POLICE STAFFING

Author: Mark Baird
Updated: August 17, 2015

BACKGROUND

Public safety is a fundamental City of Seattle responsibility. The Seattle Police Department (SPD) is one of the City's most recognized public services and has a visible presence 24 hours a day, every day of the year. Personnel are SPD's most expensive resource and represent an ongoing fiscal commitment. Consequently, when crafting SPD's budget, it is critical to know how many people are required to carry out the department's various public safety missions.

Police operations and administration include investigation resources, evidence collection and storage, administrative support, human resources activities, fleet vehicles, and facilities that are all scaled to police staffing. Growth in police staffing may require significant investment in some or all of these ancillary elements. Given this major investment, the question that the Council has asked for years is: How many police officers does Seattle really need?

This paper explains various aspects of police staffing, including:

1. Police staffing and overtime basics;
2. Calls for service and other factors that affect staffing;
3. Staffing models; and
4. How SPD addresses police officer staffing.

1. THE BASICS OF POLICE STAFFING AND USE OF OVERTIME

The term "police staffing" is often used in two ways. The first use of the term refers to the number of officers that the police department deploys within a particular boundary within the city (e.g., a patrol district, a patrol beat or neighborhood) or within a specific unit (e.g., patrol, detectives or bike unit). Police management or other policy makers set the parameters for the boundary or unit. The parameters depend on how many of what type of officers are desired within what boundaries over what period of time.
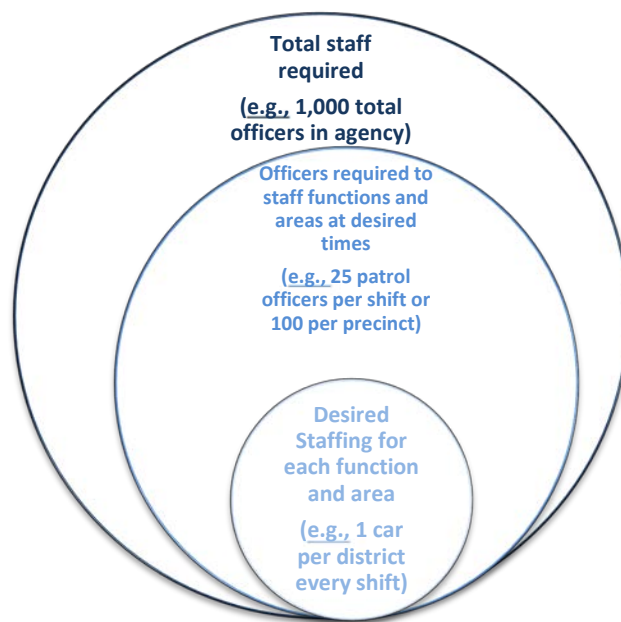
For example, elected officials may decide to have one patrol unit in every beat during each of the three shifts that make up a 24-hour day. This policy sets staffing levels for each beat, district and precinct. Similarly, command staff may want a specific number of bike units in an area over the course of a specific shift. In both cases there are unique staffing levels that can be met through a variety of schedules.

The second way the term "police staffing" is used pertains to the *total* number of police officers an agency needs to populate the department from the Chief down. Police staffing discussions frequently focus on patrol officer levels, but staffing levels for sergeants, lieutenants and

captains are an equally important part of the total number of sworn officers a jurisdiction needs to properly serve its residents.

An agency can first determine the total required number of officers for its jurisdiction, and then decides where and how those officers need to be deployed or design a deployment plan with staffing needs and see how many officers it takes to staff the plan. In either case, the agency then strives to hire and retain personnel to that level. The different types of staffing needs and requirements and examples of how each is applied are illustrated in Diagram 1.

Diagram 1: Types of Staffing

Total staff required
(e.g., 1,000 total officers in agency)

Officers required to staff functions and areas at desired times
(e.g., 25 patrol officers per shift or 100 per precinct)

Desired Staffing for each function and area
(e.g., 1 car per district every shift)

If an agency requires a patrol car in every district for every shift but does not have enough officers to account for vacation, sick days, and family medical and administrative leave, then it must use overtime to maintain the required staffing level. Methods that take these elements into account often use "relief factors" or "net annual worked hours" (NAWH), which calculate the number of officers it takes to field one officer 24 hours a day, seven days a week, 365 days a year. This number varies by work schedule and officer behavior but has traditionally been calculated as between 5.5 to 6 officers. This means it takes about six officers to constantly have one officer working at all times without relying on overtime.

Staffing requirements based on a clear understanding of this figure can significantly control the use of overtime for regular work schedules, leaving overtime for unanticipated events and the occasional unscheduled absence. It also helps with consistently fielding the same number of patrol officers.

2. CALLS FOR SERVICE AND OTHER FACTORS THAT IMPACT STAFFING
Many factors can impact both the total amount of police staffing and the requirements for staffing specific functions and areas. Table 1 lists many of the variables that impact how many police officers are required in a jurisdiction.

Table 1: Things That Impact Police Officer Staffing Levels[1]

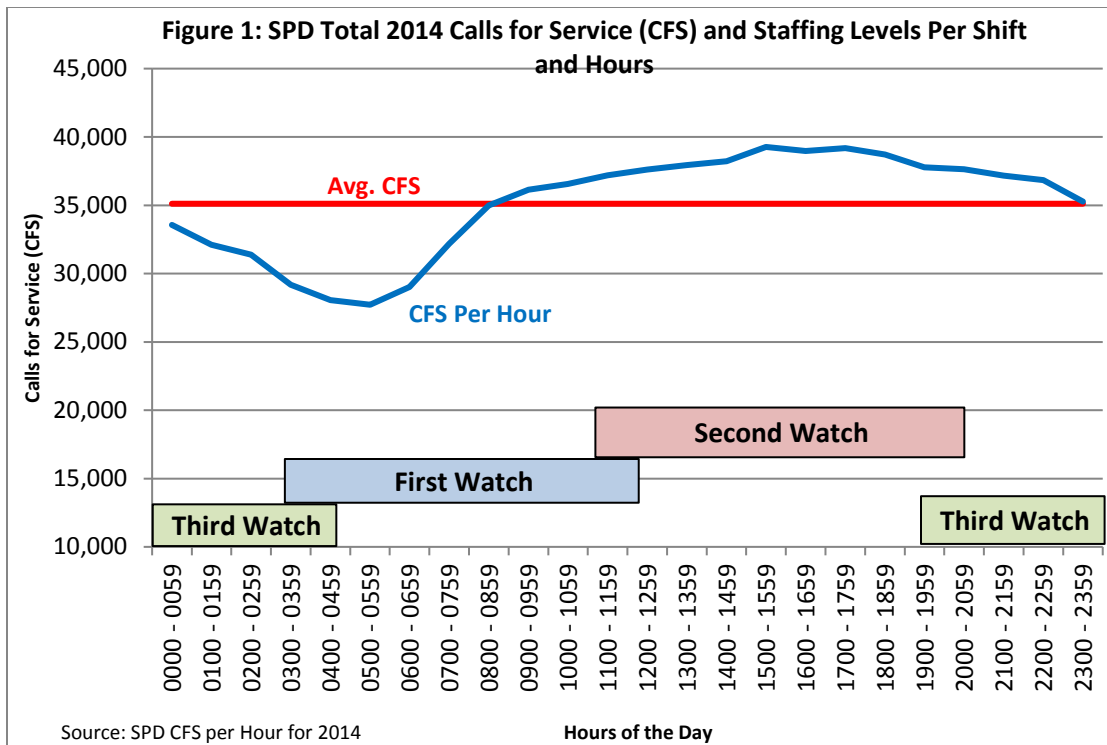|	
Efficiency and productivity	Uncommitted time (proactive time)
Crime rates and anticipated growth or decline	Calls for service volume
Job tasks and type of calls for service	Estimates of future call volume
Officer/population ratios	Technology
Mandatory minimums set by elected officials	Organizational capability
Collective bargaining minimums	Organizational ethic
Shift distribution	Organizational vision and planning
Supervisory placement	Public pressure
Command staff needs	Geographic issues
Goals for response times	Community policing style
Funding and hiring authority	Difficulties hiring and retaining officers

Of the factors described above, research suggests that calls for service (CFS), the average time spent on a call, how CFS are distributed, and response time goals play the most significant role in identifying how many officers are needed.[2] CFS are usually unequally distributed across the 24-hour day. Call volume is typically light in the early morning hours. It builds over the course of the day and peaks in the early evening before dropping off again. Figure 1 (next page) shows this distribution of CFS per hour for the SPD in 2014. It shows a big swing in CFS from a low around 0500 hours to a high between 1400 hours to 1700 hours (using the 24 hour clock).

This call distribution is important because it reflects the need for different levels of police staffing over the course of a day. These demands may not fit efficiently with the standard police officer shift schedules used by SPD. Currently SPD is one of a very few law enforcement agencies nationwide that has a patrol officer schedule of three nine-hour shifts for a 24-hour day. This can result in an excessive number of officers working during hours where there is a low call volume and not enough officers when there is a higher call volume.

---

[1] McCabe, J. (n.d.). An analysis of police department staffing: How many officers do you really need? A review of 62 police agencies analyzed by the ICMA/CPSM. An ICMA Center for Public Safety Management White Paper. Retrieved from http://icma.org/en/Search?s=how%2Bmany%2Bpolice%2Bofficers%2Bdo%2Byou%2Bneed%3F

[2] McCabe, J. (n.d.). An analysis of police department staffing: How many officers do you really need? (see footnote #1).

Figure 1: SPD Total 2014 Calls for Service (CFS) and Staffing Levels Per Shift and Hours

Source: SPD CFS per Hour for 2014

The basic shift schedules for SPD officers are shown in Figure 1 (the colored rectangles). While there is some designed overlap with the off-going and oncoming shifts, this time is used up with pre- and post-shift activities (i.e., roll-call, computer login and getting a patrol car). It does not equate to any significant patrol overlap in which officers from two shifts are combined, doubling the officers available to respond to greater call volumes.

Figure 1 indicates that, should SPD deploy officers to shifts in proportion to the percentage that shift's hourly CFS bears to the average daily CFS, the department's budget will fund excess resources for some parts of the day and not enough on others.

Figure 1 also presents a look at CFS averages. However, there is a unique pattern to the CFS dispersion for individual days of the week and weekdays versus the weekend. This further complicates the ability to schedule officers to work when the work is there. A more comprehensive staffing plan would allow SPD to craft work schedules that would provide better coverage for high volume times of the day and days of the week.

Labor agreements address SPD's scheduling options for sworn officers thereby limiting the department's flexibility in this matter.

3. STAFFING MODELS

There are a number of models for determining police staffing. Table 2 at the end of this paper lists the various methods, briefly describes them, and offers several benefits and drawbacks for each method. It also includes staff comments. The table is organized from early simpler methods at the top to more contemporary complex ones towards the bottom.

The current "gold standard" in determining police staffing is the workload approach (number 5 in Table 2). It uses data related to the work officers do, and can incorporate managerial preferences like goals for response time and available uncommitted time. However, this method has many versions that respond to different combinations of the variables from Table 1. Even with the use of high-quality data, an organization can come to different results depending on how certain variables (i.e., priority one response time or the number of constantly available patrol cars) are defined. The shorter the desired response time or the greater the desired number of always available patrol cars an agency wants, the more officers it must have.

4. SPD STAFFING

For some time SPD has not used the ratio or per capita method of assessing its staffing levels. However, people continue to reference this metric within City government and throughout the country. In fact, there are no significant connections between the total population of a jurisdiction and proper number of police officers a department needs. As a result, over the past few years, precinct staffing levels were dictated by the Neighborhood Policing Plan (NPP). This plan incorporated workload analysis and was done using Managing Patrol Performance (MPP) software that combined CFS data, a desired priority one call response time of seven minutes, and a percentage of available time for proactive police activities (roughly 30%) to create a per precinct and per hour number of police required given these variables.

The result of the NPP was a staffing configuration that SPD could not and continues to not fill with its current total number of police officers. Instead, police officers are distributed across the five precincts based on the percentage of the CFS generated in each precinct. A precinct with 18 percent of the total CFS is staffed with 18 percent of the available number of 9-1-1 response police officers. This method does not reflect the actual number of officers needed in each precinct. It just distributes that number of available police officers across the precincts in proportion to the percentage of the CFS each precinct gets.

Because of this, when individuals are out sick or on vacation, a shift either has fewer officers working that day or the shift "backfills" the vacancy with overtime. In the first instance the inability to staff to required levels decreases the number of available officers and police response time and visibility. In the second instance, when the shift adds personnel through the use of overtime, the basic functions of the police department are funded by overtime. Ideally, overtime should be used only for additional coverage, special details, or other temporary functions. The inability to have enough police officers to staff the staffing model leaves the department with two undesirable options: (1) field fewer police officers or (2) spend overtime for regular, basic police functions. SPD uses both options. There are no specific guidelines for

when each is applied – a precinct captain can make the decision to use overtime or work with fewer officers depending on the shift, day of the week and time of the year. One choice impacts the number of officers on the street while the other has implications for overtime spending.

SPD is currently working with a consultant, [Berkshire Advisors,](#) to calculate staffing needs for all facets of the department using reliable data and sophisticated analytics. This work is expected to inform the City about the total number of sworn police officers that are necessary, the required number of patrol police officers, and the staffing levels for units like detectives. The results are due in October or November of 2015. This work should answer the questions related to how many police officers are needed in the five precincts, in specialized units, in the detective ranks, and for all of Seattle. There is a budget proviso that holds funding for 25 new police officer positions in Finance General pending the completion of this analysis and a report and presentation to the Council.

Table 2: Sworn Police Officer Staffing Models

Method	Model	Benefits	Drawbacks	Staff Comments
1. Crime Trends	Adjusts the number of police officers based on the level of crime.	• Simple approach • Tends to appeal to the public and policy makers • Matches public sentiment	• This method incentivizes higher crime rates • Many criminologists minimize or discount the role of the police in changing crime rates	The crime trends approach is not as nimble as the title might suggest. An agency's hiring process and initial training time (one year or more) make responding to crime trends difficult.
2. Per-capita	Number of police officers per 1,000 or 10,000 jurisdiction residents.	• Easy to use • Only requires an accurate population figure • Easy to compare staffing across jurisdictions	• Overly simplistic • Does not reflect workload needs • Does not reflect differences in crime or areas	The per-capita approach looks attractive, since it uses easily accessible information and provides a consistent and comparable staffing metric between jurisdictions. However, the results have proven to be a poor determinant of proper police staffing needs.
3. Minimum Staffing Level	Determined by the number of "beats" or "districts" that need to be covered and the number of officers it takes to cover them for all shifts.	• Assumes consistent staffing for areas and times of the day • Simple to calculate • Ensures that a certain number of officers are working at a given time	• Can generate additional overtime • Tends to get memorialized in labor contracts • Relies on high-quality information and management input	The minimum staffing level method takes managerial, political, and societal input into account, but is based on desires more than necessity and often results in burgeoning overtime expenditures.
4. Authorized or Budgeted Level	The "what can we afford" approach based on the budget process.	• Simple approach • Based on fiscal inputs • Commonly used, particularly with smaller agencies	• Can be based on politics, not necessity • Administrations may have different priorities	Authorized or budgeted police staffing levels only reflect what a jurisdiction can afford, not what it truly needs.
5. Workload Approach	Uses calls for service and other workload information to determine police staffing levels.	• Uses actual levels of demand • Matches supply with demand • Takes many factors into account	• Requires high-quality data • Minimizes political input • Strictly facts based	This is the current "gold standard" in determining police staffing.