investigations – such as fraud and forgery – that are capable of being interrupted. Conducting these investigations would allow FIT investigators to make effective use of their time when not conducting a force investigation. In addition, more officers and supervisors should be trained to support the FIT team (to reduce the frequency with which officers and supervisors must be on call and to provide support during periods of intensive activity).

CRIME SCENE INVESTIGATIONS (CSI)

Analysis suggests that the CSI unit employs more staff than are needed to handle its expected workload. Six CSI detectives are currently assigned to the unit but the analysis suggests that, at most, four detectives are needed. Two of the six CSI detectives should therefore be reassigned.

Please note that one problem with reducing CSI staffing is that doing so increases the frequency with which staff must be on call. One way to address this would be to train two additional sergeants (for a total of three) and two additional detectives to process scenes and to include these staff in the on-call rotation.

MOUNTED UNIT

The Seattle Police Department currently deploys a small mounted unit. Whether the department should continue to invest in the cost of maintaining a mounted unit depends in large part on whether the department perceives that the value created at the events to which the unit is deployed justify its costs.

Different departments perceive the value of mounted units differently. Six of the benchmark departments (Omaha, NE; Atlanta, GA; San Francisco, CA; Portland, OR; Raleigh, NC; and Denver, CO) deploy full-time dedicated mounted units while five of the benchmark departments (Aurora, CO; Fresno, CA; Long Beach, CA; Mesa, AZ; and Wichita, KS) do not.

D – INVESTIGATIVE STAFFING

To assess investigative staffing, the productivity of the individual investigative staff assigned to each unit was evaluated, as was the productivity of individual investigative units over time. The analysis of investigative productivity over time did not suggest the need to modify investigative staffing. Trends were difficult to discern, however, since only five years of data were available. Likewise, analysis of individual investigator productivity in each investigative unit did not support adjusting unit staffing.

Two investigative areas – auto theft and burglary – were highlighted as areas where investigative performance should improve. In both areas, the department's current performance is substantially lower than the national average and the average of the benchmark departments used for comparison.

- **Auto theft.** If the department were to increase its clearance rate to the average of the benchmark departments (10.4 percent) 304 additional clearances will be required. Assuming the auto theft unit is able to continue to maintain a standard of 80.0 positive outcomes per detective 3.8 additional detectives would be needed. Increasing the department's clearance rate to the national average in 2013 (14.2 percent) would require 509 additional clearances and 6.36 additional detectives.
- **Burglary theft.** Six additional detectives (5.89 detectives rounded up) are needed to clear the 502 additional cases needed to achieve the national average clearance rate of 13.1 percent. Five additional detectives (4.21 detectives rounded up) are needed to clear the additional 360 cases needed to achieve the average clearance rate of the benchmark departments of 11.1 percent.

E – STAFFING FOR OTHER FUNCTIONS

This section summarizes the assessment of staffing needs for a number of additional functions: harbor patrol; real time crime center; training; and audit.

HARBOR PATROL

Harbor Patrol staff currently are assigned to 24-hour shifts that rotate days off as follows: one day on, one day off, one day on, five days off. Based on this schedule one squad – typically one sergeant and six officers – is on duty each 24-hour shift.

Given that officers do not patrol between the hours of 10:00 p.m. and 8:00 a.m. and the number of calls responded to during these hours is extremely low it does not seem necessary to staff the Harbor Patrol 24 hours a day. Only .13 CAD calls are responded to per hour on average from 1:00 a.m. to 7:00 a.m. and even during the relatively busy month of August only .19 CAD calls are responded to during these hours.

The Harbor Patrol can maintain its current coverage by deploying four officers in two two-officer patrol boats 18 hours a day (on two shifts from 7:00 a.m. to 4:00 p.m. and from 4:00 p.m. to 1:00 a.m.). To achieve this level of coverage six officers should be assigned to each of the two shifts. After adjusting for expected absences (a relief factor of 1.31 was calculated based on Harbor Patrol officer absences) eight officers should be assigned to each shift. Under this scenario, two sergeants and seven officers would be available for redeployment.

REAL TIME CRIME CENTER

Recommended staffing of the real time crime center assumes that three officers should be deployed during the day shift and that two officers should be deployed during the evening and night shifts. To ensure these positions are filled 24-hours a day seven days a week 15 officers should be assigned to the unit.

TRAINING

To assess the number of staff needed to support training a model for determining training staffing needs as training requirements change was developed. The model calculates the staffing needed to both develop curriculum and provide instruction. Inputs into the staffing model should be modified over time to reflect the actual time required to develop curriculum and deliver instruction.

AUDIT

The workload of the audit unit has grown and is likely to continue to grow. In particular, the consent decree has significantly increased the unit's workload. Of the 79 audits that are expected to be completed in the coming year 35 (44.3 percent) are directly or indirectly related to the consent decree.

Even with this increase in workload the audit unit has the capacity to meet its requirements. To prepare for and to complete these audits and perform special request audits 6,958 hours are required and the audit unit's current capacity is 7,349 hours. However, potential future audits relating to complaints, pursuits, use of vehicles, travel expenses, and overtime could require 800 hours of audit time. If these audits are required additional part-time assistance will be required.

F – PROACTIVE STAFFING NEEDS

The evaluation of the department's proactive staffing needs is divided into three parts. First, the department's current allocation of staff between proactive and responsive capacity is assessed. This assessment concludes that the department currently devotes 41.3 percent of sworn officers to proactive activities and 46.9 percent to responsive activities. (The remaining 11.8 percent of sworn staff are assigned to indirect support activities.) Next, the overall level of staffing that is needed if the department is to achieve its goal of devoting the same resources to proactive and responsive needs is evaluated. This analysis indicates that after the recommendations presented in this report are implemented 597.0 FTEs will be allocated to responsive activities and 422.8 FTEs will be allocated to proactive activities. If the department is to allocate the same resources to proactive activities as responsive activities 174.2 additional proactive FTEs will be needed. Finally, an assessment is made of how to allocate these additional proactive staff. Based on an evaluation of department priorities a recommended distribution of additional staff by unit/function was developed. This recommendation is summarized in the following table.

Unit	Additional Officers
Patrol	148.2
Burglary/Theft	8.0
Gang Squads	4.0
Internet Crimes Against Children	3.0
Homicide/Assault	2.0
Robbery	2.0
West Precinct (Department Of Corrections Assistance)	2.0
Gang Intelligence	1.0
Human Trafficking	1.0
Major Crimes Task Force	1.0
Street Vice	1.0
Vice (General Investigations)	1.0
Total	174.2

G – CIVILIANIZATION ANALYSIS

An evaluation framework was developed and used to systematically determine which functions currently performed by sworn officers could be assigned to civilians. The analysis indicates that the department should consider assigning civilians to perform the following functions: cyber crimes support/real time crime center; technical electronic support; Office of Professional Accountability intake; Office of Professional Accountability investigations; false alarm; Project "if"; background investigations; crime scene investigations; special events planning support; APRS management; audit; training – curriculum development (writing); and polygraph.

The analysis also suggests that some functions should be performed by a mix of civilians and sworn officers: public information officer; training – instructional delivery; crime analysts; and policy.

H – SPECIAL EVENTS STAFFING

The department devotes extensive resources to supporting special events. A review of Incident Action Plans (IAPs) for 39 special events from January 14, 2014 until April 14, 2015 indicates that 34,438 hours (or the equivalent of 16.6 full-time positions working 2,080 hours a year) were devoted to supporting 29 IAP special events in 2014 and 12,195 hours (or the equivalent of 5.9 full-time positions working 2,080 hours a year) were devoted to supporting 10 IAP special events from January 1, 2015 to April 12, 2015. Events for which IAPs are prepared, however, comprise only a small proportion of the events the department supports.

This analysis suggests that with the exception of specialized units such as SWAT, mounted, canine, and traffic the department should primarily use overtime to support special events. Assigning these specialized units to support special events is appropriate because one of the primary purposes for maintaining these specialized units is to retain the capacity to support infrequent incidents that require specialized skills. By contrast, for patrol officers assigned to functions such as CPT, ACT, and bikes, supporting special events diverts resources (and management attention) from on-going proactive initiatives. Moreover, if patrol officers who answer calls are used to support special events, the department will not be able to meet service expectations. Given the infrequency of special events, and the intensity of resources needed to support them, using overtime to support special events is appropriate.

I – STAFFING SUMMARY

To achieve a seven-minute response time to Priority One calls 90 percent of the time while also providing the resources for the department to devote equal resources to proactive and responsive activities an increase of 175 positions is recommended. In addition, the equivalent of 107.14 FTEs in overtime hours will be needed. Please note that these staffing recommendations assume that all calls except those currently handled by telephone will continue to be responded to by sworn officers on an on demand basis (Patrol Staffing Scenario B).

Unit/Function	Current Staffing(a)	Recommended FTEs	Addition/ (Reduction) In FTEs	Recommended Overtime Hours Shown As FTEs(b)
Arson/Bomb	6.00	2.00	(4.00)	0.00
Auto Theft	4.00	11.00	7.00	0.00
Burglary Theft	20.00	34.00	14.00	0.00
Canine	11.00	12.00	1.00	0.00
Crime Scene	6.00	4.00	(2.00)	0.14
Gang Intelligence	1.00	2.00	1.00	0.00
Gang Squads	12.00	16.00	4.00	0.00
Harbor Patrol	16.00	12.00	(4.00)	0.00
Homicide/Assault	16.00	18.00	2.00	0.00
Human Trafficking	1.00	2.00	1.00	0.00
Internet Crimes Against Children	7.00	10.00	3.00	0.00
Major Crimes Task Force	6.00	7.00	1.00	0.00

Unit/Function	Current Staffing(a)	Recommended FTEs	Addition/ (Reduction) In FTEs	Recommended Overtime Hours Shown As FTEs(b)
Patrol (Call Response)	482.00	461.00	(21.00)	103.20
Patrol (Proactive)	108.00	256.00	148.00	0.20
Real Time Crime Center(c)	3.00	15.00	12.00	0.00
Robbery	8.00	10.00	2.00	0.00
Street Vice	5.00	6.00	1.00	0.00
SWAT	21.00	24.00	3.00	0.00
Telephone Response	6.00	9.00	3.00	3.60
Vice (General Investigations)	3.00	4.00	1.00	0.00
West Precinct (Department Of Corrections Assistance)	2.00	4.00	2.00	0.00
Total	744.00	919.00	175.00	107.14

(a) Staffing as of June 2015.

(b) One overtime FTE equates to 2,080 hours of overtime; the total number of overtime hours recommended is approximately 250,000 hours.

(c) Some of these positions may be civilians.

**III – GENERAL APPROACH TO
ASSESSING SWORN STAFFING NEEDS**

III – GENERAL APPROACH TO ASSESSING SWORN STAFFING NEEDS

The approach to evaluating sworn staffing needs has been tailored to reflect the consultant's understanding of the Seattle Police Department and its needs. The approach is also consistent with the department's emphasis on using data to drive decision-making. In addition, while the approach is analytically sophisticated, interviews with department managers suggest that they will be able to use and apply the approaches that have been developed.

This description of Berkshire Advisors' general approach to assessing sworn staffing needs is divided into four parts: the challenge; allocating resources among proactive and responsive activities; evaluating the staffing needed to perform responsive activities; and evaluating the staffing needed to support proactive initiatives.

The Challenge

Police departments perform a broad range of functions and provide a wide range of services. Conceptually, resources should be allocated so that reallocating an officer from any unit to any other unit will reduce the overall value the department creates. To use an economic term the goal is to create *pareto optimal* conditions or conditions where it is impossible to make one individual better off without making at least one individual worse off. While easy to articulate, implementing this principle in police departments is difficult for two reasons. First, for some functions results (and therefore value) are difficult to measure. In addition, comparing value for the wide variety of functions police departments perform is difficult.

Allocating Resources Among Proactive And Responsive Activities

In general, there are four ways that police departments create value:

- **Responding.** Respond to requests for assistance from residents and businesses
- **Being proactive.** Work proactively to reduce crime, improve quality of life, and enhance perceptions of safety and security
- **Providing direct support.** Perform functions that directly support efforts to provide responsive or proactive services¹
- **Providing indirect support.** Perform functions that indirectly support the department's overall operations²

¹ Note that direct support activities are not a primary driver of department needs – rather these activities affect the efficiency and effectiveness with which responsive and proactive functions are performed.

² The need for indirect support activities is determined in large part (but not exclusively) by the number of officers needed to perform responsive and proactive functions.

How a department allocates its resources among proactive and responsive activities defines its priorities and reinforces its policing philosophy. Establishing a linkage between resources devoted to addressing proactive and responsive initiatives also helps to protect the department's ability to perform proactive functions. In many organizations when resources are scarce responsive staffing needs tend to "drive out" proactive activities. By clearly communicating the relative effort that should be devoted to both responsive and proactive activities the department's ability to preserve its proactive capabilities will be enhanced.

The analysis presented in this report assumes that the Seattle Police Department should devote equal effort to addressing proactive and responsive needs. This balance reflects the department's commitment to responding effectively when residents request assistance and to taking proactive steps to reduce crime, enhance perceptions of security, and improve quality of life.

Evaluating The Staffing Needed To Support Responsive Activities

When evaluating the staffing needed to support responsive activities the relationship between workload, service levels, and staffing must be defined. A range of analytic approaches can be used to define these relationships.³

- **Queuing analysis.** Queuing analysis calculates the resources needed to provide timely response to service demands. For a given level of service demand, queuing analysis calculates estimated wait times (if any) associated with the number of servers (officers) available to address that demand
- **Travel time analysis.** Travel time analysis calculates the time required to travel to a location based on the geographic size of the area and the number of units available for response
- **Workload analysis.** Workload analysis calculates the resources needed to complete a given body of work where each increment of work requires a similar level of effort to complete
- **Productivity analysis.** Productivity analysis focuses on determining the productivity one can reasonably expect from an employee and applies that standard when evaluating staffing needs

Evaluating The Staffing Needed To Support Proactive Initiatives

The process of determining how staff resources should be allocated to support proactive initiatives is more complex than the process used to evaluate the staffing needed to support responsive activities for a number of reasons. First, the range of proactive services a department provides is more closely linked to its mission and policing priorities than is the case for responsive services. For key responsive services (e.g., response to calls-for-service and follow-up investigations of reported crime) most police departments provide similar services and the level of service provided is comparable

³ These approaches can also be used to evaluate staffing needs for some administrative (indirect support) functions.

(within broad parameters). What proactive services are provided and the emphasis that is placed on these services, by contrast, can vary more dramatically across departments.

In addition, the relationship between staffing levels and results is more difficult to articulate for proactive functions than for responsive services. While the relationship among service demand, service expectations, and staffing needs can be rigorously examined for most responsive services, for proactive services, not only is the relationship between input and output more difficult to define but outputs are difficult to measure.

Furthermore, the choices that must be made when determining the level of staffing needed to support proactive services are less straightforward than the choices that must be made when evaluating responsive staffing needs. The key question that affects resource needs for responsive services is what level of service should be provided. For proactive services, by contrast, choices must be made about whether and how much service should be provided for a broad range of disparate services ranging from creating additional patrol visibility to supporting community outreach to addressing narcotics activities.

The systematic approach that Berkshire Advisors takes to addressing these qualitative issues includes a number of steps.

- **Step 1: Establish an appropriate unit of analysis.** Ideally, an analysis of proactive staffing needs should focus on proactive results achieved. The problem with this approach, however, is that some of the results achieved by proactive units are difficult to measure. Moreover, even when the results achieved are relatively easy to quantify, comparing the value created by these results is difficult. So as not to get bogged down by efforts to quantify and compare unit results, for the purposes of this assessment the results achieved by a “productive” employee will be used as a focal point of the analysis.
- **Step 2: Make an initial allocation of proactive resources.** This allocation is based on the current allocation of resources among proactive functions in the Seattle Police Department.
- **Step 3: Develop a framework for assessing the value created by officers assigned to each proactive function.** Decision makers were asked where they would assign additional allocations of officers (if additional staff resources were available) and where they would delete officers from existing proactive uses.
- **Step 4: Use the framework to adjust the current allocation of officers assigned to proactive functions based on the overall resources available to support proactive functions.** If opportunities to reduce officers from existing proactive uses are identified these officers can be reassigned to higher value proactive uses.

**IV – PATROL STAFFING NEEDED
TO RESPOND TO CALLS-FOR-SERVICE**

IV – PATROL STAFFING NEEDED TO RESPOND TO CALLS-FOR-SERVICE

Patrol staffing needed to respond to calls-for-service have been evaluated using two scenarios. Under the first scenario (Scenario A) a range of approaches to handling calls are employed including: sworn patrol officers respond to calls on demand (that is, when the call is received); sworn officers respond to calls on a scheduled basis; civilians respond to calls on demand; civilians respond to calls on a scheduled basis; and calls are handled by telephone. Under the second scenario (Scenario B) sworn patrol officers respond to all calls when received except for calls that are handled by telephone.

A – PATROL STAFFING NEEDS UNDER SCENARIO A

Five approaches to responding to calls are incorporated into the staffing analysis for Scenario A:

- Sworn patrol officers respond to calls on demand (that is, when the call is received)
- Sworn officers respond to calls on a scheduled basis
- Civilians respond to calls on demand
- Civilians respond to calls on a scheduled basis
- Calls are handled by telephone

To determine the number of calls that should be included in each category of response CAD data for the period from January 1, 2014 to December 31, 2014 were used. First, citizen initiated calls were differentiated from other calls based on how calls were received. (Citizen initiated calls included: 911; alarm; in person complaint; telephone other (not 911); and police alarm.¹) In total 238,712 citizen initiated calls were included in the analysis. Next, feedback from the department was used to determine how many calls should be assigned to each response category. As the following table shows, even if alternative response approaches are employed the vast majority of calls (72.8 percent) will continue to be responded to on an on demand basis by sworn officers.

Response Category	Number Of Citizen Initiated Calls	Percent Of Citizen Initiated Calls
On Demand Sworn Response	173,670	72.8%
Scheduled Sworn Response	18,342	7.7%
On Demand Civilian Response	28,666	12.0%
Scheduled Civilian Response	8,634	3.6%
Telephone Response	9,400	3.9%
Total	238,712	100.0%

¹ Only Priority One through Priority Five calls were assumed to be citizen initiated calls. In addition, calls that are not handled by patrol officers – such as “request for detox”- were excluded from the analysis. (These calls account for fewer than .01 percent of all citizen initiated calls.)

Exhibit IV-1 summarizes the number of calls in each response category by precinct.

Please note that if not enough calls are received to support cost-effective use of a specific response approach for specific hours in selected precincts the analysis assumes that these calls will be handled by sworn officers on an “on demand” basis. For example, the analysis suggests that it is only cost-effective to deploy civilians to handle on demand calls from 7:00 a.m. to 11:00 p.m. in the East and North precincts and from 7:00 a.m. to 3:00 p.m. in the South and West precincts. At other times – when it is not cost-effective to deploy civilians to provide on demand response – sworn patrol officers will handle the calls that would otherwise be handled by civilians. In addition, the analysis indicates that it is only cost-effective to staff the telephone report unit (TRU) Mondays through Fridays from 7:00 a.m. to 11:00 p.m. Calls that can be handled by telephone that are received at times the TRU is not staffed will be scheduled for a response on the following TRU shift.

The analysis of patrol staffing needs is divided into a number of parts:

- Part A – Determine the number of staff needed to handle calls by telephone
- Part B – Determine the number of staff needed to meet service expectations for each response category
- Part C – Develop schedules
- Part D – Adjust staffing to account for expected absences

A discussion of each element of the analysis follows.

PART A – DETERMINE THE NUMBER OF STAFF NEEDED TO HANDLE CALLS BY TELEPHONE

The analysis of the number of staff needed to handle calls by telephone is divided into three steps.

- **Step 1: Determine the number of citizen initiated calls received by hour of the day that can be handled by telephone.** The number of citizen initiated calls received by hour of the day that can be handled by telephone is presented in Exhibit IV-2.
- **Step 2: Use queuing analysis to determine the number of staff needed to handle calls by telephone.** The number of staff needed to handle calls by telephone assuming wait times will not exceed seven minutes is presented in Exhibit IV-3. As the exhibit indicates, it is only cost-effective to staff the TRU on Monday through Friday between the hours of 7:00 a.m. and 11:00 p.m. Please note that some overtime will be needed on Mondays to provide scheduled telephone response to calls received over the weekend.
- **Step 3: Develop schedule and calculate staffing needed after adjusting for expected absences.** To meet service expectations 5 TRU officers need to be deployed from 7:00 a.m. to 3:00 p.m. on Monday through Friday and 4 TRU officers need to be deployed from 3:00 p.m. to 11:00 p.m. on Monday through Friday. As the

**CITIZEN INITIATED CALLS BY HOUR OF THE DAY THAT CAN BE
HANDLED BY TELEPHONE**

Hour	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Total
0	4	4	1	3	6	3	9	30
1	9	3	0	0	2	3	9	26
2	1	1	2	1	1	2	5	13
3	1	0	0	0	1	0	4	6
4	1	0	0	1	0	0	2	4
5	0	1	0	1	1	1	2	6
6	1	18	13	14	16	13	2	77
7	8	206	124	107	105	82	5	637
8	11	214	147	116	138	115	8	749
9	14	235	157	146	155	117	19	843
10	22	204	165	123	143	128	12	797
11	19	139	187	136	129	129	15	754
12	15	129	147	124	150	102	22	689
13	11	112	113	110	122	102	17	587
14	12	109	123	116	124	117	12	613
15	9	194	145	170	121	160	10	809
16	5	139	106	139	110	136	3	638
17	5	124	119	127	103	117	10	605
18	4	112	95	84	81	100	5	481
19	6	69	78	78	69	54	5	359
20	1	55	65	86	73	66	4	350
21	5	33	44	51	47	35	4	219
22	3	9	13	15	13	12	3	68
23	3	1	3	8	11	8	6	40
Total	170	2,111	1,847	1,756	1,721	1,602	193	9,400

TELEPHONE REPORT UNIT STAFFING BY HOUR

Hour	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0
15	0	5	4	4	4	4	0
16	0	4	3	4	3	4	0
17	0	4	4	4	3	4	0
18	0	4	3	3	3	3	0
19	0	3	3	3	3	3	0
20	0	3	3	3	3	3	0
21	0	3	2	3	2	2	0
22	0	2	2	2	2	2	0
23	0	0	0	0	0	0	0

following table shows, a total of 12.6 FTEs (including full-time and overtime²) are needed to ensure these positions are filled.

Shift	Full-Time	Overtime	
		FTEs	Total
7:00 a.m. to 3:00 p.m.	5.0	2.0	7.0
3:00 p.m. to 11:00 p.m.	4.0	1.6	5.6
Total	9.0	3.6	12.6

PART B – DETERMINE THE NUMBER OF STAFF NEEDED TO MEET SERVICE EXPECTATIONS FOR EACH RESPONSE CATEGORY

This analysis is divided into two parts – the analysis of the number of sworn patrol officers and civilians needed to provide scheduled response and the analysis of the number of sworn officers and civilians needed to provide on demand response.

Analysis Of The Number Of Sworn Patrol Officers And Civilians Needed To Provide Scheduled Response

This analysis is divided into five steps.

- **Step 1: Determine response expectations.** This analysis assumes that a scheduled response will be provided within 24 hours. Please note that if the citizen is not available during the hours officers/civilians provide scheduled response the call should be handled on an on demand basis.
- **Step 2: Determine the number of citizen initiated calls on each shift that can be scheduled and which of these calls can be handled by sworn or civilian staff.** The number of calls in each precinct that can be handled by sworn or civilian staff on a scheduled basis is summarized in the following table.

Precinct	Scheduled Sworn Response	Scheduled Civilian Response	Total Scheduled
East	2,727	1,352	4,079
North	7,348	2,864	10,212
South	3,044	1,357	4,401
Southwest	2,006	1,028	3,034
West	3,186	2,030	5,216
Total	18,311	8,631	26,942

- **Step 3: Calculate the number of productive hours sworn and civilian staff can handle scheduled calls.** The activity analysis survey³ estimates that sworn patrol officers devote 16.78 percent of their time to general administrative and other activities. Assuming sworn and civilian staff who provide scheduled response to calls

² As discussed in Appendix B, it is cost-effective to use overtime for a large portion of the staffing needed to account for expected absences.

³ The results of an activity analysis survey that asked patrol officers to estimate how much time they currently devote to various activities is presented in Appendix C.

spend similar percentages of their time on these activities sworn officers (who work nine-hour shifts) will have 7.49 hours per shift to handle scheduled calls and civilians (who work eight-hour shifts) will have 6.66 hours to handle scheduled calls.

- **Step 4: Calculate the total hours of schedulable calls.** The number of hours of schedulable calls for sworn officers and civilians in each precinct is summarized in Exhibit IV-4. This analysis assumes that each call requires 62 minutes (including travel time).
- **Step 5: Determine the number of sworn officers and civilians that should be deployed in each precinct to handle schedulable calls.** As the following table shows, in all but one of the precincts the number of schedulable calls that can be handled by civilians is too low to justify deploying a full-time position to handle these calls.

Precinct	Sworn	Civilian	Total
East	1	0	1
North	3	1	4
South	2	0	2
Southwest	1	0	1
West	1	0	1
Total	8	1	9

The sworn officers who handle schedulable calls will, however, have the capacity to handle some of the schedulable calls that would otherwise be handled by civilians. Indeed, as Exhibit IV-5 shows, after sworn response to these calls is considered only a few schedulable calls will remain at recommended staffing levels.

Analysis Of The Number Of Sworn Officers And Civilians Needed To Provide On Demand Response

This analysis is divided into eight steps.

- **Step 1: Determine response expectations.** After discussions with department managers the following standards for response to citizen initiated calls for which an on demand response is warranted were established: respond to Priority One calls within 7 minutes 90 percent of the time and respond to Priority Two calls within 15 minutes.^{4 5}
- **Step 2: Determine the number of on demand calls, by priority, to be handled in each precinct.** Exhibit IV-6 summarizes the number of on demand calls, by priority, that will be handled in each precinct.

⁴ As discussed in Appendix D, these response times reflect a significant improvement over current response times.

⁵ No explicit response expectation was established for Priority Three and Four calls. However, at the staffing levels needed to meet the response expectations for Priority One and Two calls, all Priority Three and Four calls will be responded to within 30 minutes.

HOURS OF SCHEDULABLE CALLS BY PRECINCT

Precinct	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
East							
Sworn	7.4	8.1	7.0	7.7	7.3	8.5	6.4
Civilian	3.1	4.4	3.8	3.7	3.4	3.7	4.0
Subtotal East	10.5	12.5	10.8	11.4	10.7	12.2	10.4
North							
Sworn	19.0	22.1	20.8	20.1	20.1	20.7	18.5
Civilian	7.2	7.8	8.4	7.9	7.4	8.1	8.3
Subtotal North	26.2	29.9	29.2	28.0	27.5	28.8	26.8
South							
Sworn	6.9	8.7	9.1	9.3	9.3	8.0	7.2
Civilian	3.4	3.6	4.0	4.1	3.3	3.7	4.0
Subtotal South	10.3	12.3	13.1	13.4	12.6	11.7	11.2
Southwest							
Sworn	4.5	7.1	6.3	5.4	5.8	5.3	4.3
Civilian	2.2	3.5	3.0	2.9	2.6	3.0	2.6
Subtotal Southwest	6.7	10.6	9.3	8.3	8.4	8.3	6.9
West							
Sworn	7.7	9.7	9.3	8.2	9.1	9.0	8.3
Civilian	5.4	5.6	5.3	5.1	5.5	5.9	6.3
Subtotal West	13.1	15.3	14.6	13.3	14.6	14.9	14.6

SCHEDULABLE CALLS REMAINING AFTER SWORN RESPONSE TO CIVILIAN SCHEDULABLE CALLS

Precinct	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Total
East								
Sworn	0.0	0.6	0.0	0.2	0.0	1.0	0.0	1.8
Civilian	3.0	4.4	3.3	3.7	3.2	3.7	2.9	24.2
Subtotal East	3.0	5.0	3.3	3.9	3.2	4.7	2.9	26.0
North								
Sworn	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Civilian	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.7
Subtotal North	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.7
South								
Sworn	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Civilian	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Subtotal South	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Southwest								
Sworn	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Civilian	0.0	3.1	1.8	0.8	0.9	0.8	0.0	7.4
Subtotal Southwest	0.0	3.1	1.8	0.8	0.9	0.8	0.0	7.4
West								
Sworn	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Civilian	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.3
Subtotal West	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.3

NUMBER OF "ON DEMAND" CALLS BY PRIORITY AND PRECINCT

Priority	Precinct					No Precinct Identified	Total	Percent Of Total
	East	North	South	Southwest	West			
One	7,009	12,527	7,593	4,884	10,924	63	43,000	24.8%
Two	10,648	19,268	9,902	6,521	18,017	93	64,449	37.1%
Three	10,452	19,960	10,041	6,943	14,325	82	61,803	35.6%
Four	929	1,545	572	519	849	0	4,414	2.5%
Other	1	1	1	0	1	0	4	0.0%
Total	29,039	53,301	28,109	18,867	44,116	238	173,670	
Percent Of Total	16.7%	30.7%	16.2%	10.9%	25.4%	0.1%		

- **Step 3: Adjust the number of calls to reflect the fact that some call types require more than a one sworn officer response.** The following table summarizes the number of calls, total number of patrol units responding, and total number of officers responding for each precinct.⁶

Precinct	Number Of Calls	Number Of Units Responding	Number Of Officers Responding
East	29,039	56,147	64,963
North	53,301	97,379	115,313
South	28,109	57,942	69,962
Southwest	18,867	36,400	42,130
West	44,116	80,818	91,331
No Precinct	238	358	420
Total	173,670	329,044	384,119

The number of calls, the average number of patrol units responding to each call type, and the average number of officers responding to each type of call is presented in Exhibit IV-7.

- **Step 4: Calculate the average time officers spend on each call.** The average amount of time officers spend per call is calculated using information from the CAD database.⁷ Average out of service time per call was calculated for each precinct.

Average Minutes Officer Is Out Of Service						
	East	North	South	Southwest	West	All Precincts
Priority One	48.2	48.1	52.2	52.1	42.6	48.1
Two	38.6	38.0	41.2	40.6	36.1	38.5
Three	38.8	38.1	38.9	39.1	37.2	38.3
Four	38.1	12.1	44.4	28.1	36.9	27.1
All Priorities	41.7	41.2	44.6	44.0	38.5	41.6

- **Step 5: Estimate travel speeds in each precinct for different times of the day.**⁸ To determine what travel speeds would be incorporated into the analysis travel times were compared for different times of the day in each precinct. Plots of the data were then created that clearly showed which hours had similar travel speeds. The criteria for determining “similar rates of travel” was that the difference between the highest and lowest rate could not be more than 20 percent. For most time blocks, the difference was about 5 percent.

⁶ This analysis, which was based on the actual number of patrol officers responding to each call, considers both the total number of patrol units and units that have more than one officer assigned. Please note that units that left a call but later returned were only counted once. The total time the unit spent on the call, however, was included in the analysis of the average time officers spend on calls (see Step 4).

⁷ The “Time Enroute” to “Time Inservice” CAD fields were used to make these calculations.

⁸ A more detailed discussion of the approach used to estimate travel speeds in each precinct is presented in Appendix E.

RESPONSE BY CALL TYPE

Call Type	Number of Calls	Average Number Of Patrol Units Responding Per Call	Average Number Of Patrol Officers Responding Per Call
ABDUCTION - IP/JO - UNK KIDNAPPING	7	4	5
ABDUCTION - NO KNOWN KIDNAPPING	2	2	2
ACC - WITH INJURIES (INCLUDES HIT AND RUN)	1	2	3
ALARM - ATM MACHINE, FREE STANDING	63	1	2
ALARM - AUDIBLE AUTOMOBILE (UNOCC/ANTI-THEFT)	386	1	2
ALARM - BANK (HOLD-UP)	120	3	4
ALARM - COMM, HOLD-UP/PANIC (EXCEPT BANKS)	565	2	2
ALARM - COMM, SILENT/AUD BURG (INCL BANKS)	4,617	2	2
ALARM - DURESS/PANIC,BUS/TAXI/CAR/PRSN - NOT DV	24	3	3
ALARM - EQUIPMENT	10	1	2
ALARM - RESIDENTIAL - BURGLARY, SILENT/AUDIBLE	6,140	2	2
ALARM - RESIDENTIAL - SILENT/AUD PANIC/DURESS	704	2	2
ANIMAL - DANGEROUS	94	2	2
ANIMAL - IP/JO - BITE	84	2	3
ANIMAL - IP/JO - DANGEROUS	18	2	3
ARSON - IP/JO	82	3	3
ARSON - REPORT	58	2	2
ASLT - DV	645	2	3
ASLT - IP/JO - DV	1,766	3	3
ASLT - IP/JO - PERSON SHOT OR SHOT AT	167	7	9
ASLT - IP/JO - WITH OR W/O WPNS (NO SHOOTINGS)	4,024	3	3
ASLT - MOLESTED ADULT (GROPED, FONDLED, ETC.)	152	2	2
ASLT - PERSON SHOT OR SHOT AT	24	3	3
ASLT - WITH OR W/O WEAPONS (NO SHOOTINGS)	2,378	2	2
ASSIST OTHER AGENCY - EMERGENCY SERVICE	219	3	4
ASSIST PUBLIC - NO WELFARE CHK OR DV ORDER SERVIC	1,405	2	2
ASSIST SPD - ROUTINE SERVICE	269	2	2
ASSIST SPD - URGENT SERVICE	11	3	4
AUTO THEFT-IP/JO - VEHICLE, PLATES, TABS	221	3	3
BIAS -IP/JO - RACIAL, POLITICAL, SEXUAL MOTIVATIO	6	3	3
BIAS - RACIAL, POLITICAL, SEXUAL MOTIVATION	83	2	2
BOMB - THREATS	10	2	2
BOMB THREATS - IP/JO	47	3	3
BURG - COMM BURGLARY (INCLUDES SCHOOLS)	1,758	2	2
BURG - IP/JO - COMM BURG (INCLUDES SCHOOLS)	300	4	4
BURG - IP/JO - RES (INCL UNOCC STRUCTURES)	1,388	4	4
BURN - RECKLESS BURNING	12	2	3
CARJACKING - IP/JO - ROBBERY	28	7	8
CARJACKING - ROBBERY	10	2	2
CHILD - ABAND, ABUSED, MOLESTED, NEGLECTED	712	2	2
CHILD - IP/JO - ABAND, ABUSE, MOLEST, NEGLECT	519	2	3
CHILD - IP/JO - LURING	3	3	4
CHILD - LURING	28	2	2
CUSTODIAL INTERFERENCE - DV	329	2	2
DEMONSTRATIONS	142	3	3
DIST - DV - NO ASLT	2,730	2	3
DIST - IP/JO - DV DIST - NO ASLT	4,225	3	3
DISTURBANCE, MISCELLANEOUS/OTHER	16,881	2	2
DOA - CASUALTY, DEAD BODY	761	2	2
DOWN - CHECK FOR PERSON DOWN	1,620	2	2
DUI - DRIVING UNDER INFLUENCE	965	1	2
ESCAPE - IP/JO - PRISONER	4	3	4
ESCAPE - PRISONER	2	2	3
EXPLOSION - IP/JO	157	2	3
EXPLOSION WITH SIGNIFICANT DELAY	32	2	2
FIGHT - IP - PHYSICAL (NO WEAPONS)	2,809	3	3
FIGHT - IP/JO - WITH WEAPONS	198	3	4
FIGHT - JO - PHYSICAL (NO WEAPONS)	659	2	3
FIGHT - VERBAL/ORAL (NO WEAPONS)	2,438	2	2
FIGHT - WITH WEAPONS	18	2	3
FIREWORKS - NUISANCE (NO HAZARD)	490	1	2
FOLLOW UP	2,739	1	2
FOUND - PERSON	203	2	2

Call Type	Number of Calls	Average Number Of Patrol Units Responding Per Call	Average Number Of Patrol Officers Responding Per Call
GAMBLING	26	1	2
HARAS - NO BIAS, THREATS OR MALICIOUSNESS	1,830	2	2
HARBOR - WATER DEBRIS, NAVIGATIONAL HAZARDS	81	1	1
HARBOR - WATER EMERGENCIES	212	2	2
HAZ - IMMINENT THRT TO PHYS SAFETY (NO HAZ MAT)	46	2	3
HAZ - POTENTIAL THRT TO PHYS SAFETY (NO HAZMAT)	4,362	2	2
HAZARD - IP/JO - MUDSLIDES	3	2	2
HELP THE OFFICER	18	12	14
HZMAT - HAZ MATERIALS, LEAKS, SPILLS, OR FOUND	7	6	6
INJURED - IP/JO - PERSON/INDUSTRIAL ACCIDENT	154	3	3
INJURED - PERSON/INDUSTRIAL ACCIDENT	18	2	2
KNOWN KIDNAPPNG	2	10	13
LEWD - (EXPOSING, FLASHING, URINATING IN PUB)	1,196	2	2
LIQUOR VIOLATIONS - ADULT	952	2	2
LIQUOR VIOLATIONS - BUSINESS	3	2	3
LIQUOR VIOLATIONS - MINOR	310	2	2
LITTERING	12	2	2
MENTAL - PERSON OR PICKUP/TRANSPORT	159	2	3
MISSING - (ALZHEIMER, ENDANGERED, ELDERLY)	337	2	3
MVC - HIT AND RUN (NON INJURY), INCLUDES IP/JO	4,114	2	2
MVC - NON INJURY, BLOCKING	2,666	2	2
MVC - UNK INJURIES	702	2	2
MVC - WITH INJURIES (INCLUDES HIT AND RUN)	2,956	2	3
NARCOTICS - VIOLATIONS (LOITER, USE, SELL, NARS)	3,883	2	2
NOISE - DIST, GENERAL (CONST, RESID, BALL PLAY)	3,879	2	2
NOISE - DISTURBANCE (PARTY, ETC)	3,249	2	2
NUISANCE - MISCHIEF	4,543	2	2
OPEN - BUILDING, DOOR, ETC.	472	2	3
ORDER - ASSIST DV VIC W/SRVC OF COURT ORDER	48	2	2
ORDER - IP - VIOLATION OF DV COURT ORDER	267	3	3
ORDER - SERVICE OF DV COURT ORDER	162	2	2
ORDER - VIOLATING DV COURT ORDER	767	2	2
ORDER - VIOLATION OF COURT ORDER (NON DV)	273	2	2
OVERDOSE - DRUG RELATED CASUALTY	943	2	3
PANHANDLING, AGGRESSIVE	642	2	2
PEACE-STANDBY TO ASSURE (NO COURT ORDR SVC)	1,020	2	2
PEDESTRIAN VIOLATIONS	7	1	1
PERSON IN BEHAVIORAL/EMOTIONAL CRISIS	1,739	2	3
POLICE (SILENT) ALARM	12	2	3
PREMISE CHECK, OFFICER INITIATED ONVIEW ONLY	1	2	2
PROWLER	183	2	3
PROWLER - IP/JO	814	3	3
PURSE SNATCH - IP/JO - ROBBERY	40	4	4
PURSE SNATCH - ROBBERY	38	2	3
PURSUIT (FOOT OR VEHICLE)	1	6	6
RAPE	222	2	2
RAPE - IP/JO	85	3	4
REQUEST TO WATCH	54	1	2
ROBBERY - IP/JO (INCLUDES STRONG ARM)	971	4	5
ROBBERY (INCLUDES STRONG ARM)	576	2	2
SECONDARY - FORGERY/BUNCO/SCAMS/ID THEFT	14	1	1
SECONDARY - PROPERTY DAMAGE/DESTRUCTION	2	1	1
SECONDARY - THEFT (NOT SHOPLIFT OR SERVICES)	59	1	1
SEX IN PUBLIC PLACE/VIEW (INCL MASTURBATION)	234	2	2
SEX OFFENDER - FAILURE TO REGISTER	3	1	2
SFD - ASSIST ON FIRE OR MEDIC RESPONSE	1,831	2	3
SHOPLIFT - THEFT	5,181	2	2
SHOTS - IP/JO - INCLUDES HEARD/NO ASSAULT	1,750	3	3
SHOTS -DELAY/INCLUDES HEARD/NO ASSAULT	275	2	3
SICK PERSON	192	2	3
SLEEPER ABOARD BUS/COMMUTER TRAIN	155	2	3
STRUCTURE - COLLAPSED, DAMAGED	1	2	2
SUICIDE - IP/JO SUICIDAL PERSON AND ATTEMPTS	2,913	3	3
SUICIDE, SUICIDAL PERSON AND ATTEMPTS	413	2	3
SUSPICIOUS PACKAGE	283	2	2

Call Type	Number of Calls	Average Number Of Patrol Units Responding Per Call	Average Number Of Patrol Officers Responding Per Call
SUSPICIOUS PERSON, VEHICLE OR INCIDENT	18,762	2	2
THEFT (DOES NOT INCLUDE SHOPLIFT OR SVCS)	10,863	1	2
THREATS - DV - NO ASSAULT	471	2	2
THREATS (INCLS IN-PERSON/BY PHONE/IN WRITING)	3,184	2	2
TRACKING ALARM	1	3	3
TRAFFIC - BLOCKING ROADWAY	2,370	1	1
TRAFFIC - MOVING VIOLATION	1,030	1	1
TRAFFIC - ROAD RAGE	459	2	2
TRESPASS	4,209	2	2
UNKNOWN - ANI/ALI - LANDLINE (INCLUDES OPEN LINE)	2,396	2	2
UNKNOWN - ANI/ALI - PAY PHNS (INCL OPEN LINE)	678	2	2
UNKNOWN - ANI/ALI - WRLS PHNS (INCL OPEN LINE)	991	2	3
UNKNOWN - COMPLAINT OF UNKNOWN NATURE	953	3	3
VICE - PORNOGRAPHY	14	1	2
VICE - PROSTITUTION	218	2	2
WARRANT - FELONY PICKUP	240	2	3
WARRANT - MISD WARRANT PICKUP	461	2	2
WARRANT - SEARCH. CAUTION (EXCL NARCOTICS)	16	1	2
WARRANT - SEARCH. EXECUTED, SECURED	21	2	2
WARRANT PICKUP - FROM OTHER AGENCY	112	1	1
WEAPN - GUN,DEADLY WPN (NO THRTS/ASLT/DIST)	334	2	3
WEAPN-IP/JO-GUN,DEADLY WPN (NO THRRT/ASLT/DIST)	962	4	4

For each “time block” the average travel time for each precinct was then estimated. To make these estimates travel times for each district within a precinct were determined. A weighted average of district travel times was then calculated based on the percentage of calls in each district. The results of the travel time analysis are presented in Exhibit IV-8.

- **Step 6: Use queuing analysis and travel time analysis to determine the number of staff that need to be deployed to meet response time expectations during each hour of the week.** Queuing analysis incorporates the number of calls, the number of officers or civilians responding to each call, the average time spent on calls, and the priority distribution of calls (i.e., the percentage of Priority One calls, Priority Two calls, and Priority Three calls) while travel time analysis considers the geographic area of each precinct, travel speeds, and the number of units available for response (determined by the queuing analysis). The number of officers and/or civilians needed for each hour of the day in each precinct to meet response time expectations based on the queuing and travel time analysis is presented in the first table of Exhibit IV-9.

- **Step 7: Determine the number of sworn and civilian call responders that should be assigned by hour of the day.** During this step the number of on demand calls that can be handled by civilians are subtracted from the total number of on demand calls. The number of staff needed by hour to address this lower number of calls is then calculated. The results of this analysis yield the number of sworn officers that need to be deployed during each hour of the day (see second table in Exhibit IV-9). Subtracting the total number of sworn officers needed (summarized in the second table in Exhibit IV-9) from the total number of staff needed (summarized in the first table in Exhibit IV-9) yields the number of civilians that should be deployed to respond to on demand calls (see third table in Exhibit IV-9).⁹ Note that the hours for which there is enough workload to justify civilian staffing and the number of civilians to be deployed are shown in the shaded areas of Exhibit IV-10. (In the Southwest precinct no civilians should be deployed.) Exhibit IV-11 recalculates the number of sworn officers needed after adding back calls that will not be handled by civilians.

- **Step 8: Determine the number of sworn and civilian staff that should be assigned to each shift.** The number of sworn officers needed on each shift is set by using the hour with the highest staffing need. This level of staffing is conservative but ensures that response time standards are met during each hour of the week. The number of sworn officers that should be deployed on each shift to meet response expectations is summarized in the following table.

Precinct	Watch 1	Watch 2	Watch 3	Total
East	11	13	16	40
North	19	23	26	68
South	12	17	16	45
Southwest	9	11	11	31
West	17	19	19	55

⁹ Some adjustments to civilian staffing may need to be made to reflect the fact that when sworn officers and civilians are scheduled the total number of sworn and civilian staff calculated may exceed the actual requirement (specified in Exhibit IV-9).

TRAVEL SPEEDS BY HOUR AND PRECINCT

Hour	East	North	South	Southwest	West
Midnight	18 mph	23 mph	25 mph	25 mph	18 mph
1:00 a.m.	18 mph	23 mph	25 mph	25 mph	18 mph
2:00 a.m.	18 mph	23 mph	25 mph	25 mph	18 mph
3:00 a.m.	18 mph	23 mph	25 mph	25 mph	18 mph
4:00 a.m.	18 mph	23 mph	25 mph	25 mph	18 mph
5:00 a.m.	18 mph	23 mph	25 mph	25 mph	18 mph
6:00 a.m.	18 mph	23 mph	25 mph	25 mph	18 mph
7:00 a.m.	18 mph	21 mph	25 mph	25 mph	18 mph
8:00 a.m.	15 mph	17 mph	21 mph	19 mph	13 mph
9:00 a.m.	12 mph	17 mph	18 mph	19 mph	11 mph
10:00 a.m.	12 mph	17 mph	18 mph	19 mph	11 mph
11:00 a.m.	12 mph	17 mph	18 mph	19 mph	11 mph
Noon	12 mph	17 mph	18 mph	19 mph	11 mph
1:00 p.m.	12 mph	17 mph	18 mph	19 mph	11 mph
2:00 p.m.	12 mph	17 mph	18 mph	19 mph	11 mph
3:00 p.m.	12 mph	17 mph	18 mph	19 mph	11 mph
4:00 p.m.	12 mph	17 mph	18 mph	19 mph	11 mph
5:00 p.m.	12 mph	17 mph	18 mph	19 mph	11 mph
6:00 p.m.	12 mph	17 mph	18 mph	19 mph	11 mph
7:00 p.m.	15 mph	17 mph	18 mph	19 mph	11 mph
8:00 p.m.	15 mph	17 mph	18 mph	19 mph	13 mph
9:00 p.m.	15 mph	17 mph	21 mph	19 mph	13 mph
10:00 p.m.	15 mph	17 mph	21 mph	19 mph	13 mph
11:00 p.m.	18 mph	23 mph	25 mph	25 mph	18 mph

EAST PRECINCT

CIVILIANS AND SWORN OFFICERS NEEDED BY HOUR OF THE DAY TO RESPOND TO ALL CALLS

Hour	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
0	15	11	12	12	10	12	15
1	16	11	9	9	10	9	16
2	16	10	9	9	10	10	16
3	11	8	7	6	6	7	11
4	9	7	5	6	6	7	7
5	6	6	6	7	6	6	7
6	6	7	6	7	8	7	7
7	6	10	9	9	9	9	7
8	9	10	10	10	10	10	9
9	10	11	11	10	10	12	11
10	9	11	11	12	11	10	10
11	11	12	11	12	13	10	12
12	10	13	11	12	13	13	12
13	10	11	12	12	11	12	11
14	11	12	11	12	13	12	13
15	11	12	12	12	13	12	12
16	11	12	12	12	12	13	13
17	12	13	13	13	12	13	13
18	10	12	14	12	14	13	12
19	12	11	11	13	12	11	12
20	11	13	13	13	12	13	13
21	14	12	12	13	13	14	14
22	13	13	12	13	14	16	15
23	14	12	11	13	12	15	15

EAST PRECINCT

SWORN OFFICERS NEEDED BY HOUR OF THE DAY TO RESPOND TO CALLS OTHER THAN THOSE TARGETED FOR CIVILIANS

Hour	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
0	15	11	12	11	10	12	15
1	16	11	9	9	9	9	16
2	16	10	9	9	10	10	16
3	11	7	7	6	6	7	11
4	9	7	5	6	6	7	7
5	6	6	6	7	5	5	7
6	6	6	6	7	7	7	6
7	6	8	7	8	8	8	6
8	8	9	9	9	9	9	8
9	9	10	10	10	9	11	10
10	10	10	10	10	10	10	10
11	10	10	10	10	12	10	11
12	10	12	10	11	11	12	11
13	9	10	11	11	10	11	10
14	11	10	10	11	10	12	11
15	11	11	11	13	12	13	12
16	10	12	12	11	11	13	11
17	11	12	12	12	11	12	12
18	10	11	13	12	13	12	11
19	11	10	11	12	11	12	11
20	10	12	13	11	13	12	12
21	13	12	11	13	13	12	13
22	13	13	11	13	14	15	14
23	13	12	11	13	12	15	15

EAST PRECINCT

CIVILIANS NEEDED TO RESPOND TO CALLS

Hour	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
0	0	0	0	1	0	0	0
1	0	0	0	0	1	0	0
2	0	0	0	0	0	0	0
3	0	1	0	0	0	0	0
4	0	0	0	0	0	0	0
5	0	0	0	0	1	1	0
6	0	1	0	0	1	1	1
7	0	2	2	1	1	1	1
8	1	1	1	1	1	1	1
9	1	1	1	1	1	1	1
10	0	1	1	1	1	0	0
11	1	2	1	2	1	0	1
12	0	1	1	1	2	1	1
13	1	1	1	1	1	1	1
14	0	2	1	1	1	1	1
15	0	1	1	0	1	1	1
16	1	0	0	1	1	0	1
17	1	1	1	1	1	1	1
18	0	1	1	1	1	1	1
19	1	1	0	1	1	1	1
20	1	1	0	2	1	1	1
21	1	0	1	1	0	1	1
22	0	0	1	0	0	1	1
23	1	0	0	0	0	0	0

NORTH PRECINCT

NORTH PRECINCT

NORTH PRECINCT

Hour	CIVILIANS AND SWORN OFFICERS NEEDED BY HOUR OF THE DAY TO RESPOND TO ALL CALLS							SWORN OFFICERS NEEDED BY HOUR OF THE DAY TO RESPOND TO CALLS OTHER THAN THOSE TARGETED FOR CIVILIANS							CIVILIANS NEEDED TO RESPOND TO CALLS						
	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
0	22	17	17	16	17	17	22	0	21	16	17	17	16	22	1	0	0	0	0	1	0
1	21	15	14	16	14	14	20	1	20	14	14	14	16	20	1	1	0	1	0	0	0
2	19	14	13	13	13	13	19	2	18	13	13	13	14	19	1	0	0	0	0	1	1
3	14	10	11	10	10	10	14	3	14	11	10	10	9	14	0	0	0	0	1	1	0
4	11	10	10	9	10	10	11	4	11	10	9	10	9	11	0	0	0	0	0	0	1
5	9	8	9	9	9	9	9	5	9	8	9	9	10	9	0	0	0	0	0	0	1
6	9	10	11	10	11	10	10	6	8	10	10	11	10	9	0	0	1	1	0	0	1
7	10	14	14	14	14	14	11	7	9	12	13	12	12	10	2	6	2	2	1	2	1
8	15	17	18	18	19	19	15	8	14	15	16	16	17	13	2	2	3	3	2	2	2
9	16	18	19	18	20	18	16	9	15	16	16	16	16	15	2	3	2	2	2	2	2
10	17	18	18	19	18	18	16	10	16	16	16	17	16	17	2	2	2	1	2	2	2
11	18	21	21	22	20	19	19	11	17	19	19	18	17	17	2	2	3	2	2	2	2
12	19	22	22	22	21	22	21	12	18	21	21	19	20	19	1	1	2	2	2	2	2
13	20	22	22	23	21	22	21	13	19	21	20	19	21	19	1	2	2	2	2	2	2
14	19	22	22	22	22	22	22	14	19	21	21	21	21	20	1	1	1	1	1	1	1
15	21	24	24	24	23	23	23	15	20	22	23	21	22	22	2	2	1	1	2	2	2
16	22	23	24	24	24	24	22	16	21	22	23	21	23	21	1	1	1	1	1	1	1
17	22	24	24	24	24	24	21	17	21	22	22	23	22	21	2	2	1	1	2	2	1
18	21	24	24	24	23	23	22	18	20	21	22	22	22	20	0	1	2	2	2	2	0
19	22	23	24	23	23	23	22	19	22	22	22	22	22	22	0	1	1	1	1	1	0
20	22	23	22	22	24	24	24	20	22	22	22	22	22	24	0	1	0	0	2	2	0
21	21	23	22	23	24	24	24	21	21	22	22	22	24	22	1	0	0	1	1	1	2
22	22	22	22	23	22	25	26	22	22	22	22	22	24	22	0	1	0	0	0	0	1
23	18	19	18	18	19	23	22	23	17	18	18	18	22	22	1	0	1	1	1	1	0

SOUTH PRECINCT

SOUTH PRECINCT

SOUTH PRECINCT

CIVILIANS AND SWORN OFFICERS NEEDED BY HOUR OF THE DAY TO RESPOND TO ALL CALLS

SWORN OFFICERS NEEDED BY HOUR OF THE DAY TO RESPOND TO CALLS OTHER THAN THOSE TARGETED FOR CIVILIANS

CIVILIANS NEEDED TO RESPOND TO CALLS

Hour	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Hour	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Hour	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
0	13	10	9	10	11	10	14	0	12	10	10	10	11	9	13	0	1	0	0	0	0	0	1
1	13	8	9	8	9	8	11	1	13	8	8	9	8	8	11	1	0	0	1	0	0	0	0
2	11	8	8	8	8	8	12	2	11	8	8	8	8	8	11	2	0	0	0	0	0	0	1
3	9	8	7	8	6	7	9	3	9	8	7	8	6	7	9	3	0	0	0	0	0	0	0
4	8	6	7	7	6	8	8	4	8	6	7	7	6	8	8	4	0	0	0	0	0	0	0
5	6	6	7	7	6	7	6	5	6	6	7	6	6	7	6	5	0	0	0	0	0	0	0
6	5	8	6	6	7	7	8	6	5	8	6	6	7	7	8	6	0	0	0	0	0	0	0
7	8	9	8	8	7	7	8	7	8	8	7	7	7	8	7	7	0	0	0	0	0	0	0
8	8	10	11	12	10	11	8	8	8	8	10	8	8	9	8	8	0	0	0	0	0	0	0
9	9	12	11	13	12	13	10	9	9	11	11	12	11	12	10	9	0	0	0	0	0	0	0
10	10	12	13	13	12	13	11	10	10	11	12	11	12	11	11	10	0	0	0	0	0	0	0
11	13	13	13	13	12	13	11	12	12	12	12	11	12	11	11	11	0	0	0	0	0	0	0
12	12	14	12	14	13	14	13	11	12	12	12	14	12	13	13	11	0	0	0	0	0	0	0
13	14	13	13	13	13	13	14	12	12	13	12	14	12	15	13	12	0	0	0	0	0	0	0
14	14	13	13	13	13	13	14	13	13	13	14	13	14	14	14	13	0	0	0	0	0	0	0
15	14	15	16	14	16	14	15	14	13	13	14	14	14	14	14	14	1	0	0	0	0	0	0
16	14	15	16	14	14	16	13	15	13	15	16	14	14	13	15	14	1	0	0	0	0	0	0
17	14	16	17	16	16	14	15	16	14	16	16	15	15	14	14	16	0	0	0	0	0	0	0
18	12	15	15	14	15	15	15	17	14	15	17	16	14	15	14	17	0	0	0	0	0	0	0
19	13	15	14	16	14	15	14	18	12	15	14	13	14	15	13	18	0	0	0	0	0	0	0
20	13	16	14	16	14	14	15	20	12	15	14	15	14	14	14	19	0	0	0	0	0	0	0
21	13	14	13	13	14	14	16	21	13	14	14	13	14	14	15	20	1	0	0	0	0	0	0
22	13	13	14	13	15	16	16	22	13	13	14	12	13	14	16	22	0	0	0	0	0	0	0
23	12	13	12	10	11	12	14	23	12	12	12	10	11	12	14	23	0	1	0	0	0	0	0

SOUTHWEST PRECINCT

SOUTHWEST PRECINCT

SOUTHWEST PRECINCT

CIVILIANS AND SWORN OFFICERS NEEDED BY HOUR OF THE DAY TO RESPOND TO ALL CALLS

CIVILIANS NEEDED TO RESPOND TO CALLS

SWORN OFFICERS NEEDED BY HOUR OF THE DAY TO RESPOND TO CALLS OTHER THAN THOSE TARGETED FOR CIVILIANS

Hour	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Hour	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
0	10	7	9	8	8	7	9	0	1	0	0	0	0	0	0
1	8	6	6	6	6	6	10	1	0	0	0	0	0	0	0
2	8	6	6	6	6	7	9	2	0	0	0	0	0	0	0
3	7	4	5	5	5	5	7	3	0	0	0	0	0	0	0
4	5	5	6	5	5	5	6	4	0	0	0	0	0	0	0
5	5	4	5	5	5	4	5	5	0	0	0	0	0	0	0
6	5	5	5	5	5	5	4	6	0	0	0	0	0	0	0
7	5	7	6	6	6	5	5	7	1	0	0	0	0	0	1
8	7	7	8	7	7	8	7	8	1	0	0	1	0	0	0
9	7	8	8	8	8	8	8	9	0	1	0	1	1	1	0
10	8	8	8	8	8	8	8	10	0	0	0	1	0	0	0
11	8	9	9	9	9	9	9	11	0	1	0	0	1	1	0
12	10	10	10	10	10	10	9	12	1	1	0	1	0	0	0
13	10	10	10	10	10	10	9	13	1	0	1	1	0	1	1
14	9	11	10	10	10	10	9	14	0	1	0	1	0	0	0
15	10	10	10	10	10	10	10	15	1	0	0	1	0	0	0
16	9	10	10	10	10	10	10	16	0	0	0	0	0	0	0
17	10	10	10	10	10	10	10	17	0	0	0	0	0	0	1
18	10	10	10	10	10	10	10	18	0	0	0	0	0	0	0
19	10	10	10	10	10	10	10	19	0	0	0	0	0	0	0
20	10	10	10	10	10	10	10	20	1	0	0	0	0	1	0
21	10	11	11	11	11	11	11	21	0	0	0	0	0	0	0
22	10	10	10	10	10	10	11	22	0	0	0	0	0	0	0
23	9	9	9	9	8	10	10	23	0	0	0	0	0	0	1

WEST PRECINCT

CIVILIANS AND SWORN OFFICERS NEEDED BY HOUR OF THE DAY TO RESPOND TO ALL CALLS

Hour	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
0	15	11	11	11	12	13	16
1	14	12	10	11	14	11	14
2	16	9	9	10	11	11	15
3	11	9	8	8	8	8	11
4	8	8	9	8	9	8	9
5	8	9	9	8	8	8	8
6	8	9	9	9	9	8	8
7	8	12	11	10	11	10	9
8	11	16	16	15	14	14	10
9	13	16	15	15	14	14	13
10	15	16	16	16	15	17	14
11	15	16	16	17	15	15	15
12	17	17	16	17	17	16	15
13	15	17	17	17	17	16	17
14	17	17	17	17	16	16	16
15	17	18	17	17	16	15	15
16	17	18	17	17	16	16	16
17	17	18	18	17	17	17	17
18	17	17	17	17	16	16	16
19	19	17	17	16	16	16	16
20	16	17	16	16	16	16	16
21	16	16	15	16	16	16	17
22	17	15	15	16	15	18	18
23	12	12	12	13	12	16	16

WEST PRECINCT

SWORN OFFICERS NEEDED BY HOUR OF THE DAY TO RESPOND TO CALLS OTHER THAN THOSE TARGETED FOR CIVILIANS

Hour	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
0	14	11	11	11	11	13	16
1	14	12	10	11	11	11	14
2	16	9	9	10	11	11	15
3	11	9	8	8	8	8	11
4	8	8	9	8	9	8	9
5	8	9	8	9	8	8	8
6	8	9	9	10	9	8	8
7	8	11	10	11	11	10	9
8	11	14	15	14	14	14	10
9	13	15	14	14	14	14	13
10	15	15	14	15	15	17	14
11	14	15	14	15	15	15	15
12	15	15	15	15	14	16	15
13	15	15	16	17	17	16	17
14	16	16	16	16	16	16	16
15	16	16	16	16	15	16	16
16	16	17	17	16	18	17	15
17	16	15	17	16	16	17	16
18	16	15	17	16	16	17	16
19	17	17	17	15	16	16	16
20	16	17	16	16	16	16	16
21	16	16	15	16	16	16	16
22	16	14	15	14	15	18	17
23	12	12	12	13	12	16	16

WEST PRECINCT

CIVILIANS NEEDED TO RESPOND TO CALLS

Hour	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
0	15	11	11	11	12	13	16
1	14	12	10	11	14	11	14
2	16	9	9	10	11	11	15
3	11	9	8	8	8	8	11
4	8	8	9	8	9	8	9
5	8	9	9	10	8	8	8
6	8	9	9	10	9	8	8
7	8	12	11	11	11	10	9
8	11	16	16	15	14	14	10
9	13	16	15	15	14	14	13
10	15	16	16	16	15	17	14
11	15	16	16	17	15	15	15
12	17	17	16	17	17	16	15
13	15	17	17	17	17	16	17
14	17	17	17	17	16	16	16
15	17	18	17	17	16	15	15
16	17	18	17	17	16	16	16
17	17	18	18	17	17	17	17
18	17	17	17	17	16	16	16
19	19	17	17	16	16	16	16
20	16	17	16	16	16	16	16
21	16	16	15	16	16	16	16
22	17	15	15	16	15	18	17
23	12	12	12	13	12	16	16

WEST PRECINCT

CIVILIANS NEEDED TO RESPOND TO CALLS

Hour	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
0	15	11	11	11	12	13	16
1	14	12	10	11	14	11	14
2	16	9	9	10	11	11	15
3	11	9	8	8	8	8	11
4	8	8	9	8	9	8	9
5	8	9	9	10	8	8	8
6	8	9	9	10	9	8	8
7	8	12	11	11	11	10	9
8	11	16	16	15	14	14	10
9	13	16	15	15	14	14	13
10	15	16	16	16	15	17	14
11	15	16	16	17	15	15	15
12	17	17	16	17	17	16	15
13	15	17	17	17	17	16	17
14	17	17	17	17	16	16	16
15	17	18	17	17	16	15	15
16	17	18	17	17	16	16	16
17	17	18	18	17	17	17	17
18	17	17	17	17	16	16	16
19	19	17	17	16	16	16	16
20	16	17	16	16	16	16	16
21	16	16	15	16	16	16	16
22	17	15	15	16	15	18	17
23	12	12	12	13	12	16	16

WEST PRECINCT

CIVILIANS NEEDED TO RESPOND TO CALLS

Hour	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
0	15	11	11	11	12	13	16
1	14	12	10	11	14	11	14
2	16	9	9	10	11	11	15
3	11	9	8	8	8	8	11
4	8	8	9	8	9	8	9
5	8	9	9	10	8	8	8
6	8	9	9	10	9	8	8
7	8	12	11	11	11	10	9
8	11	16	16	15	14	14	10
9	13	16	15	15	14	14	13
10	15	16	16	16	15	17	14
11	15	16	16	17	15	15	15
12	17	17	16	17	17	16	15
13	15	17	17	17	17	16	17
14	17	17	17	17	16	16	16
15	17	18	17	17	16	15	15
16	17	18	17	17	16	16	16
17	17	18	18	17	17	17	17
18	17	17	17	17	16	16	16
19	19	17	17	16	16	16	16
20	16	17	16	16	16	16	16
21	16	16	15	16	16	16	16
22	17	15	15	16	15	18	17
23	12	12	12	13	12	16	16

EAST PRECINCT

CIVILIAN STAFFING

Hour	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0
7	0	1	1	1	1	1	0
8	0	1	1	1	1	1	0
9	0	1	1	1	1	1	0
10	0	1	1	1	1	1	0
11	0	1	1	1	1	1	0
12	0	1	1	1	1	1	0
13	0	1	1	1	1	1	0
14	0	1	1	1	1	1	0
15	0	1	1	1	1	1	0
16	0	1	1	1	1	1	0
17	0	1	1	1	1	1	0
18	0	1	1	1	1	1	0
19	0	1	1	1	1	1	0
20	0	1	1	1	1	1	0
21	0	1	1	1	1	1	0
22	0	1	1	1	1	1	0
23	0	0	0	0	0	0	0

NORTH PRECINCT

CIVILIAN STAFFING

Hour	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0
7	0	2	2	2	2	2	0
8	0	2	2	2	2	2	0
9	0	2	2	2	2	2	0
10	0	2	2	2	2	2	0
11	0	2	2	2	2	2	0
12	0	2	2	2	2	2	0
13	0	2	2	2	2	2	0
14	0	2	2	2	2	2	0
15	0	1	1	1	1	1	0
16	0	1	1	1	1	1	0
17	0	1	1	1	1	1	0
18	0	1	1	1	1	1	0
19	0	1	1	1	1	1	0
20	0	1	1	1	1	1	0
21	0	1	1	1	1	1	0
22	0	1	1	1	1	1	0
23	0	1	1	0	0	0	0

SOUTH PRECINCT

CIVILIAN STAFFING

Hour	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0
8	0	1	1	1	1	1	0
9	0	1	1	1	1	1	0
10	0	1	1	1	1	1	0
11	0	1	1	1	1	1	0
12	0	1	1	1	1	1	0
13	0	1	1	1	1	1	0
14	0	1	1	1	1	1	0
15	0	1	1	1	1	1	0
16	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0

SOUTHWEST PRECINCT

NO CIVILIAN STAFFING

Hour	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0

WEST PRECINCT

CIVILIAN STAFFING

Hour	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0
8	0	1	1	1	1	1	0
9	0	1	1	1	1	1	0
10	0	1	1	1	1	1	0
11	0	1	1	1	1	1	0
12	0	1	1	1	1	1	0
13	0	1	1	1	1	1	0
14	0	1	1	1	1	1	0
15	0	1	1	1	1	1	0
16	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0

EAST PRECINCT

SWORN OFFICERS NEEDED BY HOUR OF THE DAY AFTER ADDING BACK CIVILIAN CALLS

Hour	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
0	15	11	12	12	10	12	15
1	16	11	9	9	10	9	16
2	16	10	9	9	10	10	16
3	11	8	7	6	6	7	11
4	9	7	5	6	6	7	7
5	6	6	6	7	6	6	7
6	6	7	6	7	8	8	7
7	6	8	7	8	8	8	7
8	9	9	9	9	9	9	9
9	10	10	10	9	9	11	11
10	9	10	10	11	10	10	10
11	11	10	10	10	12	10	12
12	10	12	10	11	11	12	12
13	10	10	11	11	10	11	11
14	11	10	10	11	10	12	12
15	11	11	11	13	12	11	13
16	11	12	12	11	11	13	12
17	12	12	12	12	11	12	13
18	10	11	13	11	13	12	12
19	12	10	11	12	11	10	12
20	11	12	13	11	11	12	13
21	14	12	11	13	13	12	14
22	13	13	11	13	14	15	15
23	14	12	11	13	12	15	15

NORTH PRECINCT

SWORN OFFICERS NEEDED BY HOUR OF THE DAY AFTER ADDING BACK CIVILIAN CALLS

Hour	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
0	22	17	17	16	17	17	22
1	21	15	14	16	14	16	20
2	19	14	13	13	13	15	20
3	14	10	11	11	10	10	14
4	11	10	10	9	10	9	12
5	9	8	9	9	9	10	10
6	9	10	11	10	11	10	10
7	10	12	13	12	13	12	11
8	15	15	16	15	16	17	15
9	16	16	16	16	18	16	16
10	17	16	16	18	17	16	19
11	18	19	19	19	18	17	19
12	19	21	21	20	19	20	21
13	20	21	20	21	19	21	21
14	19	21	21	21	21	21	22
15	21	22	20	23	21	22	23
16	22	22	23	23	21	23	22
17	22	22	22	22	23	22	21
18	21	23	21	22	21	22	22
19	22	22	22	22	22	22	22
20	22	22	21	22	22	22	24
21	21	22	22	22	22	24	24
22	22	22	21	23	22	24	26
23	18	19	18	18	19	23	22

SOUTH PRECINCT

SWORN OFFICERS NEEDED BY HOUR OF THE DAY AFTER ADDING BACK CIVILIAN CALLS

Hour	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
0	13	10	9	10	11	10	14
1	13	8	9	9	9	8	11
2	11	8	8	8	8	8	12
3	9	8	7	8	6	7	9
4	8	6	7	7	6	8	8
5	6	6	7	7	6	7	6
6	5	8	6	7	7	7	8
7	8	8	8	8	8	9	8
8	8	8	10	10	9	10	8
9	9	11	10	12	11	12	10
10	10	11	12	11	12	11	11
11	13	12	11	14	12	13	14
12	12	13	12	14	12	15	13
13	14	14	14	13	13	14	14
14	14	13	14	14	14	13	15
15	13	15	16	14	14	16	13
16	14	17	17	16	16	14	15
17	14	16	17	16	15	15	15
18	12	15	15	14	15	16	14
19	13	15	14	16	14	15	15
20	13	16	14	16	14	14	16
21	13	14	13	13	14	15	14
22	13	13	14	13	15	16	16
23	12	13	12	10	11	12	14

SOUTHWEST PRECINCT

SWORN OFFICERS NEEDED BY HOUR OF THE DAY AFTER ADDING BACK CIVILIAN CALLS

Hour	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
0	10	7	9	8	8	7	9
1	8	6	6	6	6	6	10
2	8	6	6	6	6	7	9
3	7	5	5	5	5	5	7
4	5	5	6	5	5	5	6
5	5	4	5	5	5	4	5
6	5	5	5	5	5	5	5
7	5	7	6	6	6	6	5
8	7	7	8	8	8	8	7
9	7	8	9	8	9	9	8
10	8	8	8	9	8	8	8
11	8	9	9	8	9	9	9
12	10	10	9	9	9	10	10
13	10	10	10	9	9	10	10
14	9	11	10	10	10	10	10
15	10	10	10	11	9	10	10
16	9	10	10	10	10	10	10
17	10	10	10	10	10	10	10
18	10	10	10	11	10	11	10
19	10	10	10	10	10	11	10
20	11	11	10	10	11	11	10
21	10	11	11	11	10	11	11
22	10	10	10	10	10	11	11
23	9	9	9	9	8	10	11

WEST PRECINCT

SWORN OFFICERS NEEDED BY HOUR OF THE DAY AFTER ADDING BACK CIVILIAN CALLS

Hour	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
0	15	11	11	11	12	13	16
1	14	12	10	11	11	11	14
2	16	9	9	10	11	11	15
3	11	9	8	8	8	8	11
4	8	8	9	8	10	8	10
5	8	9	9	10	8	8	8
6	8	9	9	11	10	11	10
7	8	11	10	11	11	11	11
8	11	14	15	14	14	14	13
9	13	15	14	14	15	17	15
10	15	15	14	15	15	15	15
11	15	15	15	15	14	16	15
12	17	15	16	17	17	16	17
13	15	15	16	17	16	17	17
14	17	16	17	16	15	16	16
15	17	18	17	17	19	18	16
16	17	17	18	17	17	18	17
17	17	18	18	19	18	18	17
18	17	17	17	17	18	17	17
19	19	17	17	16	16	17	17
20	16	17	16	17	16	17	17
21	16	16	15	17	16	16	17
22	17	15	15	15	16	19	18
23	12	12	12	13	12	16	16

A summary of the number of civilians needed on five day a week shifts follows.

Precinct	Watch 1(a)	Watch 2(a)	Total
	7:00 a.m. to 3:00 p.m.	3:00 p.m. to 11:00 p.m.	
East	1	1	2
North	2	1	3
South	1	0	1
Southwest	0	0	0
West	1	0	1

(a) Monday through Friday only.

PART C – DEVELOP SCHEDULES

Three steps are used to develop schedules.

- **Step 1: Determine the total number of sworn and civilian staff needed on each shift.** For sworn officers the total number of staff needed to provide on demand and scheduled response is summed as shown in the following table.

Watch	East	North	South	Southwest	West
Watch 1					
On Demand Staffing	11	19	12	9	17
Scheduled Response Staffing	0	0	0	0	0
Total Watch 1	11	19	12	9	17
Watch 2					
On Demand Staffing	13	23	17	11	19
Scheduled Response Staffing	1	2	1	1	1
Total Watch 2	14	25	18	12	20
Watch 3					
On Demand Staffing	16	26	16	11	19
Scheduled Response Staffing	0	2	1	0	0
Total Watch 3	16	28	17	11	19

For civilians on demand and scheduled staff do not need to be summed as these staff will work different shifts. The civilians handling scheduled calls would be assigned to one shift seven days a week. The civilians responding to calls on demand would be assigned to five day a week shifts.

- **Step 2: Determine the number of sworn officers that should be assigned to each watch under the current schedule.** Patrol officers work a four days on two days off schedule. A roughly three-two ratio of the number of officers needed per day and the number of officers scheduled is determined by the staffing needed to provide days off. Consider a precinct that needs 11 officers to be deployed each day for a given watch. Officers will be divided into two platoons with six officers and one platoon with five officers for a total of 17.

	Sun	Mon	Tue	Wed	Thur	Fri	Sat
Week 1 - A Platoon	5	5	5	5	Off	Off	5
Week 1 - B Platoon	Off	Off	6	6	6	6	Off
Week 1 - C Platoon	6	6	Off	Off	6	6	6
Week 1 - Total	11	11	11	11	12	12	11
Week 2 - A Platoon	5	5	5	Off	Off	5	5
Week 2 - B Platoon	Off	6	6	6	6	Off	Off
Week 2 - C Platoon	6	Off	Off	6	6	6	6
Week 2 - Total	11	11	11	12	12	11	11

If a precinct needs 14 officers working each day seven officers will be assigned to each of the three platoons for a total of 21.

	Sun	Mon	Tue	Wed	Thur	Fri	Sat
Week 1 - A Platoon	7	7	7	7	Off	Off	7
Week 1 - B Platoon	Off	Off	7	7	7	7	Off
Week 1 - C Platoon	7	7	Off	Off	7	7	7
Week 1 - Total	14	14	14	14	14	14	14
Week 2 - A Platoon	7	7	7	Off	Off	7	7
Week 2 - B Platoon	Off	7	7	7	7	Off	Off
Week 2 - C Platoon	7	Off	Off	7	7	7	7
Week 2 - Total	14	14	14	14	14	14	14

The number of sworn officers needed to provide seven day coverage under this schedule is presented in the following table.

Precinct/Watch	Number Needed Each Day	Number Assigned To Provide 7 Day Coverage
East		
Watch 1	11	17
Watch 2	14	21
Watch 3	16	24
<i>Subtotal East</i>	<i>41</i>	<i>62</i>
North		
Watch 1	19	29
Watch 2	25	38
Watch 3	28	42
<i>Subtotal North</i>	<i>72</i>	<i>109</i>

Precinct/Watch	Number Needed Each Day	Number Assigned To Provide 7 Day Coverage
South		
Watch 1	12	18
Watch 2	18	27
Watch 3	17	26
<i>Subtotal South</i>	<i>47</i>	<i>71</i>
Southwest		
Watch 1	9	14
Watch 2	12	18
Watch 3	11	17
<i>Subtotal Southwest</i>	<i>32</i>	<i>49</i>
West		
Watch 1	17	26
Watch 2	20	30
Watch 3	19	29
<i>Subtotal West</i>	<i>56</i>	<i>85</i>
Total	248	376

- **Step 3: Determine the number of civilian staff that should be assigned to each watch under the recommended schedule.** Civilians who respond to on demand calls will be assigned to one shift a week so no scheduling adjustment is necessary. Two civilians will be needed to handle scheduled calls seven days a week.

PART D – ADJUST STAFFING TO ACCOUNT FOR EXPECTED ABSENCES

Patrol staffing needs to be adjusted to reflect expected absences associated with vacation, holiday, illness, training, and other leave. As discussed in Appendix B and reflected in the following table, it is cost-effective to use overtime for a large portion of the sworn staffing needed to account for expected absences.

Precinct/Watch	Number Scheduled To Provide 7 Day Coverage	Full-Time Needed After Relief	Overtime FTEs Needed After Relief	Total FTEs Needed
East				
Watch 1	17.00	19.00	4.80	23.80
Watch 2	21.00	24.00	5.40	29.40
Watch 3	24.00	27.00	6.60	33.60
<i>Subtotal East</i>	<i>62.00</i>	<i>70.00</i>	<i>16.80</i>	<i>86.80</i>
North				
Watch 1	29.00	33.00	7.60	40.60
Watch 2	38.00	44.00	9.20	53.20
Watch 3	42.00	48.00	10.80	58.80
<i>Subtotal North</i>	<i>109.00</i>	<i>125.00</i>	<i>27.60</i>	<i>152.60</i>

Precinct/Watch	Number Scheduled To Provide 7 Day Coverage	Full-Time Needed After Relief	Overtime FTEs Needed After Relief	Total FTEs Needed
South				
Watch 1	18.00	20.00	5.20	25.20
Watch 2	27.00	31.00	6.80	37.80
Watch 3	26.00	30.00	6.40	36.40
<i>Subtotal South</i>	<i>71.00</i>	<i>81.00</i>	<i>18.40</i>	<i>99.40</i>
Southwest				
Watch 1	14.00	16.00	3.60	19.60
Watch 2	18.00	21.00	4.20	25.20
Watch 3	17.00	19.00	4.80	23.80
<i>Subtotal Southwest</i>	<i>49.00</i>	<i>56.00</i>	<i>12.60</i>	<i>68.60</i>
West				
Watch 1	26.00	30.00	6.40	36.40
Watch 2	30.00	34.00	8.00	42.00
Watch 3	29.00	33.00	7.60	40.60
<i>Subtotal West</i>	<i>85.00</i>	<i>97.00</i>	<i>22.00</i>	<i>119.00</i>
Total	376.00	429.00	97.40	526.40

For civilians who respond to on demand calls all relief will be provided through overtime.¹⁰

	Number Needed Per Shift	Full-Time Civilians Needed	Overtime Civilian FTEs
East			
Watch 1	1.00	1.00	0.40
Watch 2	1.00	1.00	0.40
North			
Watch 1	2.00	2.00	0.80
Watch 2	1.00	1.00	0.40
South			
Watch 1	1.00	1.00	0.40
Watch 2	0.00	0.00	0.00

¹⁰ For this analysis relief needs for civilians are assumed to be the same as for sworn patrol officers.

	Number Needed Per Shift	Full-Time Civilians Needed	Overtime Civilian FTEs
West			
Watch 1	1.00	1.00	0.40
Watch 2	0.00	0.00	0.00
Total	7.00	7.00	2.80

Two civilian staff and one overtime FTE will also be needed to respond to scheduled calls.

SCENARIO A SUMMARY

The scenario in which calls will be handled by telephone, by sworn officers (on an on demand basis and a scheduled basis) and by civilians (on an on demand basis and a scheduled basis) will require 551.8 full-time and overtime FTEs (of which 539.0 are sworn officers).

	Full-Time	Overtime FTEs	Total
Patrol (Sworn)	429.0	97.4	526.4
TRU (Sworn)	9.0	3.6	12.6
<i>Subtotal Sworn</i>	<i>438.0</i>	<i>101.0</i>	<i>539.0</i>
Civilian	9.0	3.8	12.8
Total (All Staff)	447.0	104.8	551.8

B – PATROL STAFFING NEEDS UNDER SCENARIO B

The assessment of staffing needs when all calls (except those that can be handled by telephone) are handled on an on demand basis by sworn officers (Scenario B) requires nine steps.

- Step 1: Determine the number of staff needed to handle calls by telephone
- Step 2: Determine response expectations¹¹
- Step 3: Determine the number of on demand calls, by priority, to be handled in each precinct
- Step 4: Adjust the number of calls to reflect the fact that some call types require more than a one sworn officer response
- Step 5: Calculate the average time officers spend on each call
- Step 6: Estimate travel speeds in each precinct for different times of the day

¹¹ As with Scenario A the analysis assumes that Priority One calls will be responded to within 7 minutes 90 percent of the time and Priority Two calls will be responded to within 15 minutes 90 percent of the time.

- Step 7: Use queuing analysis and travel time analysis to determine the number of staff that need to be deployed to meet response time expectations during each hour of the week
- Step 8: Determine the total number of sworn officers needed on each shift
- Step 9: Adjust staffing to account for expected absences

The number of sworn officers that should be assigned to each watch for this scenario is presented in the following table.

Precinct And Watch	Number Needed Each Day	Number Needed To Provide 7 Day Coverage
East		
Watch 1	13	20
Watch 2	14	21
Watch 3	18	27
<i>Subtotal East</i>	45	68
North		
Watch 1	22	33
Watch 2	27	41
Watch 3	28	42
<i>Subtotal North</i>	77	116
South		
Watch 1	15	23
Watch 2	19	29
Watch 3	18	27
<i>Subtotal South</i>	52	79
Southwest		
Watch 1	10	15
Watch 2	12	18
Watch 3	12	18
<i>Subtotal Southwest</i>	34	51
West		
Watch 1	19	29
Watch 2	20	30
Watch 3	20	30
<i>Subtotal West</i>	59	89
TOTAL	267	403

Patrol staffing with relief for this scenario is summarized in the following table:

Precinct And Watch	Number Scheduled To Provide 7 Day Coverage	Full-Time Needed After Relief	Overtime FTEs Needed After Relief	Total FTEs Needed
East				
Watch 1	20.00	23.00	5.00	28.00
Watch 2	21.00	24.00	5.40	29.40
Watch 3	27.00	31.00	6.80	37.80
<i>Subtotal East</i>	<i>68.00</i>	<i>78.00</i>	<i>17.20</i>	<i>95.20</i>
North				
Watch 1	33.00	38.00	8.20	46.20
Watch 2	41.00	47.00	10.40	57.40
Watch 3	42.00	48.00	10.80	58.80
<i>Subtotal North</i>	<i>116.00</i>	<i>133.00</i>	<i>29.40</i>	<i>162.40</i>
South				
Watch 1	23.00	26.00	6.20	32.20
Watch 2	29.00	33.00	7.60	40.60
Watch 3	27.00	31.00	6.80	37.80
<i>Subtotal South</i>	<i>79.00</i>	<i>90.00</i>	<i>20.60</i>	<i>110.60</i>
Southwest				
Watch 1	15.00	17.00	4.00	21.00
Watch 2	18.00	21.00	4.20	25.20
Watch 3	18.00	21.00	4.20	25.20
<i>Subtotal Southwest</i>	<i>51.00</i>	<i>59.00</i>	<i>12.40</i>	<i>71.40</i>
West				
Watch 1	29.00	33.00	7.60	40.60
Watch 2	30.00	34.00	8.00	42.00
Watch 3	30.00	34.00	8.00	42.00
<i>Subtotal West</i>	<i>89.00</i>	<i>101.00</i>	<i>23.60</i>	<i>124.60</i>
TOTAL	403.00	461.00	103.20	564.20

Under this scenario 576.8 full-time and overtime FTEs will be needed (including TRU staffing).

	Full-Time	Overtime FTEs	Total
Patrol (Sworn)	461.0	103.2	564.2
TRU (Sworn)	9.0	3.6	12.6
Total	470.0	106.8	576.8

C – PATROL STAFFING SUMMARY

Either of the two staffing scenarios will require a significant increase over the 488 positions currently assigned to patrol who are primarily responsible for handling calls. Scenario A will require 551.8 full-time and overtime FTEs (of which 539 are sworn officers).

	Full-Time	Overtime FTEs	Total
Patrol (Sworn)	429.0	97.4	526.4
TRU (Sworn)	9.0	3.6	12.6
<i>Subtotal Sworn</i>	<i>438.0</i>	<i>101.0</i>	<i>539.0</i>
Civilian	9.0	3.8	12.8
Total (All Staff)	447.0	104.8	551.8

Scenario B will require 576.8 sworn full-time and overtime FTEs.

	Full-Time	Overtime FTEs	Total
Patrol (Sworn)	461.0	103.2	564.2
TRU (Sworn)	9.0	3.6	12.6
Total	470.0	106.8	576.8

**V – STAFFING NEEDED TO HANDLE LOW FREQUENCY
INCIDENTS REQUIRING A SKILLED RESPONSE**

V – STAFFING NEEDED TO HANDLE LOW FREQUENCY INCIDENTS REQUIRING A SKILLED RESPONSE

The Seattle Police Department performs a number of functions that occur relatively infrequently but require a specialized response. These functions/units include the arson bomb squad, SWAT, canine, the force investigation team, crime scene investigations, and the mounted unit. The challenge in staffing such functions is to balance the need for a fast response against the cost of deploying full-time staff who may not be highly utilized. A range of factors should be considered when determining how best to meet these needs:

- Whether the specialized function is necessary to address community needs
- The frequency with which specialized deployments are needed and the times of day at which specialized capacity is needed
- The extent to which staff can make productive use of their time when not supporting a specialized deployment
- The cost of providing the specialized training needed to perform the function
- The number of staff typically needed to respond to an incident
- The need to develop skills and expertise by focusing repetitions on a small number of practitioners
- The likelihood that expertise will be lost when staff are transferred or promoted
- Practical limitations on the frequency with which staff can be expected to be on-call

Each of these factors was considered when determining how the Seattle Police Department can best address low frequency incidents requiring skilled response.

This chapter provides information on how benchmark police departments provide these services. An analysis of staffing needs for each function characterized by low demand but a need for skilled expertise is then presented.

A – BENCHMARK COMPARISONS

Benchmark comparisons suggest that other large police departments take different approaches to addressing at least some of these needs.

- **Crime scene investigations.** All of the benchmark departments (except Raleigh, NC) deploy full-time staff to process evidence at crime scenes
- **Canine.** Each of the benchmark departments deploy full-time canine units
- **SWAT.** Six of the benchmark departments (Mesa, AZ; Raleigh, NC; Denver, CO; Atlanta, GA; Aurora, CO; and San Francisco, CA;) deploy full-time dedicated SWAT teams while five of the benchmark departments (Fresno, CA; Long Beach, CA; Omaha, NE; Portland, OR; and Wichita, KS) do not

- **Mounted.** Six of the benchmark departments (Omaha, NE; Atlanta, GA; San Francisco, CA; Portland, OR; Raleigh, NC; and Denver, CO) deploy full-time dedicated mounted units while five of the benchmark departments (Aurora, CO; Fresno, CA; Long Beach, CA; Mesa, AZ; and Wichita, KS) do not
- **Bomb.** Four of the benchmark departments (Atlanta, GA; Denver, CO; Portland, OR; and San Francisco, CA) deploy full-time dedicated bomb squads while seven of the benchmark departments (Aurora, CO; Fresno, CA; Long Beach, CA; Mesa, AZ; Omaha, NE; Raleigh, NC; and Wichita, KS) do not

B – ARSON BOMB SQUAD (ABS)

At present, two sergeants and six officers are assigned to the arson bomb squad. The officers are assigned to a 9-80 work schedule therefore before accounting for expected absences an average of 1.5 sergeants and three officers are working on Monday and two sergeants and six officers are working Tuesday through Friday.

Analysis suggests that most incidents are responded to during the hours the arson bomb squad is not working. In 2014, ABS staff were deployed on 255 incidents (including 73 incidents of expected arson) or an average of .69 a day. If one assumes that all incidents are distributed in the same proportion as bomb incidents recorded on the CAD system 37.2 percent of the incidents or roughly one every four days (.25) are responded to during the hours ABS officers are working. While the department should be commended for assigning the unit responsibility for investigating arson cases (and thus providing productive work to do when not responding to incidents) in interviews staff estimate that only 20 percent of unit time is devoted to arson investigations.

Given that an estimated three out of five bomb call outs occur during hours ABS staff are not scheduled to work, deploying trained ABS technicians on all three shifts would be more cost effective than maintaining a full-time bomb response capacity. Doing so would reduce the costs of paying ABS staff to be on-call and would allow the department to make better use of the capabilities of these officers when not responding to incidents. Please note that because the number of officers assigned to the unit is relatively small options for assigning additional productive activities to unit staff are limited.

Even after this recommendation is implemented some full-time ABS staffing should be retained. Two positions should be retained on the current schedule to conduct follow-up arson investigations (1.2 FTEs) and to maintain equipment and conduct FIT testing of respirators (.6 FTEs). In addition, one sergeant should be retained to coordinate training. The other sergeant and four officers should be deployed across the first and third watches. These staff should be available to participate in training when it is scheduled. They should also share the remaining on call responsibilities with the full-time ABS staff.

C – SWAT

The department's current SWAT capacity (when all positions are filled) – 4 sergeants and 24 officers – is appropriate. At this level of staffing, 1 sergeant and an average of 8.5 officers will typically be available to support SWAT initiatives on each shift. In addition, the department will be able to support a specialized initiative (for example,

providing dignitary protection) while maintaining a critical mass of officers to support other initiatives.

On the basis of workload alone, however, maintaining a full-time SWAT capacity is not warranted. From January 1, 2014 to November 27, 2014 there were 101 SWAT events or an average of about one every three days (.31 incidents per day). In addition, as the following table shows, the frequency of these incidents was not consistent – while there was one day between incidents about a quarter of the time more than five days passed between incidents slightly less than 15 percent of the time (14.85 percent).

Days Between Incidents	Number	Percent
Number On Same Day	12	11.88%
One Day	25	24.75%
Two Days	14	13.86%
Three Days	13	12.87%
Four Days	10	9.90%
Five Days	12	11.88%
More Than Five Days	15	14.85%

While this information might suggest that maintaining full-time SWAT capacity is not needed, the costs of SWAT team downtime can be mitigated if that downtime is used to support proactive initiatives such as emphasis patrols. Information provided suggests that SWAT personnel are not used as extensively as they could be to support non-SWAT initiatives. In 2014, for example, only three emphasis patrols were reported.¹

The number of staff assigned to the unit (and the relatively small number of incidents responded to) suggest that the unit can have a substantial impact in supporting proactive initiatives. To justify current levels of staffing managers should ensure that SWAT team members spend a high percentage (for example, 80 percent of their time) supporting proactive initiatives when not handling SWAT emergencies and training. If the SWAT team is used extensively to support proactive initiatives the benefits of maintaining a full-time SWAT capability (e.g., reduced response time, improved training, and an enhanced ability for team members to work together seamlessly while in the field) can be retained at very little cost.²

D – CANINE

The discussion of canine operations is divided into three parts: background, staffing, and scheduling.

¹ Some emphasis patrol performed by the SWAT team may not have been reported.

² Costs are low because the time SWAT team members devote to proactive initiatives reduces the need for the department to employ other officers to support proactive efforts.

Background

The canine unit currently deploys nine officers³ on three shifts: three officers are assigned to work from 5:00 a.m. to 1:00 p.m.; three officers are assigned to work from 7:00 p.m. to 3:00 a.m.; and three officers are assigned to work from 10:00 p.m. to 6:00 a.m. These officers work a four-day on two-day off shift rotation and receive an hour off a day to care for the animals.

In addition to these staff two dog/handler teams are assigned to the ABS unit although only one of these teams is affiliated with the canine unit. If these staff are assigned to the canine team – which would be appropriate if the recommendation is implemented to deploy bomb technicians on an as needed basis – the total dog/handler teams assigned to the canine unit will be 12 when the team in training has completed the canine academy.

Staffing

An analysis of average incidents per dog/handler team suggests that the department has done a very good job of varying the number of teams deployed to match expected workload (see Exhibit V-1). Queuing analysis indicates, however, that at current staffing levels (nine canine officers deployed) the department falls short of ensuring that a canine officer will be available when needed 90 percent of the time (during the hours of the day the volume of canine calls justifies canine deployment) (see Exhibit V-2). If one additional dog/handler team were assigned to each shift, however, the department would substantially increase the likelihood that a team will be available when requested (see Exhibit V-3).

No additional staffing, however, is needed to increase the number of canine teams deployed. As discussed, if the dogs trained for explosive detections are also trained to perform tracking and these dog/handler teams are assigned to the canine unit, the unit will have the recommended 12 teams when the dog/handler team currently in training is deployed. Please note that if canine officers back up patrol officers when not handling incidents that require their specialized capabilities the cost of deploying dog/handler teams is low because they reduce the need for other officers to be available to back up calls.⁴

Scheduling

Given the small number of requests for dog/handler teams from 1:00 p.m. to 7:00 p.m. (.06 requests per hour per day on average or one request on average per hour every 20 days) the department's decision not to deploy dog/handler teams during these hours is

³ At the time the study was being conducted one additional team was attending the canine academy.

⁴ Because canine officers cover such large areas of the city, however, determining which precincts they support when providing back up is difficult. Consequently, it is difficult to determine how precinct patrol staffing should be adjusted to reflect the back-up response canine officers provide.

CANINE RESPONSES AND STAFFING BY HOUR OF THE DAY

Hour	Average Responses Per Day	Number Of Teams Scheduled	Average Number Working After Accounting For Absences	Average Responses Per Team Per Day
0	0.84	4	2.65	0.32
1	0.79	4	2.65	0.30
2	0.87	4	2.65	0.33
3	0.53	2	1.32	0.40
4	0.34	2	1.32	0.26
5	0.17	4	2.65	0.06
6	0.16	2	1.32	0.12
7	0.17	2	1.32	0.13
8	0.19	2	1.32	0.14
9	0.21	2	1.32	0.16
10	0.17	2	1.32	0.13
11	0.17	2	1.32	0.13
12	0.17	2	1.32	0.13
13	0.11	0	0.00	N/A
14	0.04	0	0.00	N/A
15	0.04	0	0.00	N/A
16	0.06	0	0.00	N/A
17	0.04	0	0.00	N/A
18	0.06	0	0.00	N/A
19	0.20	2	1.32	0.15
20	0.29	2	1.32	0.22
21	0.46	2	1.32	0.35
22	0.79	4	2.65	0.30
23	0.69	4	2.65	0.26

**COMPARISON OF CURRENT STAFFING AND STAFFING NEEDED TO
ENSURE CANINE AVAILABILITY 90 PERCENT OF THE TIME**

Hour	Maximum Calls Per Day	Number Needed To Ensure Availability 90 Percent Of The Time	Average Number Working After Accounting For Absences	Surplus/ (Shortfall)
0	1.1	3	2.65	(0.35)
1	1.0	3	2.65	(0.35)
2	1.2	3	2.65	(0.35)
3	0.9	3	1.32	(1.68)
4	0.5	2	1.32	(0.68)
5	0.3	2	2.65	0.65
6	0.3	2	1.32	(0.68)
7	0.3	2	1.32	(0.68)
8	0.2	2	1.32	(0.68)
9	0.3	2	1.32	(0.68)
10	0.3	2	1.32	(0.68)
11	0.3	2	1.32	(0.68)
12	0.3	2	1.32	(0.68)
13	0.2	2	0.00	(2.00)
14	0.1	1	0.00	(1.00)
15	0.1	1	0.00	(1.00)
16	0.1	1	0.00	(1.00)
17	0.1	1	0.00	(1.00)
18	0.1	1	0.00	(1.00)
19	0.3	2	1.32	(0.68)
20	0.4	2	1.32	(0.68)
21	0.6	2	1.32	(0.68)
22	1.0	3	2.65	(0.35)
23	1.1	3	2.65	(0.35)

**COMPARISON OF RECOMMENDED STAFFING AND
STAFFING NEEDED TO ENSURE CANINE AVAILABILITY 90
PERCENT OF THE TIME**

Hour	Maximum Calls Per Day	Number Needed To Ensure Availability 90 Percent Of The Time	Average Number Working After Accounting For Absences	Surplus/ (Shortfall)
0	1.1	3	3.52	0.52
1	1.0	3	3.52	0.52
2	1.2	3	3.52	0.52
3	0.9	3	1.76	(1.24)
4	0.5	2	1.76	(0.24)
5	0.3	2	3.52	1.52
6	0.3	2	1.76	(0.24)
7	0.3	2	1.76	(0.24)
8	0.2	2	1.76	(0.24)
9	0.3	2	1.76	(0.24)
10	0.3	2	1.76	(0.24)
11	0.3	2	1.76	(0.24)
12	0.3	2	1.76	(0.24)
13	0.2	2	0.00	(2.00)
14	0.1	1	0.00	(1.00)
15	0.1	1	0.00	(1.00)
16	0.1	1	0.00	(1.00)
17	0.1	1	0.00	(1.00)
18	0.1	1	0.00	(1.00)
19	0.3	2	1.76	(0.24)
20	0.4	2	1.76	(0.24)
21	0.6	2	1.76	(0.24)
22	1.0	3	3.52	0.52
23	1.1	3	3.52	0.52

generally sound. On any given day, an average of .33 requests for dog/handler teams are received or one every three days. During the hours from 1:00 p.m. to 2:00 p.m. there are, however, considerably more requests for canine teams than the other hours dog/handler teams are not deployed. An average of .11 requests for canine teams are received from 1:00 p.m. to 2:00 p.m. while no more than .06 requests are received per hour during the other hours canine teams are not deployed. By shifting the start of the 5:00 a.m. to 1:00 p.m. shift by one hour (so officers would be deployed from 6:00 a.m. to 2:00 p.m.) coverage can be provided 1:00 p.m. to 2:00 p.m. while leaving ample coverage from 5:00 a.m. to 6:00 a.m. (Instead of having a surplus⁵ of 1.52 officers from 5:00 a.m. to 6:00 a.m. there would be a shortfall of .24 officers if this scheduling adjustment is made. From 1:00 p.m. to 2:00 p.m., however, instead of having a shortfall of 2.00 officers there would only be a shortfall of .24 officers.)

E – FORCE INVESTIGATION TEAM (FIT)

The force investigation function is led by a captain who oversees one lieutenant, one sergeant, and six detectives. Four detectives work a day shift from 8:00 a.m. to 5:00 p.m. on a 9-80 schedule and two detectives work from 3:00 p.m. to midnight on a 9-80 schedule.

The Force Investigation Team's workload is both sporadic and intensive. From January 14, 2014 to February 25, 2015, 51 incidents were investigated by the Force Investigation Team or one every 8.2 days on average. As the following table shows, the length of time between incidents was far from constant.

Duration Between Incidents	Number
Same Day	5
One Day	4
Two Days	4
Three Days	4
Four Days	2
Five Days	3
Six Days	4
One Week	2
More Than One Week	23

When an incident takes place both the initial response and the follow up require intensive effort. The lowest level of response (which has been approved by the monitoring team) is one commander (a captain or a lieutenant), one sergeant, and two detectives. For shootings, all available detectives respond and are typically supplemented by homicide detectives. The average response to the 51 incidents has been .9 captains, .5 lieutenants, 1.1 sergeants, and 3.1 detectives.

The follow-up investigations must be completed quickly – detectives must complete their initial investigation within 21 days and the case must be submitted to the Assistant Chief for review within 30 days – and thoroughly. Completing investigations within this time

⁵ For the purposes of this analysis shortfall and surplus reflect the difference between the number needed to ensure canine availability 90 percent of the time (based on queuing analysis) and the number that would be working if 12 dog/handler teams are deployed.

frame can be difficult given the time required for witnesses to return calls, to obtain hospital medical records, and to obtain store security videos (which often must go through an internal review before they are released). Given the sporadic and intensive nature of the unit's work it is not surprising that unit staff report working up to 36 hours straight during some periods and experiencing significant lulls during other periods.

The department should consider exploring two options to address the sporadic yet intensive nature of the FIT workload. First, the department should explore assigning FIT officers to conduct long-term investigations – such as fraud and forgery – that are capable of being interrupted. Conducting these investigations would allow FIT investigators to make effective use of their time when not conducting a force investigation. In addition, more officers and supervisors should be trained to support the FIT team (to reduce the frequency with which officers and supervisors must be on call and to provide support during periods of intensive activity).

F – CRIME SCENE INVESTIGATIONS (CSI)

One sergeant and six detectives are currently assigned to the crime scene investigations unit. The detectives work a 9-80 schedule so six detectives are scheduled to work on Monday through Thursday and three are scheduled to work on alternate Fridays.

Analysis suggests that the unit employs more staff than are needed to handle its expected workload. The analysis makes a number of conservative assumptions:

- To ensure one position is filled each work day 1.5 CSI detectives need to be employed (this was the highest relief factor calculated for any of the units for which information on absences was obtained)
- CSI detectives are productive for 85 percent of their work hours
- The average response requires 6.93 hours in the field and twice that time to perform non-field work for each detective responding to the incident⁶
- Eighteen percent of the vehicles processed require two hours, 80 percent require 3 hours, and 2 percent require 6.5 hours (with twice this much time required for documentation and paperwork)

Based on these assumptions and the actual number of detectives responding to incidents 3.52 FTEs of CSI capacity are needed. If instead of using the actual number of detectives responding to incidents the analysis assumes that a minimum of 3 detectives should respond to incidents 4.14 detectives are needed.⁷ Two of the six CSI detectives should therefore be reassigned.

⁶ To estimate the time crime scene investigators spend in the field 4.25 hours was initially used, based on the assumption that 75 percent of the incidents require 3.5 hours per officer and 25 percent require 6.5 hours per officer. To be conservative this initial estimate was multiplied by 1.5.

⁷ If the actual number of detectives responding was more than three the actual number of detectives was used in this calculation. For vehicle processing the analysis used the actual number of detectives assigned.

Please note that one problem with reducing CSI staffing is that doing so increases the frequency with which staff must be on call. One way to address this would be to train two additional sergeants (for a total of three) and two additional detectives to process scenes and to include these staff in the on-call rotation. If this recommendation is implemented the on-call schedules of the full-time CSI detectives and the additionally trained CSIs should be coordinated so that full-time and “as needed” CSIs respond to incidents together.

G – MOUNTED UNIT

The Seattle Police Department currently deploys a small mounted unit. One sergeant and four officer positions are budgeted and two sergeant and two officer positions are currently filled.

In general mounted units fulfill a public relations role and can also be effective in assisting with crowd control. The mounted unit was deployed, for example, in 11 of the 41 events for which Incident Action Plans were prepared in 2014 and the first two months of 2015. Whether the department should continue to invest in the cost of maintaining a mounted unit depends in large part on whether the department perceives that the value created at the events to which the unit is deployed justify its costs.

Different departments perceive the value of mounted units differently. Six of the benchmark departments (Omaha, NE; Atlanta, GA; San Francisco, CA; Portland, OR; Raleigh, NC; and Denver, CO) deploy full-time dedicated mounted units while five of the benchmark departments (Aurora, CO; Fresno, CA; Long Beach, CA; Mesa, AZ; and Wichita, KS) do not.

VI – INVESTIGATIVE STAFFING

VI – INVESTIGATIVE STAFFING

To assess investigative staffing, the productivity of the individual investigative staff assigned to each unit was evaluated, as was the productivity of individual investigative units over time. The analysis of investigative productivity over time did not suggest the need to modify investigative staffing. Trends were difficult to discern, however, since only five years of data were available. Likewise, analysis of individual investigator productivity in each investigative unit did not support adjusting unit staffing.

Two investigative areas – auto theft and burglary – were highlighted as areas where investigative performance should improve. In both areas, the department's current performance is substantially lower than the national average and the average of the benchmark departments used for comparison.¹ With regard to burglaries, the department's current clearance rate is 6.03 percent while the national average clearance rate is 13.1 percent and the average clearance rate of the benchmark departments was 11.1 percent. For auto theft, the Seattle Police Department's clearance rate is 5.49 percent while the national average clearance rate is 14.2 percent and the average clearance rate of the benchmark departments is 10.4 percent.

AUTO THEFT

One sergeant and four officers are currently assigned to the auto theft unit. An analysis of the number of positive case outcomes per detective based on information for 2013 and 2014 indicates that a detective at the 60th percentile of productivity will be able to achieve 80 positive case outcomes.²

In 2014, 5,843 auto thefts were reported in Seattle and the department's clearance rate was 5.49 percent. If the department were to increase its clearance rate to the average of the benchmark departments (10.4 percent) 304 additional clearances will be required. Assuming the auto theft unit is able to continue to maintain a standard of 80 positive outcomes per detective 3.8 additional detectives would be needed. Increasing the department's clearance rate to the national average in 2013 (14.2 percent) would require 509 additional clearances and 6.36 additional detectives.

BURGLARY THEFT

At present 20 burglary theft detectives are assigned to the precincts. In 2014 the department cleared 6.03 percent of the 7,099 burglaries reported (428 burglaries).

To determine the number of staff needed to increase burglary clearances to the national average clearance rate (13.1 percent) or to the average clearance rate of the benchmark departments (11.1 percent) a number of steps were taken. First, the percentage of each

¹ The benchmark police departments providing clearance rate information were Mesa, AZ; Omaha, NE; Atlanta, GA; Fresno, CA; Portland, OR; Long Beach, CA; and San Francisco, CA. Additional information on the benchmark comparisons is presented in Appendix A.

² Positive case outcomes included cleared exceptional adult, cleared exceptional juvenile, law department, arrest felony, KCPA adult, KCPA juvenile, and unfounded. Non-positive case outcomes included inactive, administrative clearance, and referred other agency.

precinct detective's workload devoted to burglary investigations was calculated. Second, the number of burglary clearances each precinct detective achieves per year was calculated. (Adjustments were made to reflect the fact that some detectives were not assigned to precincts for an entire year.) Next, using the information on the percentage of detective's workload devoted to burglary investigations the number of burglary clearances each detective would achieve if they devoted all their time to burglary investigations was estimated. This information was then used to calculate a productivity standard for precinct detectives working on burglary cases on a full-time basis – 85.1 clearances per year.

Using this productivity expectation, the number of additional detectives needed to meet clearance expectations was calculated. Six additional detectives (5.89 detectives rounded up) are needed to clear the 502 additional cases needed to achieve the national average clearance rate of 13.1 percent. Five additional detectives (4.21 detectives rounded up) are needed to clear the additional 360 cases needed to achieve the average clearance rate of the benchmark departments of 11.1 percent.³

³ Please note that this analysis assumes the time needed to investigate a burglary case is proportional to the time required to investigate other cases handled by precinct detectives.

VII – STAFFING FOR OTHER FUNCTIONS

VII – STAFFING FOR OTHER FUNCTIONS

This chapter presents the assessment of staffing needs for a number of additional functions: harbor patrol; photo enforcement; real time crime center; training; and audit.

A – HARBOR PATROL

The Harbor Patrol is currently led by a lieutenant who oversees three squads consisting of one sergeant and six officers and one squad consisting of one sergeant and five officers. (When the unit is fully staffed each of the four squads is staffed with six officers.) In addition one civilian administrator and one civilian mechanic are assigned to the unit.

Staff assigned to the unit work 24-hour shifts that rotate days off as follows: one day on, one day off, one day on, five days off. Based on this schedule one squad is on duty each 24-hour shift. After accounting for expected absences an average of 4.6 officers will be working three out of every four days and 3.8 officers will be working on the fourth day.

Analysis of CAD data suggests that the Harbor Patrol does not respond to a high number of calls-for-service. Even during the relatively busy summer months the unit responds to fewer than three calls every 24 hours on average (see Exhibit VII-1).¹ When not responding to calls the Harbor Patrol officers perform a number of functions including:

- Patrol Lake Washington, Lake Union, and the Seattle shoreline
- Conduct premise checks
- Check bridges, locks, waterways, marinas, docks, and piers for suspicious activity
- Conduct boating safety inspections
- Support special events
- Participate in specialized training such as dive training

With between 3.8 and 4.6 officers typically working, at current staffing levels the Harbor Patrol is typically able to deploy two two-officer patrol boats on each shift. The unit's top priority is to deploy a patrol boat on Lake Union and its second priority is to deploy a patrol boat on Lake Washington. If all six officers assigned to a shift are working a third two-officer patrol boat will patrol the Seattle waterfront. The actual time spent patrolling ranges from four to ten hours per shift (depending on the season). All but one officer typically sleeps between 10:00 p.m. and 6:00 a.m.

¹ Please note that in interviews Harbor Patrol managers noted that not all unit activity is captured by the CAD system. It seems unlikely, however, that activities not recorded by the CAD system will be so numerous that the focus of this analysis will change.

HARBOR PATROL AVERAGE CALLS BY HOUR FOR SELECTED MONTHS

Hour	January	April	June	August	October	Yearly Average
0	0.03	0.03	0.00	0.03	0.00	0.02
1	0.00	0.03	0.00	0.10	0.00	0.01
2	0.00	0.03	0.00	0.00	0.03	0.02
3	0.00	0.07	0.00	0.00	0.03	0.03
4	0.10	0.00	0.00	0.00	0.00	0.02
5	0.03	0.00	0.00	0.03	0.00	0.02
6	0.00	0.00	0.00	0.06	0.00	0.03
7	0.00	0.10	0.10	0.03	0.03	0.04
8	0.03	0.03	0.00	0.03	0.00	0.02
9	0.03	0.07	0.17	0.06	0.06	0.06
10	0.16	0.07	0.17	0.03	0.13	0.08
11	0.00	0.03	0.17	0.16	0.03	0.09
12	0.00	0.13	0.03	0.10	0.03	0.07
13	0.06	0.00	0.10	0.10	0.06	0.09
14	0.03	0.13	0.10	0.06	0.06	0.09
15	0.16	0.03	0.27	0.10	0.10	0.11
16	0.03	0.27	0.20	0.39	0.10	0.15
17	0.00	0.00	0.07	0.16	0.13	0.09
18	0.00	0.03	0.20	0.29	0.13	0.11
19	0.00	0.03	0.07	0.19	0.10	0.11
20	0.00	0.03	0.13	0.29	0.00	0.10
21	0.06	0.00	0.07	0.26	0.06	0.07
22	0.00	0.07	0.00	0.10	0.00	0.04
23	0.03	0.03	0.10	0.19	0.03	0.05
Total Per Day	0.77	1.23	1.93	2.77	1.13	1.52

Given that officers do not patrol between the hours of 10:00 p.m. and 8:00 a.m. and the number of calls responded to during these hours is extremely low it does not seem necessary to staff the Harbor Patrol 24 hours a day. Only .13 CAD calls are responded to per hour on average from 1:00 a.m. to 7:00 a.m. and even during the relatively busy month of August only .19 CAD calls are responded to during these hours.²

The Harbor Patrol can maintain its current coverage by deploying four officers in two two-officer patrol boats 18 hours a day (on two shifts from 7:00 a.m. to 4:00 p.m. and from 4:00 p.m. to 1:00 a.m.). To achieve this level of coverage six officers should be assigned to each of the two shifts. After adjusting for expected absences (a relief factor of 1.31 was calculated based on Harbor Patrol officer absences) eight officers should be assigned to each shift.

If the department wishes to retain 24-hour coverage a third shift should be staffed to ensure one patrol boat and two officers are working per shift. Four officers would need to be assigned to this shift to ensure two officers are scheduled on each shift after adjusting for expected absences.

In summary, if 24-hour coverage is not provided two squads of one sergeant and eight officers should be deployed. Under this scenario, two sergeants and seven officers would be available for redeployment. On the other hand, if 24-hour coverage is provided an additional squad of one sergeant and four officers would be needed. One sergeant and three officers would be available for redeployment under this alternative.

B – PHOTO ENFORCEMENT

Based on the sample of days for which information was provided the productivity of photo enforcement officers varies. The average productivity in terms of the number of violation reviews of the most productive officer (298.2 reviews per day) was more than 2.2 times as high as the average for the least productive officer (134.6 reviews per day). Holding all staff to the standard of the most productive officer would likely be unrealistic as the other two officers had productivity of 188.9 and 174.3 cases reviewed a day. Using productivity at the 60th percentile – 232.6 cases reviewed per day – is a reasonable standard to use based on the information provided.³ This standard should be used to adjust photo enforcement staffing as photo enforcement operations expand over time.⁴

² While not able to enforce laws if a medical or fire emergency occurs fire department personnel are available to respond to harbor incidents during these hours.

³ This standard takes into account the time officers spend in court.

⁴ Over time, this standard should be adjusted to reflect a full year of cases reviewed for each officer. When modifying the standard adjustments should be made for officer absences and the time officers spend in court.

C – REAL TIME CRIME CENTER

Recommended staffing of the real time crime center assumes that three officers should be deployed during the day shift and that two officers should be deployed during the evening shift and the night shift. To ensure these positions are filled 24-hours a day seven days a week 15 officers should be assigned to the unit.

Shift	Officers Needed Per Day	Number Scheduled	Number Needed After Relief
Day	3	5	7
Evening	2	3	4
Night	2	3	4
Total	7	11	15

D – TRAINING

To assess the number of staff needed to support training a model for determining training staffing needs as training requirements change was developed. The model calculates the staffing needed to both develop curriculum and provide instruction.⁵ With regard to curriculum development the model considers the hours required to develop a new curriculum, revise existing department curriculum, or modify curriculum developed by another department. Hours needed by a skilled curriculum developer and a subject matter expert were delineated. In addition, different estimates were obtained for classroom curriculum and e-learning curriculum. Information on how the time required to develop curriculum varies depending on the experience of the person developing the curriculum was also incorporated into the model.

The instructional staffing needs incorporated into the model vary with a number of factors:

- The number of officers that need to be trained
- The number of hours of training being provided
- The number of officers that can be taught at one time (i.e., class size)
- The actual number of participants in each session
- The number of skilled instructors and instructor assistants needed per session
- The number of hours of prep time needed per hour of instruction for skilled instructors and instructor assistants

Based on the model inputs provided by the training unit additional staffing is warranted to both develop and revise curriculum and meet expanded training expectations. A minimum of six curriculum development positions is needed (with approximately five

⁵ Model inputs are based on estimates provided by the training unit.

positions being subject matter experts and one position being a curriculum development specialist) if these staff are highly experienced. If the staff developing curriculum are not experienced double the number of positions will likely be needed. In addition, 31 positions are needed to deliver training based on the inputs into the staffing model provided by the training unit. No change in the three staff who currently support the FTO program is recommended.

Please note that these staffing recommendations reflect “order of magnitude” estimates of training unit staffing needs. Inputs into the staffing model should be modified over time to reflect the actual time required to develop curriculum and deliver instruction. For example, the inputs used to develop these staffing recommendations assumed that all training programs require the same level of staffing and effort. It seems likely, however, that the number of staff required to prepare and deliver instruction will vary by program.

E – AUDIT

The workload of the audit unit has grown and is likely to continue to grow. In particular, the consent decree has significantly increased the unit’s workload. Of the 79 audits that are expected to be completed in the coming year 35 (44.3 percent) are directly or indirectly related to the consent decree.

Even with this increase in workload the audit unit has the capacity to meet its requirements. To prepare for and to complete these audits and perform special request audits⁶ 6,958 hours are required (see Exhibit VII-2) and the audit unit’s current capacity is 7,349 hours. However, potential future audits relating to complaints, pursuits, use of vehicles, travel expenses, and overtime could require 800 hours of audit time. If these audits are required additional part-time assistance will be required.

⁶ An estimated 240 hours are needed to perform special request audits.

PROJECTED AUDIT WORK HOURS

Audit Title	Consent Decree	Projected Number Of Audits Per Year	Projected Total Audit Hours	Projected Planning Hours	Total Hours
Conversion and Inspection of Drugs	No	2	16	20	36
Ticket Accountability	No	12	480	20	500
Inspection of Drug Detection/Dogs	No	4	64	20	84
NCIC Criminal History Logs	No	2	80	40	120
Confidential Informant Files	No	10	410	80	490
Unit Issued Firearms	No	1	96	80	176
LinX/Ndex Accountability	No	1	40	80	120
Juvenile Justice Survey	No	2	40	8	48
UC School Acquisition	No	1	4	16	20
Evidence - General Property	No	0	0	20	20
Evidence - Drugs	No	1	30	20	50
Evidence - Guns	No	1	30	20	50
Evidence - High Value Items	No	1	30	20	50
Evidence - Court Check Out	No	0	0	40	40
Evidence - Property Release	No	0	0	40	40
Evidence - Disposal Drugs	No	2	100	8	108
Evidence - Disposal Guns	No	2	28	8	36
Use of Force - Force Review Board	Direct	2	150	80	230
Use of Force - Type I	Direct	2	240	80	320
Use of Force - Type II	Direct	2	300	80	380
Use of Force - Type III	Direct	2	300	80	380
Use of Force - Less Lethal Weapons	Direct	2	240	80	320
Crowd Control Device Accountability	Direct	1	60	80	140
Span of Control - Acting Sergeants	Direct	2	80	80	160
Span of Control - Sergeants	Direct	1	40	80	120
In-Car Video Use	Indirect	1	200	100	300
In-Car Video Equipment Deployment	Indirect	1	40	80	120
Body Worn Cameras	Indirect	1	200	120	320
Arrests - General	Indirect	1	90	80	170
Arrests - Obstruction	Indirect	1	60	40	100
Investigative Stops (Terry Stops)	Yes	2	120	80	200
Traffic Stops	Yes	2	120	80	200
Misc. Infractions and Violations	Yes	1	60	40	100
Crisis Intervention	Yes	2	160	80	240
Early Intervention	Direct	1	40	30	70
Performance Evaluation	Direct	1	40	40	80
Field Bias Complaint	Direct	1	40	40	80
Mandatory Training (Officers & Detects.)	Indirect	1	60	40	100
Mandatory Training - Sergeants	Direct	1	60	40	100
Special Certifications/Qualifications	Indirect	1	60	40	100
Less Lethal Training & Certifications	Direct	1	60	40	100
Firearms Qualifications	Direct	1	60	40	100
Special Function Certifications	Direct	1	60	40	100
Booking Photo Comparison System	No	2	40	60	100
Total		79	4,428	2,290	6,718

VIII – PROACTIVE STAFFING NEEDS

VIII – PROACTIVE STAFFING NEEDS

The evaluation of the department's proactive staffing needs is divided into three parts. First, the department's current allocation of staff between proactive and responsive capacity is assessed. Next, the overall level of staffing that is needed if the department is to achieve its goal of devoting the same resources to proactive and responsive needs is evaluated. Finally, an assessment is made of how to allocate the additional proactive staff the analysis suggests are needed.

Current Allocation Of Sworn Resources

Four steps were taken to evaluate the current allocation of sworn resources.

- **Step 1: Identify units with sworn officers/detectives.** Since the focus of this review is sworn staffing, units without sworn officers/detectives were excluded from the analysis.
- **Step 2: Categorize units.** As discussed in Chapter III, police department services may be grouped into four general categories: responding, being proactive, providing direct support, and providing indirect support. After completing an initial categorization of units these categorizations were reviewed with the department and appropriate modifications were made. Please note that for the purpose of this assessment direct support activities were divided into two categories – those that support responsive activities and those that support proactive activities.
- **Step 3: Allocate staff among proactive and responsive categories for units that perform both proactive and responsive work.** The approaches used to make these allocations varied by function. For patrol officers who respond to calls this allocation was based on an estimate of the amount of time officers currently devote to call response and the time available to support proactive initiatives (after accounting for administrative time based on the activity analysis survey¹).

Precinct	Responsive Percent	Administrative Percent	Proactive Percent
East	27.9%	29.1%	43.1%
North	28.8%	29.1%	42.1%
South	27.9%	29.1%	43.0%
Southwest	22.8%	29.1%	48.2%
West	30.5%	29.1%	40.5%

Proactive time was then reduced by one-third to reflect the fact that the time patrol officers spend on proactive activities between calls-for-service is less productive than

¹ An activity analysis survey that asked patrol officers to estimate how much time they devote to various activities was conducted as part of this study. Appendix C presents activity analysis results.

the time of officers who devote all their time to proactive initiatives.² For traffic (excluding DUI and collision investigators) the allocation was based on an interview estimate that traffic officers devote 60 percent of their time to responsive work (especially events) and 40 percent on proactive work. For other functions the allocation was based on the number of personnel in the unit performing responsive and proactive work. For example, Fraud, Forgery, and Gang – administration staffing was allocated evenly among the Direct Support – Proactive and Direct Support – Responsive categories because the number of staff assigned to gangs is about the same as the number assigned to fraud and forgery investigations. The results of the preliminary categorization and allocation of staff among functions is presented in Exhibit VIII-1

- **Step 4: Calculate staffing by category.** The results of the categorization and allocation of staffing indicates that the department focuses somewhat more resources on proactive than responsive activities. When direct support is considered the department devotes 41.3 percent of sworn officers to proactive activities and 46.9 percent to responsive activities.

Category	Number Of	
	Officers	Percent
Proactive	402.3	41.1%
Responsive	379.1	38.7%
Indirect Support	116.0	11.8%
Direct Support – Responsive	80.5	8.2%
Direct Support – Proactive	1.5	0.2%
Total	979.4	100.0%

Sworn Resources Needed To Support Proactive Initiatives

The following table summarizes the number of officers allocated by service category if study recommendations are implemented.³

Category	Number Of	
	Officers	Percent
Responsive	511.9	44.5%
Proactive	415.3	36.1%
Indirect Support	130.0	11.3%
Direct Support – Responsive	85.1	7.4%
Direct Support – Proactive	7.5	0.7%
Total	1,149.8	100.0%

² It is difficult for patrol officers to make effective use of small increments of time between calls. Indeed, about 10 percent of the theoretically available patrol officer proactive time is not available to support proactive initiatives as this time occurs during shift change hours.

³ Please note that the proactive time of patrol officers who respond to calls is reduced by 25 percent to reflect the fact that the time officers spend on proactive activities between calls is less productive than the time dedicated officers devote to proactive activities. The proactive time available during shift change hours – which accounts for about 10 percent of the theoretically available patrol proactive time – is also excluded from this analysis.

When direct support is considered 597.0 FTEs will be allocated to responsive activities and 422.8 FTEs will be allocated to proactive activities. If the department is to allocate the same resources to proactive activities as responsive activities 174.2 additional proactive FTEs will be needed.

Allocation Of Additional Proactive Staffing

To determine how to best allocate additional proactive staff, department leaders were also asked to consider how additional increments of 15 sworn staff to support proactive initiatives should be allocated.

- Of the first increment of 15 additional officers eight were assigned to patrol (two first watch, three second watch, and three third watch), one was assigned to gang intelligence, three were assigned to gangs, one was assigned to street vice, one was assigned to longer-term vice investigations, and one was assigned to longer-term major crime investigations
- Of a second increment of 15 additional officers eight were assigned to patrol (two first watch, three second watch, and three third watch), two were assigned to work with corrections to ensure probation terms are adhered to, one was assigned to gangs, three were assigned to internet crimes against children, and one was assigned to human trafficking
- Of a third increment of 15 additional officers three were assigned to patrol (one to each patrol watch), two were assigned to robbery, eight were assigned to precinct detectives, and two were assigned to homicide/assaults
- All additional increments of proactive officers were allocated to patrol as follows: three to the first watch, six to the second watch, and six to the third watch

The recommended distribution of additional staff by unit/function is summarized in the following table.

Unit	Additional Officers
Patrol	148.2
Burglary/Theft	8.0
Gang Squads	4.0
Internet Crimes Against Children	3.0
Homicide/Assault	2.0
Robbery	2.0
West Precinct (Department Of Corrections Assistance)	2.0
Gang Intelligence	1.0
Human Trafficking	1.0
Major Crimes Task Force	1.0
Street Vice	1.0
Vice (General Investigations)	1.0
Total	174.2

IX – CIVILIANIZATION ANALYSIS

IX – CIVILIANIZATION ANALYSIS

The framework used to assess civilianization opportunities takes as a starting point that positions should be filled by civilians unless an affirmative case can be made that sworn officers are needed. There are two primary reasons for taking this starting position. First, because annual compensation for sworn employees (and contributions to pension plans) is higher than for civilian employees it is not cost effective to use sworn employees to fill positions where a sworn officer is not needed. In addition, requiring that an affirmative case be made for assigning a position to a sworn officer ensures that the need for sworn officers is systematically evaluated. If the default position is that positions should be filled by sworn officers there will be a tendency to assign sworn officers to some positions that can effectively be handled by civilians.

An affirmative case for assigning a position to a sworn officer can be made under three conditions:

- The position requires the law enforcement powers of a sworn officer
- The skills, training, and experience of a sworn officer are needed to effectively perform the job duties
- While the skills, training, and experience of a sworn officer are not required to effectively perform the job, assigning the position to a sworn officer is beneficial to the community and/or the department and the value of these benefits outweigh the costs

The civilianization analysis begins by identifying positions for which the case for assigning a sworn officer to fill the position is unambiguous. The case for assigning a sworn officer to fill a position is unambiguous if law enforcement powers are required to perform the functions assigned to the position or a broad range of the skills, training, and experience of a sworn officer are required. In addition, the job functions that justify the assignment of a sworn officer must comprise the preponderance of the position's job duties.

Assigning sworn officers to positions for which an unambiguous case for assigning a sworn officer cannot be made should be considered under selected circumstances. These circumstances relate primarily to credibility, operational knowledge and perspective, and the development of future leaders.

- **Credibility.** Assigning a sworn officer to a position that could be performed by a civilian is warranted if being a sworn officer provides the *credibility* needed to effectively perform job responsibilities.
- **Operational knowledge and perspective.** Assigning a sworn officer to a position that could be handled by a civilian may also be warranted if the operational knowledge and perspective of a sworn officer are helpful in performing the job duties. In addition, the need for this knowledge and perspective must be consistent and frequent and the negative consequences that may result from mistakes made as a result of not having this knowledge and perspective must be sufficiently severe that the additional costs associated with assigning a sworn officer to the position are warranted.

- **Leadership development.** Assigning a sworn officer to a position that could be performed by a civilian may also be helpful in developing the skills of future leaders. This rationale for assigning a sworn officer should only be considered if the level of technical skills and professional expertise needed to fulfill the function are not excessive (e.g., a sworn officer rotating through the assignment on a two- to three-year cycle could develop the skills and expertise needed to effectively perform the job quickly). In addition, it should be the case that the best way to become familiar with the function or activity is by managing or performing it on a day-to-day basis.

The analysis presented in Exhibit X-1 indicates that the department should consider assigning civilians to perform the following functions:

- Cyber crimes support/real time crime center
- Technical electronic support
- Office of Professional Accountability intake
- Office of Professional Accountability investigations
- False alarm
- Project "if"
- Background investigations
- Crime scene investigations
- Special events planning support
- APRS management
- Audit
- Training – curriculum development (writing)
- Polygraph

The analysis also suggests that some functions should be performed by a mix of civilians and sworn officers:

- Public information officer
- Training – instructional delivery
- Crime analysts
- Policy

X – SPECIAL EVENTS STAFFING

X – SPECIAL EVENTS STAFFING

The department devotes extensive resources to supporting special events. To quantify these resources Incident Action Plans (IAPs) for 39 special events from January 14, 2014 to April 14, 2015 were reviewed. This review indicates that 34,438 hours (or the equivalent of 16.6 full-time positions working 2,080 hours a year) were devoted to supporting 29 IAP special events in 2014 and 12,195 hours (or the equivalent of 5.9 full-time positions working 2,080 hours a year) were devoted to supporting 10 IAP special events from January 1, 2015 to April 12, 2015. Events for which IAPs are prepared, however, comprise only a small proportion of the events the department supports. By April 1, 2015 482 additional events had been scheduled.¹

The following table – which summarizes resource needs by hour for the 39 IAP events – shows that there is considerable variation in when and how many officers are needed.

Hour	Number Of Days For Which Officers Were Deployed	Average Number Of Officers Deployed	Maximum Deployed	Minimum Deployed
0	13	119.3	421.0	1.0
1	12	90.1	403.0	1.0
2	10	53.6	348.0	1.0
3	7	12.6	66.0	1.0
4	6	3.3	5.5	1.0
5	6	2.4	4.0	0.5
6	7	5.4	24.0	0.5
7	11	20.6	98.0	1.0
8	14	45.5	181.0	1.5
9	17	52.0	196.5	3.0
10	21	89.6	251.0	14.0
11	25	97.0	251.0	1.0
12	27	101.1	310.0	3.5
13	29	102.3	334.0	2.5
14	29	106.7	334.0	7.0
15	29	108.9	351.0	7.0
16	31	117.0	359.0	9.0
17	30	126.3	444.0	3.5
18	28	115.7	444.0	3.0
19	28	123.2	452.0	3.0
20	28	125.8	452.0	3.0
21	27	123.9	452.0	1.0
22	24	102.2	452.0	1.0
23	18	104.8	452.0	1.0

¹ The number of events the department actually supported in 2015 was likely larger as this number does not include events scheduled after April 1.

The analysis also suggests that supporting events imposes a significant opportunity cost on specialized patrol units (e.g., ACT, CPT, and bikes).²

Unit	Hours
ABS	258.0
East ACT	177.5
East Bike	114.0
East CPT	36.5
Mounted	85.5
North ACT	125.0
North Bike	246.5
North CPT	24.0
South ACT	124.0
South Bike	84.0
Southwest ACT	122.5
Southwest CPT	12.0
SWAT	407.0
Traffic	424.0
West ACT	124.0
West Bike	413.0
West CPT	12.0

This analysis suggests that with the exception of specialized units such as SWAT, mounted, canine, and traffic the department should primarily use overtime to support special events. Assigning these specialized units to support special events is appropriate because one of the primary purposes for maintaining these specialized units is to retain the capacity to support infrequent incidents that require specialized skills. By contrast, for patrol officers assigned to functions such as CPT, ACT, and bikes, supporting special events diverts resources (and management attention) from on-going proactive initiatives. Moreover, if patrol officers who answer calls are used to support special events, the department will not be able to meet service expectations. Given the infrequency of special events, and the intensity of resources needed to support them, using overtime to support special events is therefore appropriate

² This analysis assumes that when the IAP references a specific unit these staff are working as part of their regular shift (or on a compensatory time basis). IAPs do not indicate when staff are working on overtime or when they are assigned to support a special event during their shifts.

XI – STAFFING SUMMARY

XI – STAFFING SUMMARY

To achieve a seven-minute response time to Priority One calls 90 percent of the time while also providing the resources for the department to devote equal resources to proactive and responsive initiatives an increase of 175 positions is recommended. In addition, the equivalent of 107.14 FTEs in overtime hours will be needed. Please note that these staffing recommendations assume that all calls except those currently handled by telephone will continue to be responded to by sworn officers on an on demand basis (Patrol Staffing Scenario B).

Unit/Function	Current Staffing(a)	Recommended FTEs	Addition/ (Reduction) In FTEs	Recommended Overtime Hours Shown As FTEs(b)
Arson/Bomb	6.00	2.00	(4.00)	0.00
Auto Theft	4.00	11.00	7.00	0.00
Burglary Theft	20.00	34.00	14.00	0.00
Canine	11.00	12.00	1.00	0.00
Crime Scene	6.00	4.00	(2.00)	0.14
Gang Intelligence	1.00	2.00	1.00	0.00
Gang Squads	12.00	16.00	4.00	0.00
Harbor	16.00	12.00	(4.00)	0.00
Homicide/Assault	16.00	18.00	2.00	0.00
Human Trafficking	1.00	2.00	1.00	0.00
Internet Crimes Against Children	7.00	10.00	3.00	0.00
Major Crimes Task Force	6.00	7.00	1.00	0.00
Patrol (Call Response)	482.00	461.00	(21.00)	103.20
Patrol (Proactive)	108.00	256.00	148.00	0.20
Real Time Crime Center(c)	3.00	15.00	12.00	0.00
Robbery	8.00	10.00	2.00	0.00
Street Vice	5.00	6.00	1.00	0.00
SWAT	21.00	24.00	3.00	0.00
Telephone Response Vice (General Investigations)	6.00	9.00	3.00	3.60
West Precinct (Department Of Corrections Assistance)	3.00	4.00	1.00	0.00
West Precinct (Department Of Corrections Assistance)	2.00	4.00	2.00	0.00
Total	744.00	919.00	175.00	107.14

(a) Staffing as of June 2015.

(b) One overtime FTE equates to 2,080 hours of overtime; the total number of overtime hours recommended is approximately 250,000 hours.

(c) Some of these positions may be civilians.

APPENDIX A – BENCHMARK RESULTS

APPENDIX A – BENCHMARK RESULTS

This appendix is divided into three sections. The first section summarizes how Berkshire Advisors uses benchmarking data. The second section presents the approach that was used to select the agencies to which the Seattle Police Department was compared. The third section presents the comparison data.

A – USING BENCHMARKING DATA

On this engagement, benchmarking information was used to provide an overall context for the study findings rather than as the basis for making specific recommendations. The ultimate decision with regard to the staffing needs of the Seattle Police Department should be based on an assessment of community needs and service expectations, department priorities, and the resources available to support police services.

Benchmarking comparisons with other agencies, however, can be useful when making an overall assessment of a particular function or service. In particular, using benchmarking as a diagnostic tool – to understand where efforts to improve should be focused – can be beneficial. In addition, concerns about whether “apples to apples” comparisons are being made are much less relevant when the purpose of the benchmarking effort is to make an overall assessment of performance rather than to make detailed recommendations for improvement.

Benchmarking analysis can also be used to support change in the department. Benchmarking can open the eyes of managers to fundamentally new, and often better, ways of providing service. In addition, comparisons of productivity with benchmark organizations can also be helpful in getting managers to reach the point where they accept that change is both possible and needed.

B – APPROACH

Two steps were used to select the benchmark agencies. First, a preliminary list of cities with similar demographics to the City of Seattle was identified. This preliminary list was reviewed by department managers and a revised list of potential benchmark departments were identified. A benchmarking questionnaire was then developed and distributed. Eleven agencies completed and returned a questionnaire (Atlanta, Georgia; Aurora, Colorado; Denver, Colorado; Fresno, California; Long Beach, California; Mesa, Arizona; Omaha, Nebraska; Portland, Oregon; Raleigh, North Carolina; San Francisco, California; and Wichita, Kansas).

C – COMPARISON DATA

The results of the benchmark findings are presented in seven areas: city demographics; budget, police department staffing, calls-for-service; response times; crime statistics; and miscellaneous information.

CITY DEMOGRAPHICS

The Seattle Police Department (SPD) serves the second largest population of the departments for which benchmarking data will be presented and serves the third smallest geographic area.

Police Department	Population Served	Land Area Served In Square Miles
San Francisco, CA	837,442	46.87
Seattle, WA	668,342	83.94
Denver, CO	649,495	154.90
Portland, OR	595,589	133.43
Fresno, CA	509,924	111.90
Long Beach, CA	469,428	50.29
Mesa, AZ	462,165	136.50
Atlanta, GA	447,841	133.15
Omaha, NE	435,353	127.09
Raleigh, NC	431,746	142.9
Wichita, KS	385,577	159.30
Aurora, CO	345,803	154.10
Average (excluding SPD)	506,397	122.77

As compared to the benchmark jurisdictions Seattle has the second highest median family income and the second lowest percentage of individuals below the poverty level. Seattle also has the seventh lowest percentage of individuals who speak a language at home other than English.

City	Median Family Income	Percentage of Individuals Below Poverty Level	Percentage Of Individuals Who Speak A Language At Home Other Than English
San Francisco, CA	\$75,604	13.5%	45.0%
Seattle, WA	\$65,277	13.6%	22.4%
Raleigh, NC	\$54,448	16.2%	17.8%
Long Beach, CA	\$52,711	20.2%	41.7%
Portland, OR	\$52,657	17.8%	18.9%
Aurora, CO	\$50,987	16.7%	31.4%
Denver, CO	\$50,313	19.1%	26.9%
Mesa, AZ	\$48,106	15.7%	21.4%
Omaha, NE	\$48,052	16.6%	15.3%

City	Median Family Income	Percentage of Individuals Below Poverty Level	Percentage Of Individuals Who Speak A Language At Home Other Than English
Atlanta, GA	\$46,631	25.0%	10.7%
Wichita, KS	\$46,011	17.6%	16.5%
Fresno, CA	\$42,015	28.9%	41.7%
Average (excluding Seattle)	\$51,594	18.8%	26.1%

BUDGET

The percentage of the city's general fund budget that is allocated to the Seattle Police Department is lower than in all but three of the benchmark jurisdictions.

Police Department	Department General Fund Budget	Department General Fund Budget As A Percentage of City's General Fund	Rank
Long Beach, CA	\$193,576,936 (a)	46%	1
Mesa, AZ	\$146,545,209 (a)	43%	2
Fresno, CA	\$142,875,000 (a)	39%	3
Wichita, KS	\$80,541,708	39%	4
Omaha, NE	\$125,973,248	36%	5
Portland, OR	\$177,457,799	34%	6
Aurora, CO	\$91,910,311	32%	7
Atlanta, GA	\$177,875,946 (a)	31%	8
Seattle, WA	\$288,667,732 (a)	28%	9
Denver, CO	\$213,397,500	18%	10
San Francisco, CA	\$476,716,686	13%	11
Raleigh, NC	\$93,234,954	12%	12
Average (excluding SPD)	\$174,555,027	31%	

(a) Department provides communications/dispatch operations.

Seattle ranks second in terms of police department general fund budget per 1,000 population.¹

¹ Please note that Seattle provides communications services while five of the six departments with lower general fund budgets per 1,000 population do not.

Police Department	Department General Fund Budget	Department General Fund Budget Per 1,000 Population	Rank
San Francisco, CA	\$476,716,686	\$569,253	1
<i>Seattle, WA</i>	\$288,667,732 (a)	\$431,916	2
Long Beach, CA	\$193,576,936 (a)	\$412,367	3
Atlanta, GA	\$177,875,946 (a)	\$397,183	4
Denver, CO	\$213,397,500	\$328,559	5
Mesa, AZ	\$146,545,209 (a)	\$317,084	6
Portland, OR	\$177,457,799	\$297,953	7
Omaha, NE	\$125,973,248	\$289,358	8
Fresno, CA	\$142,875,000 (a)	\$280,188	9
Aurora, CO	\$91,910,311	\$265,788	10
Raleigh, NC	\$93,234,954	\$215,948	11
Wichita, KS	\$80,541,708	\$208,886	12
Average (excluding SPD)	\$174,555,027	\$325,688	

(a) Department provides communications/dispatch operations.

POLICE DEPARTMENT STAFFING

This section is divided into 22 parts: overall staffing; calls-for-service response; discretionary patrol; narcotics investigations; gambling, prostitution and other vice investigations; gang related investigations; follow-up investigations of reported crime; domestic violence investigations, crime scene evidence processing; intelligence; professional responsibility, internal affairs, and use of force; crime analysis; traffic; canine; SWAT; mounted; marine/harbor; bomb; audit; policy development, special events; and training.

Overall Staffing

Total police department budgeted staffing per 1,000 population is higher in Seattle than for all but two of the benchmark jurisdictions.²

City	Population	Total Department Budgeted Positions	Total Budgeted Positions Per 1,000 Population	Rank
Atlanta, GA	447,841	2,491 (a)	5.56	1
San Francisco, CA	837,442	2,841	3.39	2
<i>Seattle, WA</i>	668,342	1,941.6(a)	2.91	3

² Please note that Seattle provides communications services while five of the six departments with lower budgeted staffing per 1,000 population do not.

City	Population	Total Department Budgeted Positions	Total Budgeted Positions Per 1,000 Population	Rank
Denver, CO	649,495	1,750	2.69	4
Mesa, AZ	462,165	1,211 (a)	2.62	5
Long Beach, CA	469,428	1,212.23 (a)	2.58	6
Aurora, CO	345,803	809	2.34	7
Wichita, KS	385,577	833	2.16	8
Raleigh, NC	431,746	890	2.06	9
Fresno, CA	509,924	1,011 (a)	1.98	10
Portland, OR	595,589	1,167.75	1.96	11
Omaha, NE	435,353	833	1.91	12
Average (excluding SPD)	524,993	1,368	2.66	

(a) Department provides communications/dispatch services.

Of the benchmark departments providing information, Seattle has the third highest number of sworn positions per 1,000 population. The number of sworn positions per 1,000 population (2.08) is only slightly higher than the average sworn positions per 1,000 population (2.03) of the benchmark departments.

City	Population	Total Department Budgeted Sworn Positions	Total Department Budgeted Sworn Positions Per 1,000 Population	Rank
Atlanta, GA	447,841	2,133	4.76	1
Denver, CO	649,495	1,439	2.22	2
<i>Seattle, WA</i>	<i>668,342</i>	<i>1,388</i>	<i>2.08</i>	<i>3</i>
Aurora, CO	345,803	677	1.96	4
Raleigh, NC	431,746	791	1.83	5
Long Beach, CA	469,428	806	1.72	6
Mesa, AZ	462,165	782	1.69	7
Wichita, KS	385,577	647	1.68	8
Omaha, NE	435,353	678	1.56	9
Portland, OR	595,589	854.25	1.43	10
Fresno, CA	509,924	717	1.41	11
Average (excluding SPD)			2.03	

Calls-For-Service Response

The SPD has more officers assigned to respond to calls-for-service than all but three of the benchmark departments.

Police Department	Number Of Sworn Officers Deployed Whose Primary Responsibility Is To Respond To Calls-For-Service	Number Of Sergeants Whose Primary Responsibility Is To Oversee Officers Who Primarily Respond To Calls-For-Service
Denver, CO	603	87
Atlanta, GA	595	69
Wichita, KS	421	42
<i>Seattle, WA</i>	<i>484</i>	<i>73</i>
Omaha, NE	435	49
Aurora, CO	404	37
Portland, OR	401	69
Mesa, AZ	348	45
Raleigh, NC	315	59
Long Beach, CA	307	41
Fresno, CA	255	28

Five of the benchmark departments deploy a higher percentage of officers to respond to calls-for-service per 1,000 population than SPD.

Police Department	Number Of Sworn Officers Deployed Whose Primary Responsibility Is To Respond To Calls-For-Service Per 1,000 Population	Rank	Percentage Of Sworn Officers Who Primarily Respond To Calls As A Percentage Of Total Sworn Staffing	Rank
Atlanta, GA	1.33	1	27.9%	11
Aurora, CO	1.17	2	59.7%	3
Wichita, KS	1.09	3	65.1%	1
Omaha, NE	1.00	4	64.2%	2
Denver, CO	0.93	5	41.9%	6
Mesa, AZ	0.75	6	44.5%	5
Raleigh, NC	0.73	7	39.8%	7
<i>Seattle, WA</i>	<i>0.72</i>	<i>8</i>	<i>34.9%</i>	<i>10</i>
Portland, OR	0.67	9	46.9%	4
Long Beach, CA	0.65	10	38.1%	8

Police Department	Number Of Sworn Officers Deployed Whose Primary Responsibility Is To Respond To Calls-For-Service Per 1,000 Population	Rank	Percentage Of Sworn Officers Who Primarily Respond To Calls As A Percentage Of Total Sworn Staffing	Rank
Fresno, CA	0.50	11	35.6%	9
Average (excluding SPD)	0.88		46.4%	

Discretionary Patrol

SPD has more sworn officers assigned to discretionary patrol functions³ than all of the benchmark departments providing information.

Police Department	Number Of Sworn Officers Assigned To Discretionary Patrol Functions	Number Of Sergeants Who Oversee Discretionary Patrol Functions
Seattle, WA	108	18
Wichita, KS	75	8
Aurora, CO	73	10
Atlanta, GA	68	12
Fresno, CA	57	9
Denver, CO	51	10
Portland, OR	51	9
Raleigh, NC	42	7
Long Beach, CA	35	3
Mesa, AZ	25	4
Omaha, NE	25	6

SPD ranks third in terms of the number of sworn officers assigned to discretionary patrol functions per 1,000 population and fourth in terms of discretionary patrol staffing as a percentage of total department sworn staff.

³ These functions might include proactive uniformed and plainclothes street crime initiatives, bike patrol, community policing, or foot patrol.

Police Department	Discretionary Patrol Staffing Per 1,000 Population	Rank	Discretionary Patrol Staffing As A Percentage Of Total Sworn Staffing	Rank
Aurora, CO	.211	1	10.8%	2
Wichita, KS	.195	2	11.6%	1
Seattle, WA	.161	3	7.8%	4
Atlanta, GA	.152	4	3.2%	11
Fresno, CA	.112	5	7.9%	3
Raleigh, NC	.097	6	5.3%	6
Portland, OR	.086	7	5.9%	5
Denver, CO	.079	8	3.5%	9
Long Beach, CA	.075	9	4.3%	7
Omaha, NE	.057	10	3.7%	8
Mesa, AZ	.054	11	3.2%	10
Average (excluding SPD)	.112		5.9%	

Narcotics Investigations

SPD has the fifth most budgeted officers and detectives assigned to proactive narcotics investigations of the benchmark agencies.

Police Department	Number Of Budgeted Officers And Detectives Assigned To Proactive Narcotics Investigations	Number Of Budgeted Sergeants Primarily Responsible For Overseeing Proactive Narcotics Investigations
Atlanta, GA	66	9
Denver, CO	24	4
Raleigh, NC	21	4
Aurora, CO	20	5
Seattle, WA	19	3
Long Beach, CA	15	3
Mesa, AZ	15	3
Omaha, NE	14	2
Portland, OR	13	3
Wichita, KS	13	1

Police Department	Number Of Budgeted Officers And Detectives Assigned To Proactive Narcotics Investigations	Number Of Budgeted Sergeants Primarily Responsible For Overseeing Proactive Narcotics Investigations
Fresno, CA	8	1

SPD ranks ninth in terms of the number of budgeted proactive narcotics investigators per 1,000 population and tenth in the percentage of all sworn staff assigned to proactive narcotics investigations.

Police Department	Budgeted Proactive Narcotics Staffing Per 1,000 Population	Rank	Budgeted Proactive Narcotics Staffing As A Percentage Of Total Sworn Staffing	Rank
Atlanta, GA	.147	1	3.09%	1
Aurora, CO	.058	2	2.95%	2
Raleigh, NC	.049	3	2.65%	3
Denver, CO	.037	4	1.67%	8
Wichita, KS	.034	5	2.01%	4
Mesa, AZ	.033	6	1.92%	5
Omaha, NE	.032	7	1.92%	6
Long Beach, CA	.032	8	1.86%	7
Seattle, WA	.028	9	1.37%	10
Portland, OR	.022	10	1.52%	9
Fresno, CA	.016	11	1.12%	11
Average (excluding SPD)	.046		2.07%	

Gambling, Prostitution, And Other Vice Investigations

SPD is tied for second of the benchmark departments in terms of the number of budgeted sworn officers and detectives assigned to units primarily responsible for undertaking proactive gambling, prostitution, and other vice investigations.

Police Department	Number Of Budgeted Officers And Detectives Assigned To Vice Investigations	Number Of Budgeted Sergeants Who Oversee Vice Investigations
Atlanta, GA	18	3
Mesa, AZ	11	2
Raleigh, NC	10	2
Denver, CO	9	2

Police Department	Number Of Budgeted Officers And Detectives Assigned To Vice Investigations	Number Of Budgeted Sergeants Who Oversee Vice Investigations
Long Beach, CA	8	2
Seattle, WA	8	2
Fresno, CA	7	1
Omaha, NE	7	2
Aurora, CO	5	1
Wichita, KS	4	1
Portland, OR	3	0

SPD ranks fifth in terms of budgeted vice sworn staff per 1,000 population and seventh in terms of the percentage of vice sworn staff as a percentage of total sworn staffing.

Police Department	Budgeted Vice Sworn Staff Per 1,000 Population	Rank	Budgeted Vice Sworn Staff As A Percentage Of Total Sworn Staffing	Rank
Atlanta, GA	.040	1	0.84%	6
Mesa, AZ	.024	2	1.41%	1
Raleigh, NC	.023	3	1.26%	2
Long Beach, CA	.017	4	0.99%	4
Omaha, NE	.016	5	1.03%	3
Aurora, CO	.015	6	0.74%	7
Denver, CO	.014	7	0.63%	8
Fresno, CA	.014	8	0.98%	5
Seattle, WA	.012	9	0.57%	10
Wichita, KS	.010	10	0.62%	9
Portland, OR	.005	11	0.35%	11
Average (excluding SPD)	.018		0.89%	

Gang-Related Investigations

SPD has the fewest number of budgeted sworn officers and detectives assigned to units primarily responsible for undertaking proactive gang-related investigations.

Police Department	Number Of Budgeted Officers And Detectives Assigned To Proactive Gang-Related Investigations	Number Of Budgeted Sergeants Who Oversee Proactive Gang-Related Investigations
Omaha, NE	40	8
Denver, CO	24	7
Wichita, KS	20	2
Long Beach, CA	15	2
Portland, OR	15	2
Atlanta, GA	13	2
Mesa, AZ	12	2
<i>Seattle, WA</i>	12	1
Fresno, CA	11	3
Aurora, CO	8	1
Raleigh, NC	8	1

SPD ranks last in the number of gang officers and detectives per 1,000 population and the number of gang officers and detectives as a percentage of total sworn staffing.

Police Department	Budgeted Gang Staff Per 1,000 Population	Rank	Budgeted Gang Staff As A Percentage Of Total Sworn Staffing	Rank
Omaha, NE	.092	1	5.90%	1
Wichita, KS	.052	2	3.09%	2
Denver, CO	.037	3	1.67%	5
Long Beach, CA	.032	4	1.86%	3
Atlanta, GA	.029	5	0.61%	11
Mesa, AZ	.026	6	1.53%	6
Portland, OR	.025	7	1.76%	4
Aurora, CO	.023	8	1.18%	8
Fresno, CA	.022	9	1.53%	7
Raleigh, NC	.019	10	1.01%	9
<i>Seattle, WA</i>	.018	11	0.86%	10
Average (excluding SPD)	.036		2.01%	

Follow-Up Investigations Of Reported Crime

SPD ranks seventh of the benchmark departments in the number of sworn officers and detectives whose primary responsibility is to conduct follow-up investigations of reported crime.⁴

Police Department	Number Of Officers And Detectives Primarily Responsible For Conducting Follow-Up Investigations Of Reported Crime	Number Of Sergeants Who Primarily Oversee Follow-Up Investigations Of Reported Crime	Number Of Civilians Who Primarily Support Follow-Up Investigations Of Reported Crime
Atlanta, GA	137	27	10
Aurora, CO	83	10	10
Fresno, CA	79	12	4
Mesa, AZ	79	16	5
Omaha, NE	77	21	19
Long Beach, CA	75	12	14
Seattle, WA	70	12	5
Wichita, KS	69	5	35
Raleigh, NC	65	12	5
Portland, OR	56(a)	8(a)	3(a)
Denver, CO	54	12	0

(a) Includes motor vehicles.

SPD ranks ninth in terms of the number of follow-up investigative sworn staff per 1,000 population and tenth in the number of follow-up investigative sworn staff as a percentage of total sworn staffing.

Police Department	Follow-Up Investigative Staff Per 1,000 Population	Rank	Follow-Up Investigative Sworn Staff As A Percentage Of Total Sworn Staffing	Rank
Atlanta, GA	.306	1	6.42%	9
Aurora, CO	.240	2	12.26%	1
Wichita, KS	.179	3	10.66%	4
Omaha, NE	.177	4	11.36%	2
Mesa, AZ	.171	5	10.10%	5
Long Beach, CA	.160	6	9.51%	6

⁴ Such crimes include homicide, sexual assault, assault, robbery, fraud and burglary. Domestic violence investigations are not included.

Police Department	Follow-Up Investigative Staff Per 1,000 Population	Rank	Follow-Up Investigative Sworn Staff As A Percentage Of Total Sworn Staffing	Rank
Fresno, CA	.155	7	11.02%	3
Raleigh, NC	.151	8	8.22%	7
<i>Seattle, WA</i>	.111	9	5.33%	10
Portland, OR	.094	10	6.56%	8
Denver, CO	.083	11	3.75%	11
Average (excluding SPD)	.172		8.99%	

Domestic Violence Investigations

SPD has more sworn officers and detectives whose primary responsibility is to conduct domestic violence investigations than all but one of the benchmark departments.

Police Department	Number Of Officers And Detectives Who Primarily Conduct Domestic Violence Investigations	Number Of Sergeants Who Primarily Oversee Domestic Violence Investigations	Number Of Civilians Who Primarily Support Domestic Violence Investigations
Portland, OR	26	4	7
<i>Seattle, WA</i>	13	2	5
Denver, CO	11	2	0
Atlanta, GA	8	1	3
Long Beach, CA	8	1	1
Mesa, AZ	8	6(a)	0
Raleigh, NC	8	1	1
Wichita, KS	8	0	2
Omaha, NE	7	1	1
Fresno, CA	5	1	5
Aurora, CO	0	0	0

(a) Also supervise general criminal investigations squad.

SPD ranks third in domestic violence sworn staff per 1,000 population but seventh in terms of domestic violence sworn staff as a percentage of total sworn staffing.

Police Department	Domestic Violence Sworn Staff Per 1,000 Population	Rank	Domestic Violence Sworn Staff As A Percentage Of Total Sworn Staffing	Rank
Portland, OR	.044	1	3.04%	1
Wichita, KS	.021	2	1.24%	2
<i>Seattle, WA</i>	.020	3	0.94%	7
Raleigh, NC	.019	4	1.01%	5
Atlanta, GA	.018	5	0.38%	10
Mesa, AZ	.017	6	1.02%	4
Long Beach, CA	.017	7	0.99%	6
Denver, CO	.017	8	0.76%	8
Omaha, NE	.016	9	1.03%	3
Fresno, CA	.010	10	0.70%	9
Aurora, CO	.000	11	0.00%	11
Average (excluding SPD)	.018		1.02%	

Crime Scene Evidence Processing

Most of the benchmark departments primarily employ civilians to process evidence at crime scenes.

Police Department	Number Of Sworn Officers Who Primarily Process Evidence At Crime Scenes	Number Of Civilians Who Primarily Process Evidence At Crime Scenes	Number Of Sergeants Who Oversee Officers And Civilians Responsible For Processing Evidence At Crime Scenes	Number Of Civilian Supervisors Who Oversee Officers And Civilians Responsible For Processing Evidence At Crime Scenes
Portland, OR	15	21	2	0
San Francisco, CA	13	0	5	0
<i>Seattle, WA</i>	6	0	1	0
Atlanta, GA	0	21	0	7
Aurora, CO	0	9	0	1
Denver, CO	0	13	0	2
Fresno, CA	0	16	0	3
Long Beach, CA	0	15	0	1
Mesa, AZ	0	15	0	3
Omaha, NE	0	20	0	4
Raleigh, NC	(a)	(a)	(a)	(a)

Police Department	Number Of Sworn Officers Who Primarily Process Evidence At Crime Scenes	Number Of Civilians Who Primarily Process Evidence At Crime Scenes	Number Of Sergeants Who Oversee Officers And Civilians Responsible For Processing Evidence At Crime Scenes	Number Of Civilian Supervisors Who Oversee Officers And Civilians Responsible For Processing Evidence At Crime Scenes
Wichita, KS	0	11	1	1

(a) Department uses an outside agency (City-County Bureau of identification) to process evidence at crime scenes.

Intelligence

SPD employs more sworn officers to support intelligence operations than the benchmark departments.

Police Department	Number Of Budgeted Officers Whose Primary Responsibility Is To Support Intelligence Operations	Number Of Budgeted Sergeants Whose Primary Responsibility Is To Oversee Officers Who Support Intelligence Operations
<i>Seattle, WA</i>	18	4
Atlanta, GA	18	3
Portland, OR	18	5
Mesa, AZ	9	2
Denver, CO	7	1
Fresno, CA	7	1
Long Beach, CA	6	3
Aurora, CO	5	1
Omaha, NE	4	1
Raleigh, NC	4	1
San Francisco, CA	1	1
Wichita, KS	0	0

SPD ranks third in terms of the number of budgeted intelligence officers per 1,000 population and second in intelligence officers as a percentage of total sworn staffing.

Police Department	Budgeted Intelligence Officers Per 1,000 Population	Rank	Budgeted Intelligence Officers As A Percentage Of Total Sworn Staffing	Rank
Atlanta, GA	.040	1	0.84%	5
Portland, OR	.030	2	2.11%	1
<i>Seattle, WA</i>	.027	3	1.30%	2

Police Department	Budgeted Intelligence Officers Per 1,000 Population	Rank	Budgeted Intelligence Officers As A Percentage Of Total Sworn Staffing	Rank
Mesa, AZ	.020	4	1.15%	3
Aurora, CO	.015	5	0.74%	7
Fresno, CA	.014	6	0.98%	4
Long Beach, CA	.013	7	0.74%	6
Denver, CO	.011	8	0.49%	10
Raleigh, NC	.009	9	0.51%	9
Omaha, NE	.009	10	0.59%	8
San Francisco, CA	.001	11	N.A.	
Wichita, KS	.000	12	0.00%	11
Average (excluding SPD)	.016		0.82%	

Professional Responsibility, Internal Affairs, And Use Of Force

SPD has the fourth most budgeted sworn positions performing investigations and activities relating to professional responsibility, internal affairs, and use of force.

Police Department	Number Of Budgeted Sworn Positions Responsible For Activities Relating To Professional Responsibility, Internal Affairs, And Use Of Force(a)
Atlanta, GA	29
San Francisco, CA	25
Denver, CO	21
Seattle, WA	18
Omaha, NE	8
Wichita, KS	6
Long Beach, CA	6
Mesa, AZ	5
Raleigh, NC	4
Fresno, CA	4
Aurora, CO	4
Portland, OR	1(b)

(a) Includes both supervisory and non-supervisory positions.

(b) Function has been civilianized; supervised by one sergeant.

SPD has the fourth highest professional responsibility staff per 1,000 population and the third highest as a percentage of total sworn staffing.

Police Department	Professional Responsibility Staff Per 1,000 Population	Rank	Professional Responsibility Staff As A Percentage Of Total Sworn Staffing	Rank
Atlanta, GA	.065	1	1.36%	2
Denver, CO	.032	2	1.46%	1
San Francisco, CA	.030	3	N/A	
<i>Seattle, WA</i>	.027	4	1.30%	3
Omaha, NE	.018	5	1.18%	4
Wichita, KS	.016	6	0.93%	5
Long Beach, CA	.013	7	0.74%	6
Aurora, CO	.012	8	0.59%	8
Mesa, AZ	.011	9	0.51%	7
Raleigh, NC	.009	10	0.59%	10
Fresno, CA	.008	11	0.56%	9
Portland, OR	.002	12	0.12%	11
Average (excluding SPD)	.020		0.81%	

Crime Analysis

SPD has the third most sworn staff performing crime analysis functions but fewer overall staff performing these functions than all but four of the benchmark departments.

Police Department	Number Of Dedicated Sworn Officers Who Perform Crime Analysis Functions	Number Of Civilian Staff Who Perform Crime Analysis Functions	Number Of Sworn Staff Whose Primary Responsibility Is To Supervise Crime Analysis Staff	Number Of Civilian Staff Whose Primary Responsibility Is To Supervise Crime Analysis Staff
Raleigh, NC	10	6	2	0
Atlanta, GA	8	4	2	0
<i>Seattle, WA</i>	7	0	1	1
Mesa, AZ	4	11	1	0
Portland, OR	3	6	1	1
San Francisco, CA	1	7(a)	1	0
Wichita, KS	1	1	1	0
Aurora, CO	0	5	0	0

Police Department	Number Of Dedicated Sworn Officers Who Perform Crime Analysis Functions	Number Of Civilian Staff Who Perform Crime Analysis Functions	Number Of Sworn Staff Whose Primary Responsibility Is To Supervise Crime Analysis Staff	Number Of Civilian Staff Whose Primary Responsibility Is To Supervise Crime Analysis Staff
Denver, CO	0	14	0	2
Fresno, CA	0	5	1	0
Long Beach, CA	0	3	3	0
Omaha, NE	0	5	0	1

(a) Does not include part-time staff.

Traffic

SPD has the fifth most officers investigating traffic incidents but care should be taken in making comparisons as the scope of traffic collision responsibilities likely vary by jurisdiction.

Police Department	Total Number Of Officers Who Primarily Investigate Vehicular Accidents	Total Number Of Sergeants Who Supervise Officers Who Primarily Investigate Vehicular Accidents
Portland, OR	32	6
Aurora, CO	23	3
Omaha, NE	16	2
Denver, CO	14	3
Seattle, WA	8	1
Mesa, AZ	6	1
Atlanta, GA	5	1
Long Beach, CA	5	1
Raleigh, NC	3	1
Fresno, CA	2	1
Wichita, KS	5	0.5

SPD has more officers whose primary responsibility is to support selective traffic enforcement than all but two of the benchmark jurisdictions.

Police Department	Total Number Of Officers Whose Primary Responsibility Is To Support Selective Traffic Enforcement	Total Number Of Sergeants Who Supervise Selective Traffic Enforcement Staff
Fresno, CA	50	4
Denver, CO	46	7
<i>Seattle, WA</i>	46	6
Atlanta, GA	32	7
Long Beach, CA	26	3
Mesa, AZ	21	3
Omaha, NE	16	2
Aurora, CO	15	1
Raleigh, NC	11	2
Portland, OR	3	1
Wichita, KS	0(a)	0(a)

(a) Department employs Neighborhood Oriented Traffic Enforcement program where officers are assigned as needed. In addition, each Bureau has traffic officers who also respond to patrol calls.

SPD has the fourth most selective traffic enforcement officers per 1,000 population and as a percentage of total sworn staffing.

Police Department	Selective Traffic Enforcement Staff Per 1,000 Population	Rank	Selective Traffic Enforcement Staff As A Percentage Of Total Sworn Staffing	Rank
Fresno, CA	.099	1	6.97%	1
Atlanta, GA	.072	2	1.50%	8
Denver, CO	.071	3	3.20%	4
<i>Seattle, WA</i>	.069	4	3.31%	2
Long Beach, CA	.055	5	3.23%	3
Mesa, AZ	.045	6	2.69%	5
Aurora, CO	.043	7	2.22%	7
Omaha, NE	.037	8	2.36%	6
Raleigh, NC	.026	9	1.39%	9
Portland, OR	.005	10	0.35%	10
Wichita, KS(a)	.000	11	0.00%	11

Police Department	Selective Traffic Enforcement Staff Per 1,000 Population	Rank	Selective Traffic Enforcement Staff As A Percentage Of Total Sworn Staffing	Rank
Average (excluding SPD)	.045		2.39%	

(a) Department employs Neighborhood Oriented Traffic Enforcement program where officers are assigned as needed. In addition, each Bureau has traffic officers who also respond to patrol calls.

Canine

SPD is tied for fourth in terms of the number of canine officers deployed.

Police Department	Full-Time Dedicated Canine Team?	Number Of Sworn Officers Assigned To Canine Operations	Number Of Sergeants Who Supervise Canine Operations	Number Of Dog/Handler Teams Deployed	Number Of Dogs Trained In Explosive Detection
Atlanta, GA	Yes	27	2	29	21
Denver, CO	Yes	22	3	20(a)	14
Fresno, CA	Yes	14	1	14	3
Seattle, WA	Yes	11	2	9	2
Mesa, AZ	Yes	9	1	2	2
San Francisco, CA	Yes	9	1	(b)	(b)
Omaha, NE	Yes	8	1	10	0
Portland, OR	Yes	8	2	7	4
Raleigh, NC	Yes	8	1	9	3
Aurora, CO	Yes	6	1	6	1
Long Beach, CA	Yes	6	1	6	2
Wichita, KS	Yes	4	1	4	0

(a) Includes 14 airport canine teams.

(b) Information is confidential.

SWAT

Approaches used to deploy SWAT personnel in the benchmark agencies vary. Seven of the benchmark departments deploy full-time, dedicated SWAT teams.

Department	Officers	Sergeants
Mesa, AZ	30	3
Raleigh, NC	27	3
Seattle, WA	21	3
Denver, CO	21	4
Atlanta, GA	14	3

Department	Officers	Sergeants
Aurora, CO	4	1
San Francisco, CA	(a)	(a)

(a) Confidential.

Fresno, CA; Long Beach, CA; Omaha, NE; Portland, OR; and Wichita, KS do not deploy full-time, dedicated SWAT teams. All of the benchmark departments with dedicated SWAT teams allow team members to exercise during their work shift.

Mounted

Whether or not mounted patrols are deployed also varies among the benchmark departments. Five of the benchmark departments (Aurora, CO; Fresno, CA; Long Beach, CA; Mesa, AZ; and Wichita, KS) do not deploy full-time, dedicated mounted patrol units. Seven of the benchmark departments deploy full-time, dedicated mounted personnel.

Department	Officers	Sergeants
Omaha, NE	7	1
Atlanta, GA	6	1
San Francisco, CA	5	1
Portland, OR	4	1
Raleigh, NC	4	1
<i>Seattle, WA</i>	4	1
Denver, CO	3	1

Marine/Harbor

Three of the benchmark departments deploy full-time, dedicated marine/harbor teams: Long Beach, CA (27 officers and 5 sergeants); Seattle, Washington (23 officers and 4 sergeants); and San Francisco, CA.⁵ Atlanta, GA; Aurora, CO; Denver, CO; Fresno, CA; Mesa, AZ; Omaha, NE; Portland, OR; Raleigh, NC; and Wichita, KS do not deploy dedicated marine teams.

Bomb

Five of the benchmark departments deploy full-time, dedicated bomb squads.

Department	Officers	Sergeants
<i>Seattle, WA</i>	6	2
Atlanta, GA	5	1
Denver, CO	4	1
Portland, OR	2	1
San Francisco, CA	(a)	(a)

(a) Confidential.

Aurora, CO; Fresno, CA; Long Beach, CA; Mesa, AZ; Omaha, NE; Raleigh, NC; and Wichita, KS do not deploy dedicated bomb squads.

⁵ Staffing information is confidential.

Audit

More staff are used in Seattle to conduct non-financial department audits than in the other benchmark departments.

Police Department	Number Of Sworn Staff Who Conduct Non-Financial Department Audits	Number Of Civilian Staff Who Conduct Non-Financial Department Audits	Number Of Sergeants Who Supervise Staff Who Conduct Non-Financial Audits	Number Of Civilians Who Supervise Staff Who Conduct Non-Financial Department Audits
Seattle, WA	6	0	1	0
Atlanta, GA	6	0	1	0
Aurora, CO	3	1	1	0
Omaha, NE	3	2	1	1
Fresno, CA	1	0	1	0
Mesa, AZ	2	Volunteers	0	1
Raleigh, NC	2	0(a)	0	0
Wichita, KS	1	1	1	0
Portland, OR	(a)	1	0	0
Denver, CO	0	0	0	0
Long Beach, CA	0	0	0	0
Wichita, KS	0	0	0	0

(a) Position is filled by a lieutenant.

Policy Development

SPD ranks in the middle of the benchmark departments (tied for fourth with two other departments) in the number of sworn staff who are dedicated to developing policies.

Police Department	Number Of Sworn Staff Who Develop Department Policies	Number Of Civilian Staff Who Develop Department Policies	Number Of Sergeants Who Supervise Staff Who Develop Department Policies	Number Of Civilians Who Supervise Staff Who Develop Department Policies
Atlanta, GA	7	1	1	0
San Francisco, CA	5	1	2	0
Aurora, CO	3	0	1	0
Denver, CO	2	1	0	0
Mesa, AZ	2	Volunteers	0	0

Police Department	Number Of Sworn Staff Who Develop Department Policies	Number Of Civilian Staff Who Develop Department Policies	Number Of Sergeants Who Supervise Staff Who Develop Department Policies	Number Of Civilians Who Supervise Staff Who Develop Department Policies
<i>Seattle, WA</i>	2	0	1	0
Fresno, CA	1	0	1	0
Raleigh, NC	1	0	0	0
Portland, OR	0	1	0	0
Long Beach, CA	0	0	0	0
Omaha, NE	(a)	0	(a)	0
Wichita, KS	(a)	0	(a)	0

(a) Function is shared by department command staff.

Special Events

SPD uses slightly more sworn staff to support special event planning than all but two of the benchmark departments.

Police Department	Number Of Sworn Staff Responsible For Special Events Planning	Number Of Civilian Staff Responsible For Special Events Planning	Number Of Sergeants Who Supervise Staff Responsible For Special Events Planning	Number Of Civilians Who Supervise Staff Responsible For Special Events Planning
Denver, CO	10	0	2	0
Wichita, KS	4-5	0	0	0
<i>Seattle, WA</i>	3	0	1	0
Raleigh, NC	2	1	1	0
Atlanta, GA	1	1	1	1
Long Beach, CA	1	1	1	0
Fresno, CA	1	0	2	0
Mesa, AZ	(a)	0	0	0
Portland, OR	0	2	0	0
Aurora, CO	0	0	0	0
Omaha, NE	0	0	0	0

(a) Position is held by a lieutenant.

Three of the police departments employ staff dedicated to providing operational support to special events who do not also support event planning. Seattle employs four non-sworn staff, Atlanta employs two sworn staff, and Portland employs three sworn staff for this purpose.

Training

Dedicated training staff provide most of the in-service and field training in five of the benchmark departments while in the other departments dedicated staff provide 30 percent or less of the training.

Police Department	Percent Of Training Provided By Dedicated Training Staff
Fresno, CA	100%
Mesa, AZ	100% Field Training, 80% Range Training
Omaha, NE	100% In-Service Training; 80% Field Training
Raleigh, NC	90%
Atlanta, GA	75%
Aurora, CO	30%
Seattle, WA	30%
San Francisco, CA	25% In-Service Training, 100% Field Training; 25 to 50% Academy Training
Wichita, KS	10%
Long Beach, CA	2%
Denver, CO	0%

CALLS-FOR-SERVICE

All but three of the police departments handle some calls-for-service through on-line reporting.

Police Department	Calls-For-Service Handled Through On-Line Reporting?	Number Of Calls-For-Service Handled Through On-Line Reporting
San Francisco, CA	Yes	33,888
Fresno, CA	Yes	14,409
Portland, OR	Yes	13,411
Denver, CO	Yes	12,020
Seattle, WA	Yes	10,608
Aurora, CO	Yes	3,371
Raleigh, NC	Yes	2,767
Wichita, KS	Yes	Fewer than 2,000

Police Department	Calls-For-Service Handled Through On-Line Reporting?	Number Of Calls-For-Service Handled Through On-Line Reporting
Mesa, AZ	Yes	1,358
Atlanta, GA	No	
Long Beach, CA	No	
Omaha, NE	No	

Eight of the benchmark departments (including Seattle) handle some calls-for-service by telephone.

Police Department	Calls-For-Service Handled By Telephone?	Number Of Calls-For-Service Handled By Telephone	Number Of Sworn Staff Assigned To The Telephone Unit	Number Of Civilian Staff Assigned To The Telephone Unit
Atlanta, GA	Yes	85,332	18	0
Aurora, CO	Yes	30,847	6	6
Raleigh, NC	Yes	21,511	1(a)	1(a)
Omaha, NE	Yes	16,870(b)	0	11
Portland, OR	Yes	14,423	10	0
Seattle, WA	Yes	8,686	4	0
Mesa, AZ	Yes	1,274	1	3
Wichita, KS	Yes	Not Available	0	23
Denver, CO	No			
Fresno, CA	No			
Long Beach, CA	No			
San Francisco, CA	No			

(a) Primarily uses sworn and non-sworn light duty staff.

(b) Data is for 2013.

Average response times to emergency and non-emergency calls-for-service⁶ vary by jurisdiction.

Police Department	Average Response Time (Emergency Calls)(a)	Average Response Time (Non-Emergency Calls)(a)
Mesa, AZ	Emergency = 4:00 Priority 1 = 6:48	Priority 2 = 33:00; P3 = 49:06; P4 = 73:54
Long Beach, CA	4:48	25:20
Portland, OR	5:32(b)	Not Available
Wichita, KS	5:55(c)	Not Available
Aurora, CO	6:03	6:17
Seattle, WA	6:24	23:42
Omaha, NE	6:26	12:07
Raleigh, NC	6:50	Not Available
San Francisco, CA	Priority 1 = 7:40	Priority B = 14:35; C = 31:56
Fresno, CA	8:20	391:37
Atlanta, GA	9:26	19:27
Denver, CO	14:05	26:40

CRIME STATISTICS

Seattle had the highest number of Part I crimes per 1,000 population of the benchmark cities (see Exhibit A-1). The SPD had the lowest Part I crimes average clearance rate among the benchmark departments providing information (see Exhibit A-2).

MISCELLANEOUS INFORMATION

Ten of the benchmark departments have an officer loan policy. (Raleigh does not loan officers and San Francisco did not provide information on this issue.)

⁶ The types of calls included in response time calculations may vary widely among departments.

PART I CRIMES PER 1,000 POPULATION

City	Homicide	Rape	Robbery	Aggravated Assault	Burglary	Larceny	Auto Theft	Part I Crimes Per 1,000 Population	Rank
Seattle, WA	24	113	1,567	2,264	7,099	28,278	5,843	67.61	1
Atlanta, GA	93	151	2,329	3,004	5,470	16,498	352	62.29	2
Portland, OR	23	238	855	1,740	4,108	26,709	3,402	62.25	3
San Francisco, CA	11	355	3,224	3,137	5,237	33,730	6,126	61.88	4
Wichita, KS	26	280	555	1,502	3,722	14,976	2,074	60.00	5
Omaha, NE	32	180	723	1,523	2,297	12,910	3,146	47.80	6
Fresno, CA	47	53	781	1,501	4,721	13,277	3,103	46.05	7
Aurora, CA	11	300	420	748	1,830	7,162	1,099	33.46	8
Mesa, AZ	13	252	469	1,385	2,348	9,744	838	32.56	9
Raleigh, NC	17	96	704	880	2,480	8,815	852	32.07	10
Long Beach, CA	23	110	888	1,249	3,479	6,878	2,034	31.23	11
Denver, CO	31	433	1,096	2,285	4,500	8,003	3,373	30.52	12
Average (excluding Seattle)	29.7	222.5	1,094.9	1,723.0	3,653.8	14,427.4	2,399.9	45.5	

Police Department	Length Of Time Officers Are Typically On Loan	Circumstances For Loaning Officers	Number Of Officers Currently On Loan
Seattle, WA	Short-term = 30 to 90 days Long-term = years	Among patrol 911 responders; inter-precinct loans; non-patrol loans; operational needs (short and long term); professional development; general "fit" for possible future placement; new unit or partnership (Task Force) creation	150 – 200 (estimated)
Atlanta, GA	Varies	As the department requires	24
Aurora, CO	90 -180 days	Special detail; training; injuries; special orders	27
Denver, CO	2 and 6 work periods(a)	Training only	14
Fresno, CA	Varies	Absence of personnel in the unit that needs staffing; modified duty	19
Long Beach, CA	Less than 1 month	Special detail; training; to fill a critical vacancy	15
Mesa, AZ	1 year	Modified duty; adjutants; district coordinators	12
Omaha, NE	Varies	Major projects; task forces; missions	Not Available
Portland, OR	75% longer than 1 month	Major investigations	5
Wichita, KS	2 weeks	As needed	2

(a) Denver Police Department staff are assigned to 28 day work periods.

**APPENDIX B – APPROACH TO ADJUSTING
STAFFING TO ACCOUNT FOR EXPECTED ABSENCES**

APPENDIX B – APPROACH TO ADJUSTING STAFFING TO ACCOUNT FOR EXPECTED ABSENCES

Our staffing recommendations detail the number of personnel needed to achieve a given level of service. If desired service levels are achieved required staffing will need to be deployed on each shift. To the extent that required staffing levels are not met, due to absences, the department will not be able to achieve the level of service desired. Staffing levels therefore must be increased to ensure adequate staffing can be deployed after accounting for expected absences.

In general, there are two ways to adjust staffing to account for expected absences – hiring additional full-time staff or hiring existing staff on an overtime basis. On an FTE basis hiring additional full-time staff is less expensive than paying staff on overtime¹ but is less precise than using overtime to account for absences. On the other hand, while hiring existing staff on an overtime basis is more expensive than hiring full-time staff (if a full-time officer is needed) using overtime is extremely precise since increased costs are incurred only for the hours additional staffing is needed. Requiring staff to work overtime, however, can create a burden on them.

The small difference between overtime costs and the costs of additional full-time employees suggests that it is prudent to be conservative when determining the number of additional full-time employees that are needed to account for expected absences. Relief factors assume that absences will be spread out evenly over the course of a year. In reality, of course, there will be more than the average expected number of absences on some days and fewer than the average expected number of absences on others. When more than the number of relief staff needed to meet service expectations are deployed the cost to the department is the full cost of the extra positions (1.26 times an employee's salary). By contrast, when overtime is used to provide relief (because an insufficient number of full-time staff are working) costs increase by .24 times an employee's salary (over what the cost of a full-time employee would be).

From a cost perspective, relief factors for sworn staff should be set so that the costs of expected incremental overtime expenditures over the cost of full-time employees (if too few officers are working) equal the costs of expected full-time employees (if more officers are employed than are needed). If there is a 84 percent chance of understating staffing needs (and having to use some overtime) and a 16 percent chance of overstating staffing needs (and employing more full-time staff than is necessary these costs will be equal (.84 times a .24 increase in cost equals an expected cost of .20 as does .16 times a 1.26 increase). A relief factor set at 1.28 standard deviations below average absences approximates the breakeven point between the costs of paying overtime and the costs of employing full-time employees. The relief factor that was calculated based on the number of patrol absences in 2014 indicates that 1.16 full-time positions are needed for every full time position with an additional .24 full-time positions in overtime. The total relief factor calculated based on average absences is 1.40.

¹ Officers on overtime are paid 1.50 times their base salary while the cost of a full-time officer is paid 1.26 times their base salary (when benefit costs are considered). For sworn officers, therefore, there is an 11.1 percent difference between paying officers on overtime or paying them as full-time employees.

APPENDIX C – ACTIVITY ANALYSIS SURVEY RESULTS

APPENDIX C – ACTIVITY ANALYSIS SURVEY RESULTS

Based on the results of a focus group meeting with patrol officers and input from department managers, an on-line activity analysis survey was developed. The purpose of the survey was to determine how patrol officers spend their time during the course of a year across 12 categories of activity: general administrative; calls; reports; other paperwork; traffic enforcement; non-traffic proactive activities; special events; court-related activities; warrants; call-outs and non-patrol support; training; and other activities.

The survey was started by 119 patrol officers who primarily respond to calls-for-service and 73 surveys were completed.

Shift	East Precinct	North Precinct	South Precinct	Southwest Precinct	West Precinct
First Shift	4.0%	5.0%	1.0%	1.0%	1.0%
Second Shift	14.6%	8.1%	8.1%	12.4%	15.9%
Third Shift	5.0%	7.8%	5.0%	3.0%	8.1%
Total	23.6%	20.9%	14.1%	16.4%	25.0%

Patrol officers indicate that they currently devote approximately 25 percent of their time responding to calls, 23 percent of their time on reports, and 13 percent of their time on general administrative activities.

Category	Activity	Percent Of Time Spent
Calls	Respond to calls; back up other officers; perform preliminary investigations; process evidence; wait for sergeants to screen arrests; transport prisoners; book prisoners; process property	25.56%
Reports	Write reports; revise reports	22.87%
General administrative	Attend roll call; get and return equipment; check e-mail; review e-directives; upload videos at the end of the shift; participate in disciplinary hearings	12.69%
Other paperwork	Complete use of force, Terry stops, and bias paperwork	10.73%
Training	Participate in in-service classroom and on-line training; participate in bike training; attend special schools	8.17%
Non-traffic proactive activities	Directed patrol; general patrol; conduct field interviews; citizen contacts	4.93%
Other activities	Take meal breaks; take coffee breaks; drive to and from the station at the beginning and end of the shift	4.09%
Special events	Support special events including sports events, parades, demonstrations, and community events	3.73%
Call-outs	Participate in call-outs as a member of a specialized unit; support detectives; support other specialized units	2.27%

Category	Activity	Percent Of Time Spent
Traffic enforcement	Promote traffic safety; make traffic stops; issue traffic citations; issue parking tickets; direct traffic; DUI processing	2.15%
Court-related activities	Meet with prosecutors and defense attorneys; participate in depositions; attend court; retrieve/resubmit evidence	1.54%
Warrants	Serve warrants	1.27%

Officers report spending almost a third of their time on reports and other paperwork. Reported time allocations varied by precinct.

Category	Amount Of Time Spent East Precinct	Amount Of Time Spent North Precinct	Amount Of Time Spent South Precinct	Amount Of Time Spent Southwest Precinct	Amount Of Time Spent West Precinct
Calls	23.94%	32.40%	24.50%	24.51%	22.45%
Reports	19.65%	29.60%	24.76%	24.75%	15.62%
General administrative	12.94%	11.47%	14.83%	14.83%	11.94%
Other paperwork	11.35%	6.67%	5.33%	5.33%	15.39%
Training	8.71%	10.67%	6.25%	6.25%	6.33%
Non-traffic proactive activities	5.53%	2.60%	7.58%	7.58%	6.00%
Other activities	6.12%	0.93%	2.75%	2.75%	5.11%
Special events	3.47%	1.40%	2.00%	2.00%	8.89%
Call-outs	1.82%	0.33%	5.75%	5.75%	2.94%
Traffic enforcement	2.94%	1.53%	3.25%	3.25%	1.89%
Court-related activities	1.71%	1.07%	2.00%	2.00%	2.00%
Warrants	1.82%	1.33%	1.00%	1.00%	1.44%

Reported time allocations also varied by shift.

Category	Amount Of Time Spent First Shift	Amount Of Time Spent Second Shift	Amount Of Time Spent Third Shift
Calls	27.30%	25.71%	24.43%
Reports	26.10%	22.93%	20.86%
General administrative	14.10%	12.17%	13.05%
Other paperwork	6.60%	10.77%	12.48%
Training	10.30%	7.34%	8.86%
Non-traffic proactive activities	4.20%	5.76%	3.57%
Other activities	4.60%	4.00%	4.00%
Special events	1.30%	4.23%	3.90%
Call-outs	1.50%	2.57%	2.52%
Traffic enforcement	1.50%	2.19%	2.38%
Court-related activities	1.00%	1.50%	1.90%
Warrants	1.50%	0.83%	2.05%

**APPENDIX D – CURRENT
CALLS-FOR-SERVICE RESPONSE TIMES**

APPENDIX D – CURRENT CALLS-FOR-SERVICE RESPONSE TIMES

To facilitate a discussion of what response time expectations should be established for the Seattle Police Department an assessment of current response times was conducted. The analysis focused on 252,910 citizen-initiated calls-for-service.¹ Calls for which the reported data did not appear reliable were excluded using criteria similar to that used in the prior Managing Patrol Performance (MPP) study.²

A preliminary analysis suggests that average response times are not unduly long (although response times to higher priority calls are longer in the North, South, and Southwest precincts than in the East and West precincts).

Call Priority	Average Response Time (Minutes)				
	East Precinct	North Precinct	South Precinct	Southwest Precinct	West Precinct
1	5.8	7.5	6.8	7.9	6.4
2	15.3	18.5	16.9	17.7	17.2
3	35.8	51.8	36.0	36.4	36.5
4	65.4	83.5	61.5	59.7	69.5

When evaluated from the perspective of response time percentiles, however, a somewhat different picture emerges.

Call Priority	90 th Percentile Response Time (Minutes)				
	East Precinct	North Precinct	South Precinct	Southwest Precinct	West Precinct
1	11.8	14.4	13.2	14.4	12.7
2	40.8	46.3	42.8	43.9	44.5
3	89.6	93.5	87.6	87.3	89.9
4	160.0	215.9	154.0	136.0	172.0

The following table presents response times to Priority One calls.

¹ Call types included 911, alarm call (not police alarm), in person complaint, telephone other (not 911), and police alarm. On view, proactive, scheduled event (recurring), and history calls (retro) were not included in the analysis.

² Priority One calls with hold times longer than 8 minutes or travel times longer than 15 minutes were not included in the analysis. Similarly, Priority Two and Priority Three calls with long hold times and/or travel times were excluded from the response time analysis using criteria similar to that used in the MPP study (although the MPP study did not include an assessment of these priority calls).

	Response Times To Priority One Calls				
	East Precinct	North Precinct	South Precinct	Southwest Precinct	West Precinct
5.0 minutes or less	54.6%	35.1%	41.9%	29.7%	48.2%
5.1 to 6.0 minutes	9.6%	9.7%	9.7%	10.2%	9.7%
6.1 to 7.0 minutes	7.0%	9.4%	8.7%	9.7%	7.6%
7.1 to 8.0 minutes	5.6%	8.2%	7.8%	8.2%	6.7%
8.1 to 9.0 minutes	4.5%	6.9%	6.3%	7.7%	5.3%
9.1 to 10.0 minutes	3.7%	5.2%	4.7%	7.0%	4.5%
10.1 to 11.0 minutes	3.0%	4.6%	4.4%	5.6%	3.5%
11.1 to 12.0 minutes	2.4%	3.8%	3.2%	4.2%	3.0%
12.1 to 13.0 minutes	1.9%	3.2%	2.9%	3.5%	2.3%
13.1 to 14.0 minutes	1.5%	2.7%	2.4%	3.0%	1.9%
14.1 to 15.0 minutes	1.4%	2.5%	1.7%	2.7%	1.6%
More than 15.0 minutes	4.9%	8.7%	6.4%	8.5%	5.9%

The distribution of response times to Priority Two calls is presented below.

	Response Times To Priority Two Calls				
	East Precinct	North Precinct	South Precinct	Southwest Precinct	West Precinct
5.0 minutes or less	27.5%	18.0%	19.9%	15.8%	23.2%
5.1 to 6.0 minutes	7.1%	5.9%	6.4%	5.8%	6.2%
6.1 to 7.0 minutes	6.7%	5.7%	5.4%	6.1%	5.8%
7.1 to 8.0 minutes	5.4%	4.9%	5.8%	5.8%	5.5%
8.1 to 9.0 minutes	4.9%	4.7%	4.8%	5.4%	4.6%
9.1 to 10.0 minutes	3.9%	4.4%	4.9%	5.0%	3.9%
10.1 to 11.0 minutes	3.1%	3.8%	4.1%	4.3%	3.2%
11.1 to 12.0 minutes	3.2%	3.6%	3.8%	3.7%	3.0%
12.1 to 13.0 minutes	2.6%	3.1%	3.3%	3.6%	2.6%
13.1 to 14.0 minutes	2.1%	2.6%	2.8%	3.1%	2.3%
14.1 to 15.0 minutes	2.2%	2.5%	2.5%	2.8%	2.2%
15.1 to 20.0 minutes	7.4%	9.8%	9.2%	10.0%	8.4%
20.1 to 30.0 minutes	8.7%	10.8%	10.1%	10.2%	10.4%
30.1 to 40.0 minutes	5.1%	6.7%	5.7%	6.5%	6.5%
40.1 to 50.0 minutes	3.9%	5.2%	4.4%	4.4%	4.4%
50.1 to 60.0 minutes	2.8%	3.8%	3.3%	3.7%	3.8%
More than 60.0 minutes	3.5%	4.4%	3.6%	3.8%	3.9%

The distribution of response times to Priority Three calls is presented below.

	Response Times To Priority Three Calls				
	East Precinct	North Precinct	South Precinct	Southwest Precinct	West Precinct
10 minutes or less	25%	20%	23%	20%	25%
10.1 to 20.0 minutes	20%	21%	21%	22%	19%
20.1 to 30.0 minutes	13%	13%	14%	14%	12%
30.1 to 40.0 minutes	9%	9%	9%	10%	9%
40.1 to 50.0 minutes	7%	7%	7%	7%	7%
50.1 to 60.0 minutes	5%	6%	6%	6%	6%
60.1 to 70.0 minutes	4%	5%	5%	5%	5%
70.1 to 80.0 minutes	4%	4%	4%	4%	4%
80.1 to 90.0 minutes	3%	4%	3%	3%	3%
More than 90.0 minutes	8%	11%	9%	9%	10%

The distribution of response times to Priority Four calls follows.

	Response Times To Priority Four Calls				
	East Precinct	North Precinct	South Precinct	Southwest Precinct	West Precinct
Less than one hour	68%	60%	69%	69%	63%
One hour to two hours	16%	18%	16%	18%	19%
Two hours to three hours	8%	9%	8%	7%	8%
More than three hours	8%	13%	8%	6%	9%

APPENDIX E – SPEED OF RESPONSE ASSESSMENT

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Three steps were taken to determine how speed of response should vary by time of day and area of the city.

- **Step 1: Define times of day in each precinct with similar response speeds.**
Using mapping software, travel times from point to point within each precinct were calculated for each of the 24 hours within a day. Five sample “journeys” were then evaluated for each precinct during each hour. Consecutive hours with similar response speeds were then grouped together. Hours were included in the same group if they were consecutive and the lowest response speed hour and the highest response speed hour did not vary by more than 20 percent.
- **Step 2: Evaluate how speed of response varied within districts for each response speed grouping.** Using the groupings of hours developed in Step 1, mapping software was used to calculate the point to point travel time within each patrol district and five sample journeys were assessed for each district. An expected response speed for each grouping of hours and each district was then calculated.
- **Step 3: Calculate response speeds for precincts by weighting district response speeds by the calls handled in each district.** Response speeds for each district were weighted based on the number of calls received in the district during the groupings of hours identified in Step 1. A weighted average response speed was then calculated for each precinct. This response speed was incorporated in the queuing/travel time analysis used to calculate patrol response staffing needs in each precinct.