

**Office of the  
Inspector General**

# Memo

**To:** Nikki Fortunato-Bas, City Council President  
Honorable Members of the City Council  
Tyfahra Milele, Police Commission Chair  
Members of the Police Commission

**From:** Michelle N. Phillips, Inspector General

**Date:** March 22, 2023

**Re:** Recommendation for Staffing Study & Resource Analysis

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**Summary:** The Office of the Inspector General (OIG) recommends that the City of Oakland conduct a staffing study and resource analysis of the Oakland Police Department (OPD), prior to the OIG completing an audit for calls for service and resource or response allocation. To date, the OIG was unable to identify recent (within the last five years) baseline staffing resource data for OPD that can be used as benchmarks for success in this area. A staffing study, or a similar review, would help to:

- Identify current resources
- Determine the number of officers needed in a particular geographic area
- Decide how staffing and operational resources should be allocated

Calls for service audits and resource allocation reviews are best when tied to a staffing study. If the City of Oakland's objective is to determine if police are responding to calls for service in an efficient timeframe, it is critical to first know the number of available officers, target timeframes, and how alternate resources can be used to supplement services.

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## **Background**

On June 24, 2021, the City of Oakland City Council directed “the Police Commission Inspector General to complete an independent, comprehensive audit of the Police Department, by December 2022, and to provide a report to Council outlining the scope of the audit prior to its initiation.” The directive required that “[t]he audit shall include, but not be limited to, an in-depth analysis of calls for service data, an accurate time study for officers on patrol, and special units including Ceasefire, Investigations, Special Events, Felony Assault, Homicide, and Special Victims, and a detailed assessment of performance and clearance rates to measure how resources are being used and the effectiveness of those resource allocations to inform the analysis of the second phase of Reimagining Public Safety. Recommendations shall include, but not be limited to, diverting certain non-violent and non-criminal calls for service to alternative responses and focusing resources on violent and serious crime response, investigation, and deterrence.”

As a new office, the OIG reviewed contextual information and study methodologies from David Muhammad, Executive Director of the National Criminal Justice Reform. Mr. Muhammad was contracted to conduct a call for service audit for the City of Oakland, prior to the appointment of the Inspector General. After several meetings with Mr. Muhammad and a review of previous OPD studies, audits, and assessments, the OIG determined that the City of Oakland should establish a baseline for the number of officers and resources needed to properly respond to calls for service within each geographic area in Oakland. A baseline provides a data starting point, to compare, and subsequently determine optimal levels of resources. After the assessment, the City of Oakland can make an informed decision on what resources need to be decreased, reallocated, reclassified, or increased to maximize effectiveness and efficiency in OPD’s public response.

Currently, the data on OPD calls for service and available resources is limited. The OIG hopes this memo successfully communicates the City of Oakland’s need to have a comprehensive study that reviews and analyzes:

1. The types of calls for service
2. The types of resources (equipment, personnel, etc.) required to respond to calls for service
3. Whether current resources can effectively and efficiently meet the needs of the caller and community

This scope can be expanded based on communication from the City Council.

Unsurprisingly, “the manner and speed with which police respond to citizens' calls for service have long been a focal point in policing.”<sup>1</sup> Understanding that police response to calls consumes most of patrol time, it is essential to know the types of calls a department receives. However, this data area of policing has not received enough attention from scholars.<sup>2</sup> According to the Department of Justice, Office of Community Oriented Policing (COPS), there has been much consideration given to areas such as “police recruitment, retention, and, in this economic context, how to maintain police budgets and existing staffing

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<sup>1</sup> U.S. Department of Justice - National Institute of Justice “Calls for Service: Citizen Demand and Initial Police Response,” last accessed February 13, 2023, <https://www.ojp.gov/pdffiles1/Digitization/78362NCJRS.pdf>

<sup>2</sup> Ashby MPJ. Changes in Police Calls for Service During the Early Months of the 2020 Coronavirus Pandemic. *Policing: A Journal of Policy and Practice*. 2020 Jun 25;paaa037. doi: 10.1093/policing/paaa037. PMID: PMC7337826. Last accessed, February 13, 2023, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7337826/>

positions...[much] less has centered on adequately assessing the demand for police service and alternative ways of managing that demand.”<sup>3</sup>

The core mission of most law enforcement agencies is to answer calls for service from the public.<sup>4</sup> “One of the fundamental questions for police departments is how many sworn personnel are needed to efficiently and effectively perform policing functions in a given jurisdiction? Unfortunately, there is no single standard method for answering this question.”<sup>5</sup>

The types of services provided by law enforcement agencies as well as their size and location reflect differently on the demands of the community. The challenge is to identify the proper distribution and deployment to meet that demand.<sup>6</sup> The City of Oakland is unique in its complex policing history and present crime rates, which would make a one size fits all approach inadequate to addressing questions and issues of efficiency.

### **Limited Scope Police Staffing Research**

A police department’s calls for service reflect the number of requests for police assistance in a specific location, made via phone. The call for service may require law enforcement’s presence to resolve, correct and/or assist with the matter at hand.<sup>7</sup> Depending on the circumstance, a call for service to a police department is either a standard “911” emergency call, or a non-emergency call.<sup>8</sup>

A staffing study would showcase the existing staffing distribution for OPD, as well as outline a step-by-step method to evaluate its own patrol staffing needs, based on workload and performance goals. Therefore, the completion of a staffing study would help to “determine the number of sworn patrol staff [needed] to meet their service obligations according to their communities’ preferences, expectations, and requirements.”<sup>9</sup>

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<sup>3</sup> Wilson, Jeremy M., and Alexander Weiss. 2014. *A Performance-Based Approach to Police Staffing and Allocation*. Washington, DC: Office of Community Oriented Policing Services. Last accessed, February 13, 2023, <https://cops.usdoj.gov/RIC/Publications/cops-p247-pub.pdf>

<sup>4</sup> Ashby MPJ. Changes in Police Calls for Service During the Early Months of the 2020 Coronavirus Pandemic. *Policing: A Journal of Policy and Practice*. 2020 Jun 25:paaa037. doi: 10.1093/police/paaa037. PMID: PMC7337826. Last accessed, February 13, 2023, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7337826/>

<sup>5</sup> Institute of Crime Science - School of Criminal Justice University of Cincinnati. “Sycamore Township Police Staffing Study,” Last accessed, February 13, 2023, <https://services.dps.ohio.gov/OCCS/Pages/Public/Reports/Sycamore%20Staffing%20Analysis%20Final.pdf>

<sup>6</sup> International City/County Management Association (ICMA). “An analysis of police department staffing: How many officers do you really need? A Review of 62 Police Agencies Analyzed by the ICMA / CPSM,” Last accessed, February 13, 2023, [https://icma.org/sites/default/files/305747\\_Analysis%20of%20Police%20Department%20Staffing%20\\_%20McCabe.pdf](https://icma.org/sites/default/files/305747_Analysis%20of%20Police%20Department%20Staffing%20_%20McCabe.pdf)

<sup>7</sup> The call for service may not require an alternative response that can be dispatch from the 911 call center, for example Mobile Assistance Community Responders of Oakland (MACRO)

<sup>8</sup> Police Data Initiative. “Calls for Service.” Last accessed, February 13, 2023, <https://www.policedatainitiative.org/datasets/calls-for-service/>

<sup>9</sup> Wilson, Jeremy M., and Alexander Weiss. 2014. *A Performance-Based Approach to Police Staffing and Allocation*. Washington, DC: Office of Community Oriented Policing Services. Last accessed, February 13, 2023, <https://cops.usdoj.gov/RIC/Publications/cops-p247-pub.pdf>

In January 2022, the Center for Naval Analyses (CNA) completed the **Minneapolis Police Department and Emergency Communications Center Staffing and Operations Assessment and Review of Problem Nature Codes**. The purpose of this study was to complete the following goals and objectives:

Recommend staffing resources that can effectively and efficiently meet the demand for service  
Review internal business processes and identify gaps and areas for improvement  
Inform needs for resource allocations that are aligned with City needs and demand for public safety services; and  
Position the MPD for future success by providing the tools to further adapt staffing and processes to future changes in demand for service.

In the study completed by CNA:

“The data...included detailed information about each call, such as the location where the call originated; the date and time the call was received and completed; the incident type, priority level, and disposition of the call; and other administrative indicators. By providing a detailed overview of the demand for police service in the city, these data allow CNA to better estimate the MPD’s workload and staffing needs.”<sup>10</sup>

To determine if OPD is efficiently and effectively responding to calls, the same data must be collected and assessed by the City of Oakland. Below is the Staffing Analysis Approach, outlined and completed by CNA for Minneapolis, MN. Their staffing analysis infused elements of calls for service into its approach.

### **CNA Staffing Analysis Approach**

CNA conducted a staffing analysis for the MPD to systematically determine patrol staffing needs based on actual workforce demand, which included the following six tasks:

- 1. Analyze the distribution of calls for service.** Calls for service can differ by the hour of the day, day of the week, and month of the year. The MPD’s peak call times have implications for resource allocation decisions, such as the use of overtime and scheduling training activities. Findings from this analysis will help the City understand when the highest levels of patrol staffing are needed.
- 2. Analyze the nature of calls for service.** Understanding the nature of the MPD’s calls for service, including the seriousness of calls based on how the call is coded and priority levels, provides important information on the types of police work being conducted in the agency. The nature of calls for service also varies across precincts, requiring the MPD to staff areas accordingly.

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<sup>10</sup> Thorkildsen, Z., Peterson, B., Richardson, K., Jenkins, M., Land, A., Cox, J., Komiss, B., and Flynn, E. Minneapolis Police Department and Emergency Communications Center Staffing and Operations Assessment & Review of Problem Nature Codes. Arlington, VA: CNA, Last accessed, February 13, 2023, <https://lms.minneapolismn.gov/Download/RCAV2/26161/Minneapolis-Staffing-Operations-and-PNC-Assessment-FINAL.pdf>

3. **Review the time used for calls for service.** This task involves determining how long calls for service typically take from initial response to final paperwork, which is key to understanding how much time officers spend responding to calls for service during their shifts.
4. **Calculate the shift-relief factor.** The shift-relief factor is the relationship between the maximum number of patrol days officers are available to work and the number that they actually work. The shift-relief factor is a critical piece of data in estimating the number of officers that should be assigned to a patrol shift to ensure that the bureau is optimally staffed. This task involves calculating the shift-relief factor by dividing the total number of hours necessary to be fully staffed in a shift by the total number of off hours (i.e., hours outside of shift assignments) to which an officer is entitled.
5. **Identify performance objectives.** This task involves identifying commonly used performance objectives regarding the fraction of an officer's shift that should be devoted to calls for service and the fraction that should be devoted to other activities. This analysis provides critical information to the City about how varying performance objectives affect overall patrol staffing projections.
6. **Estimate staffing levels.** Drawing on results from the previous tasks, this task involves estimating the number and distribution of officers required to answer calls for service, accounting for the proposed performance objectives as well as the fact that data are unlikely to capture calls that require multiple officer dispatches. We also estimated staffing levels for several subgroups of calls that could potentially be service d by an alternative nonpolice response.

However, the OIG acknowledges that the City of Oakland may need to broaden the scope of a staffing study to include a comprehensive staffing assessment and resource study, similar to the one conducted on the Albuquerque Police Department.

### **Weiss Staffing Analysis Approach**

In December 2015, Alexander Weiss Consulting, LLC, studied five areas during their review of the Albuquerque Police Department. Those five areas are outlined below:

1. **Patrol Operations.** This area focused on common staffing approaches and demonstrated how agencies may develop and use a workload-based assessment of patrol staffing needs that incorporates performance objectives for discretionary time. Additionally, a comprehensive assessment for the patrol operation is focused in this area.
2. **Work Schedule.** The second component of patrol assessment was the patrol work schedule. The work schedule is critical because it is a tool to ensure that resources are aligned with organizational objective and expectations.

3. **Managing the Demand for Police Service.** This portion of the study was focused on ways to examine how the department manages demand by:
  - a. Reducing calls for false alarms
  - b. An alternative response to traffic accidents
  - c. Web-based crime reporting.
  
4. **Operational Support Staffing.** This portion of the study reviewed assignments and use of resources dedicated to specialized units. Areas of review included:
  - a. Investigations Bureau
  - b. Special Investigation Division
  - c. Criminal Investigation Division
  - d. Property Crimes Division
  - e. Special Services Bureau
  - f. Canine Unit
  - g. Metro Traffic
  - h. Open Space Division
  - i. Police Academy
  
5. **Professional Accountability Bureau.** There was a particular concern to this area of the study as the staffing for the new Internal Affairs Division (IAD) was vital. This was a focus to ensure timely compliance with the United States Department of Justice agreement.
  
6. **Administrative Services Bureau.** The study identified areas that could enhance the administrative functions within the department. Specifically, the study, albeit outside of the scope, identified areas that were hampered by optimal results and outcomes, due to outdated policies and practices.

The scope of the Albuquerque Police Department staffing analysis is an example of a broader scope that encompasses many vital and operation-essential functions that could identify deficit areas and yield more recommendations.

## **Conclusion**

**The OIG recommends that the City of Oakland allocate funding resources for a staffing study and resource analysis to be completed, similar to the aforementioned studies.**

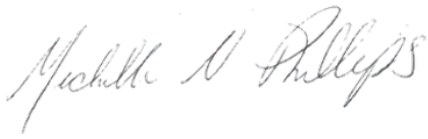
To assist with establishing a clear baseline, the OIG is willing to complete the following tasks:

- Present a request for proposal to the City Council for scope consideration and approval
- Provide guidance to the City Council on an appropriate budget for procuring a qualified firm or organization for the study
- Monitor and oversee this study, should the City Council accept this recommendation

Enclosed below are the above-referenced studies, including Mr. Muhammad's report, for guidance and review. In addition, there are several other studies that may align with the City Council's vision.

The OIG will await collective feedback and/or directives from the Council.

Sincerely,

A handwritten signature in cursive script that reads "Michelle N. Phillips".

**Michelle N. Phillips, Inspector General**  
City of Oakland, Office of the Inspector General

**Albuquerque Police Department  
Comprehensive Staffing Assessment and  
Resource Study**



**ALBUQUERQUE POLICE DEPARTMENT  
COMPREHENSIVE STAFFING ASSESSMENT  
AND RESOURCE STUDY**



ALEXANDER WEISS  
CONSULTING

FINAL DRAFT REPORT  
December 11, 2015

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## Albuquerque Police Department Staffing Study

In December 2014, the City of Albuquerque engaged Alexander Weiss Consulting, LLC to conduct a staffing and organizational analysis of the Albuquerque Police Department (APD). This report describes the results of that analysis. Our work is based on interviews with department staff and examination of records, policy and procedure.

### Introduction

The Albuquerque Police Department is a full service law enforcement agency. The FY15 budget for the agency was \$149,875,000.

As of November 25, 2015 the department staffing was as follows:

<b>Sworn Positions</b>	
Police Officers	762
Part-Time Rehire	8
Full-Time Rehire	65
Metro Court	6
<b>Non-sworn Positions</b>	
Cadet	47
Non-sworn	391
Crossing Guards	133
Community Service Assistants	22
Police Service Aides	16
<b>Total Sworn</b>	<b>841</b>
<b>Total Non-sworn</b>	<b>609</b>
<b>Total Employees</b>	<b>1450</b>

Table 1 Total APD Employees

The following table illustrates the distribution of sworn personnel by grade. Note that it uses a different classification scheme than the one shown in Table One.

Chief	1
Assistant Chief	1
Deputy Chief	2
Major	3
Commander	13
Lieutenant	35
Sergeant	99
Sergeant Ranger	2
Patrolman second class	48
Police officer first class	648
Cadet	47
Open Space Ranger	6
Metro Court Officer	6
Community Service Asst	22
Total	933

Table 2 APD Sworn Positions by Grade

One thing to note is the span of control. First, the ratio of commanders to lieutenants is 1:2.5, and the ratio of lieutenants to sergeants is 1: 2.9. The ratio of sergeants to police officers (PO1 PO 2 and Open Space) is 1:6.9.

**Based on our analysis the APD will be adequately staffed at the level of 1000 sworn personnel (Reference Table 9 on page 24 and Table 10 on page 26).**

The APD has five major bureaus:

- Professional Accountability Bureau
- Field Services Bureau
- Administrative Support Bureau
- Investigative Bureau
- Special Services Bureau

The bureau reporting structure is illustrated below.



Figure 1 APD Bureau Structure

The department has a modest degree of decentralization. There are six area commands that consist largely of officers assigned to patrol and a small number of investigators assigned to “Impact” teams. A substantial fraction of sworn personnel, however, are not assigned to the area commands, including personnel assigned to the investigative bureau and the special services bureau. The area command distribution is illustrated in Figure 2.

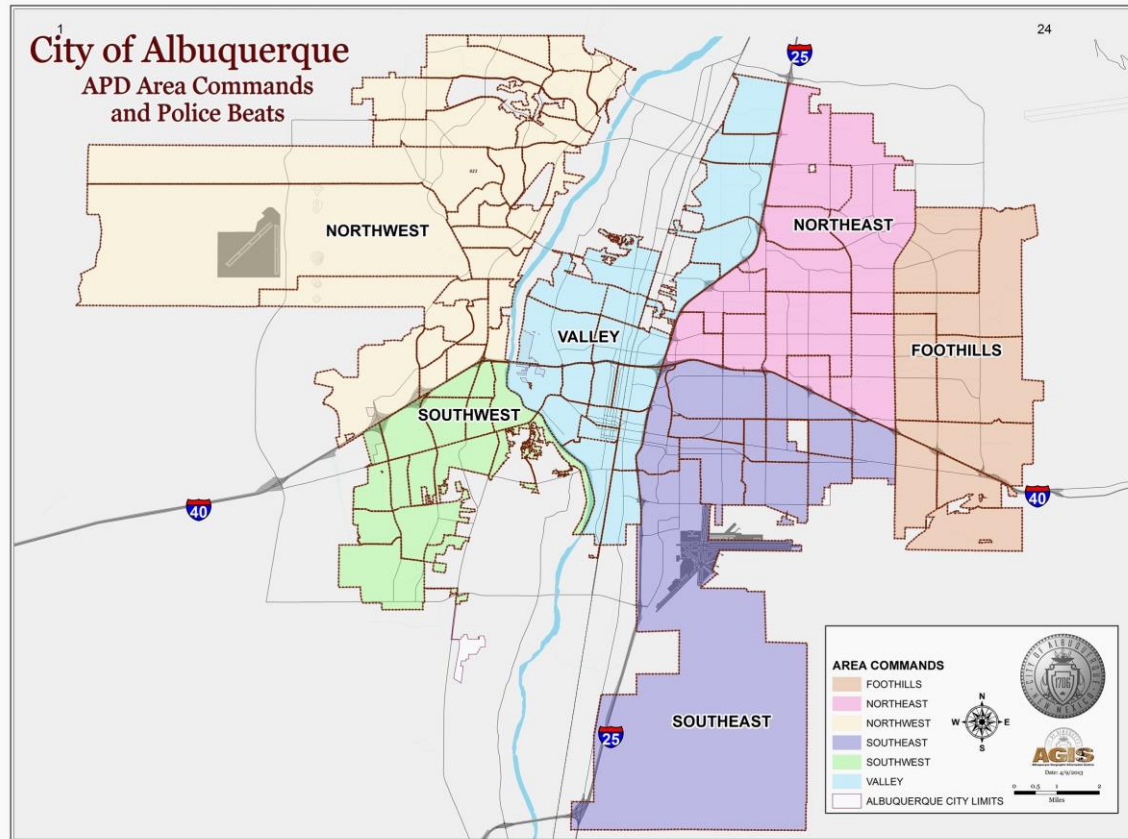


Figure 2 APD Area Command Boundaries

Our study of staffing and deployment examines a number of key questions including:

- Is the patrol division staffed and organized to perform its core mission?
- Do the agency structures support concepts of unity of command, and span of control?
- Are lines of authority and responsibility well defined?
- Is authority temporally or spatially focused?
- What is mix of sworn and non-sworn positions? Are sworn personnel occupying positions that could be performed more efficiently or effectively by non-sworn personnel?
- What is the degree of functional specialization and how does that influence performance?
- To what extent, if any, do employee labor agreements limit the ability to effectively and efficiently manage resources?
- Does the organizational structure impede effective internal communication?

To summarize, our study will attempt to answer five questions:

- What does the police department do?
- What does it want to accomplish?
- How does it do it?
- Are there better ways to do what they do now?

- How many people are needed to accomplish its mission?

## Patrol Operations

In the face of increasing costs and shrinking revenues, many communities are asking how many police officers are required to ensure public safety. Put another way, what number of officers would help an agency most cost-effectively meet the demands placed on it? This is a fundamentally different question than how many officers does a community want or can a community support. Yet answering the need question effectively frames a discussion about *want and affordability*.

Unfortunately, law enforcement administrators have few resources to guide them in determining the number of officers they need. To be sure, there are multiple approaches to answering this question, ranging from the simple to the complex each with a range of advantages, disadvantages, and assumptions.

The sections that follow highlight common staffing approaches and demonstrate how agencies may develop and use a workload-based assessment of patrol staffing needs that incorporates performance objectives for discretionary time. Where possible, workload-based approaches are superior to others in that they can help provide a better and more objective way to determine staffing needs. Additionally, comprehensive assessments for patrol help to answer a host of critical questions regarding resource allocation and deployment.

Traditionally, there have been four basic approaches to determining workforce levels: per capita, minimum staffing, authorized level, and workload-based. Each differs in its assumptions, ease of calculation, usefulness, validity, and efficiency. Each is reviewed below to provide context for developing an evidence-based approach to police staffing.

### *The Per Capita Approach*

Many police agencies have used their resident population to estimate the number of officers a community needs. The *per capita* method compares the number of officers with the population of a jurisdiction. To determine an optimum number of officers per population—that is, an optimum officer rate—an agency may compare its rate to that of other regional jurisdictions or to peer agencies of a similar size. Although it is difficult to determine the historical origin of, or justification for, the per capita method, it is clear that substantial variations exist among police departments.

Advantages of the per capita approach include its methodological simplicity and ease of interpretation. The population data required to calculate this metric, such as census figures and estimates, are readily available and regularly updated. Per capita methods that control for factors such as crime rates can permit communities to compare themselves with peer organizations. The disadvantage of this method is that it addresses only the relative quantity of police officers per population and not how officers spend



their time; the quality of their efforts; or community conditions, needs, and expectations. Similarly, the per capita approach cannot guide agencies on how to deploy their officers.

Agencies using the per capita method may risk a biased determination of their policing needs. There are several reasons for this. First, a generally accepted benchmark for the optimum-staffing rate does not exist. Rather, there is considerable variation in the police rate depending on community size, region, and agency structure and type. For example, it is generally known that police rates are substantially higher in the northeastern than in the western regions of the United States. When comparing individual jurisdictions, it is not uncommon for similar communities to have per capita rates that are substantially different.

Given the disadvantages noted above as well as others, experts have strongly advised against using population rates for police staffing. The IACP warns, "Ratios, such as officers-per-thousand population, are totally inappropriate as a basis for staffing decisions . . . . Defining patrol staffing allocation and deployment requirements is a complex endeavor which requires consideration of an extensive series of factors and a sizable body of reliable, current data."

#### *The Minimum Staffing Approach*

The *minimum staffing* approach requires police supervisors and command staff to estimate a sufficient number of patrol officers that must be deployed at any one time to maintain officer safety and provide an adequate level of protection to the public. The use of minimum staffing approaches is fairly common and is generally reinforced through organizational policy and practice and collective bargaining agreements.

There are two principal reasons a jurisdiction may use a minimum staffing approach. First, policy makers in many communities believe a minimum number of officers are needed to ensure public safety. This may be particularly common in small communities where there are relatively few citizen-generated demands for police service yet residents expect a minimum number of officers to be on duty at all times. Second, police officers themselves may insist (often through collective bargaining) that a minimum number of officers be on duty at all times. In some communities, the minimum staffing level is established by ordinance.

There are no objective standards for setting the minimum staffing level. Agencies may consider population; call load, crime rate, and other variables when establishing a minimum staffing level. Yet many agencies may determine the minimum necessary staff level by *perceived* need without any factual basis in workload, presence of officers, response time, immediate availability, distance to travel, shift schedule, or other performance criteria. This may result in deploying too few officers when workload is high and too many officers when it is low. To be sure, the minimum staffing level is often higher than what would be warranted by the agency workload. Ironically, even when the minimum staffing is not workload based, it is not uncommon to hear police officers

suggest that an increase in the agency's workload should warrant an increase in the minimum staffing level.

Minimum staffing levels are sometimes set so high that it results in increasing demands for police overtime. When staffing falls below the minimum standard, police managers typically must hire back officers on overtime to satisfy the minimum staff requirement. It is not uncommon for some agencies to hire back officers nearly every day due to officers taking time off for sick leave, vacations, or other reasons. Additionally, some agencies use a very narrow definition of available staffing. For example, agencies may hire back to fill a vacancy in patrol, even though there are a number of other officers on the street, including those in traffic, school resource units, and supervisors. Inefficiency increases when there are minimum staffing levels on overlapping shifts, leading to a higher number of officers on duty at a time that may not coincide with workload demand.

Most police officers, given a choice, would prefer to have more officers on the street, lending credence to a minimum-staffing model. Nevertheless, increasing the minimum staffing level will not, by itself, improve agency performance or necessarily increase officer safety. In fact, officers hired back to work extra shifts are likely to be fatigued, increasing the risk of injury to themselves or others.

Minimum staffing can also decrease the extent to which an agency can be nimble and flexibly deploy officers based on changing workload demands.

Finally, in some agencies the minimum staffing level may become, by default, the perceived optimal staffing level. In these situations, agencies often use the minimum level as a method to decide, for example, whether an officer can take a benefit day off. Others build work schedules so as to ensure that the minimum level is on duty. In these situations, staffing decisions are based on meeting the minimum level rather than optimizing the available resources to meet workload demand.

### *The Authorized Level Approach*

The *authorized level* approach uses budget allocations to specify a number of officers that may be allocated. Although the authorized level may be determined through a formal staffing assessment, it is often driven by resource availability and political decision-making. The authorized level does not typically reflect any identifiable criteria such as demand for service, community expectations, or efficiency analyses, but may instead reflect an incremental budgeting process.

The authorized level can become an artificial benchmark for need, creating the misperception among police leadership, line staff, and the community that the agency is understaffed and overworked if the actual number of officers does not meet the authorized level. Additionally, unless an agency staffs above the authorized level, fluctuations in recruitment, selection, training, and attrition may lead to the actual staffing levels falling below authorized levels.

Because the authorized level is often derived independently of workload considerations, an agency may be able to meet workforce demand with fewer officers than authorized. Still, the *perception* of being understaffed, resulting when officials bemoan the department operating below authorized strength, can diminish morale and productivity and make it appear that the community is not adequately funding public safety.

### *The Workload-based Approach*

A more comprehensive attempt to determining appropriate workforce levels considers actual police workload. *Workload-based* approaches derive staffing indicators from demand for service. What differentiates this approach is the requirement to systematically analyze and determine staffing needs based upon actual workload demand while accounting for service-style preferences and other agency features and characteristics. The workload approach estimates future staffing needs of police departments by modeling the level of current activity. Conducting a workload analysis can assist in determining the need for additional resources or relocating existing resources (by time and location), assessing individual and group performance and productivity, and detecting trends in workload that may illustrate changing activity levels and conditions. Furthermore, a workload analysis can be performed at every level of the police department and for all key functions, although it is more difficult to assess workload for some units than others. The importance of the workload-based approach to staffing is evidenced by it being codified as a standard (16.1.2) by the Commission on Accreditation for Law Enforcement Agencies: The agency allocates personnel to, and distributes them within, all organizational components in accordance with documented workload assessments conducted at least once every three years.

Unfortunately, there is no universally accepted standard method for conducting a workload-based assessment. Defining and measuring work varies by agency. Knowing that staff decisions are based upon calls for service and the time required to respond to them, officers may not have an incentive to be efficient in their response to calls or even to engage in activities that reduce calls. Learning how to conduct a workload-based assessment may be challenging for police administrators. Typical workload models are complicated and require intensive calculations. They also require decisions on a wide array of issues that are very difficult for officials and communities to make—such as how frequently streets should be patrolled—and do not uniformly account for discretionary activities, such as time for community policing and other officer-initiated activities.

Even with shortcomings, allocation models based on actual workload and performance objectives are preferable to other methods that might not account for environmental and agency-specific variables. Agencies could benefit from a more popularized workload-based methodology of staffing analysis that is easy to learn and comprehend; is employed by administrators; and, importantly, helps to effectively manage discretionary time. No single metric or benchmark should be used as a sole basis for determining an agency's staffing level. Rather, agencies should consider metrics in light of professional expertise

that can place them in an appropriate practical context.

A step-by-step approach for conducting a workload-based assessment should include the following:

1. *Examining the distribution of calls for service by hour, day, and month.* Calls for service can differ by the hour of the day, the day of the week, and the month of the year. Peak call times can also differ by agency. Knowing when peak call times occur can help agencies determine when they must have their highest levels of staff on duty.
2. *Examining the nature of calls for service.* Reviewing the nature of calls can help better understand the work that an agency's officers are doing. Types of police work required can vary by area within a single jurisdiction and require agencies to staff differing areas accordingly.
3. *Estimating time consumed on calls for service.* Determining how long a call takes, from initial response to final paper work, is key to determining the minimum number of officers needed for a shift. This is most straightforward when a single officer handles the call and completes resulting administrative demands (e.g., reports, arrests) prior to clearing it.
4. *Calculating agency shift-relief factor.* The shift-relief factor shows the relationship between the maximum number of days that an officer can work and *actually* works. Knowing the relief factor is necessary to estimating the number of officers that should be assigned to a shift in order to ensure that the appropriate number of officers is working each day.
5. *Establishing performance objectives.* This encompasses determining what fraction of an officer's shift should be devoted to calls for service and what portion to other activities. For example, an agency might build a staffing model in which officers spend 50 percent of their shift on citizen-generated calls and 50 percent on discretionary activities.
6. *Providing staffing estimates.* Staffing needs will, as noted earlier, vary by time of day, day of week, and month of year, among other variables. Agencies should distribute their officers accordingly. For example, a shift with only half the number of calls than another shift will require half the number of officers. These numbers may also vary by the type of calls, and the time and officers they require, in each shift. For example, one large urban agency assigns two officers to each unit in its evening shift, affecting the number of officers needed for units to respond to calls. Another responds to the same type of calls in different ways in different shifts (for example, sending a unit in some shifts, but requesting citizens file a report in person at a station during others).

Following this model we will now describe our staffing analysis for Albuquerque.

We examined data for the period of March 1 2014 – February 28 2015. During that period the department handled 405,404 citizen-generated calls for service (CFS), of which

officers assigned to the area commands handled 383,158. We define these calls as those in which a citizen contacts the police and an officer(s) is dispatched. This category of calls does not include officer initiated activity like traffic stops or department initiated activity like directed patrol.<sup>1</sup>

To provide some sense of the magnitude of call demand, consider that 383,158 calls equate to about 1000 CFS per day or the equivalent of 42 calls per hour. The following illustrates CFS by area command. As we can see in Figure four there is significant variation by command. The Southeast Area Command handled 24% of all citizen-generated calls for service, while the Southwest Command handled 12%.

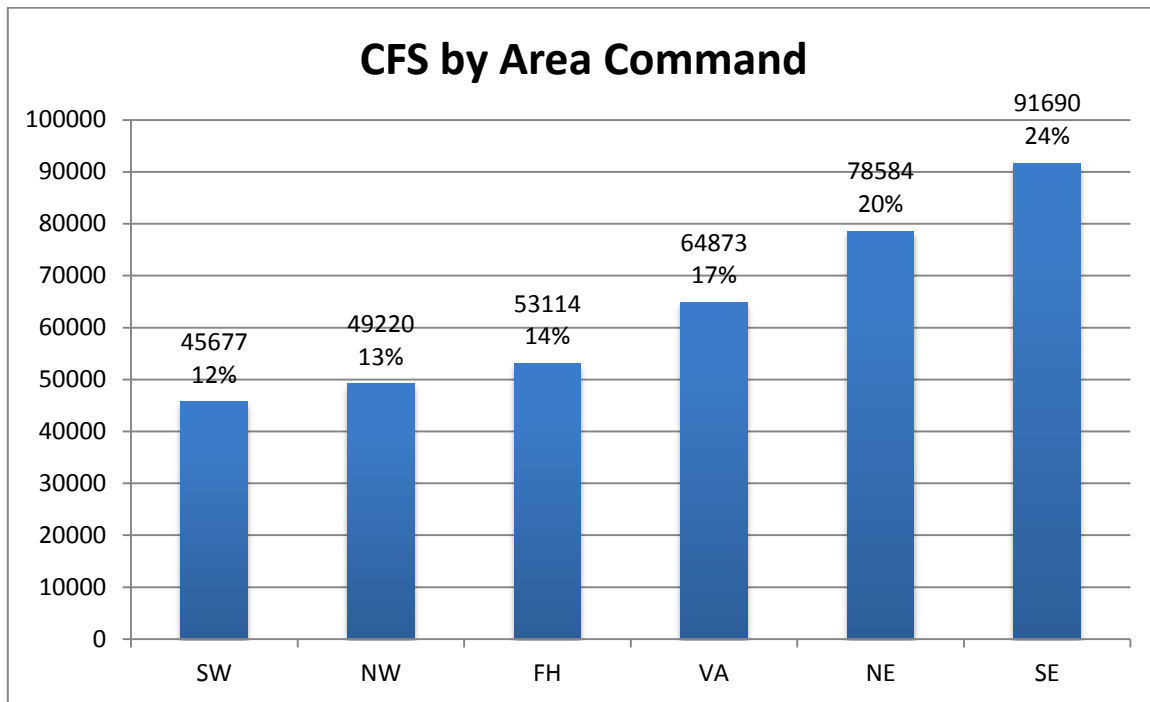


Figure 3 Number of CFS in Each Area Command

<sup>1</sup> It can be difficult to disaggregate citizen-generated calls from others and while there may be some calls in our data that are officer-initiated, we are confident that the data can be used reliably in this analysis.

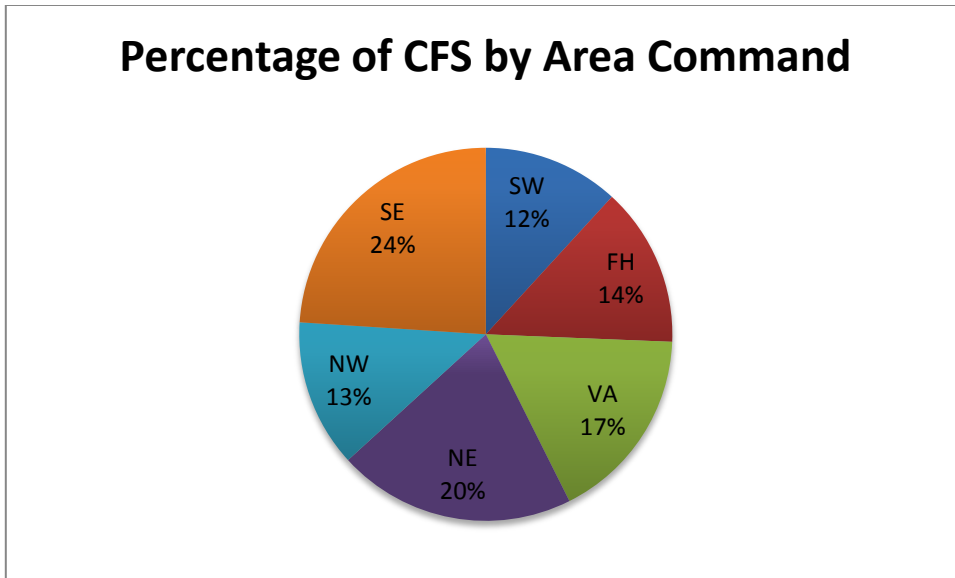


Figure 4 Percentage of CFS by Area Command

Figure 5 illustrates the distribution of citizen-generated calls for service by hour of day for the department. Like most police agencies the peak demand for service occurs in late afternoon hours. We can also observe the drop-off in dispatched calls around the hours of 1500 Hours and 2200 Hours. This is generally consistent with calls having been held pending shift change. This holding of calls, while it can help to reduce overtime and officers working beyond their scheduled time, may have two significant consequences. First, it causes citizens to wait inordinate amounts of time for police response. Second, when officers start their shifts there is a backlog of calls, and thus it contributes to their frustration and tends to reinforce the notion that the department is understaffed.

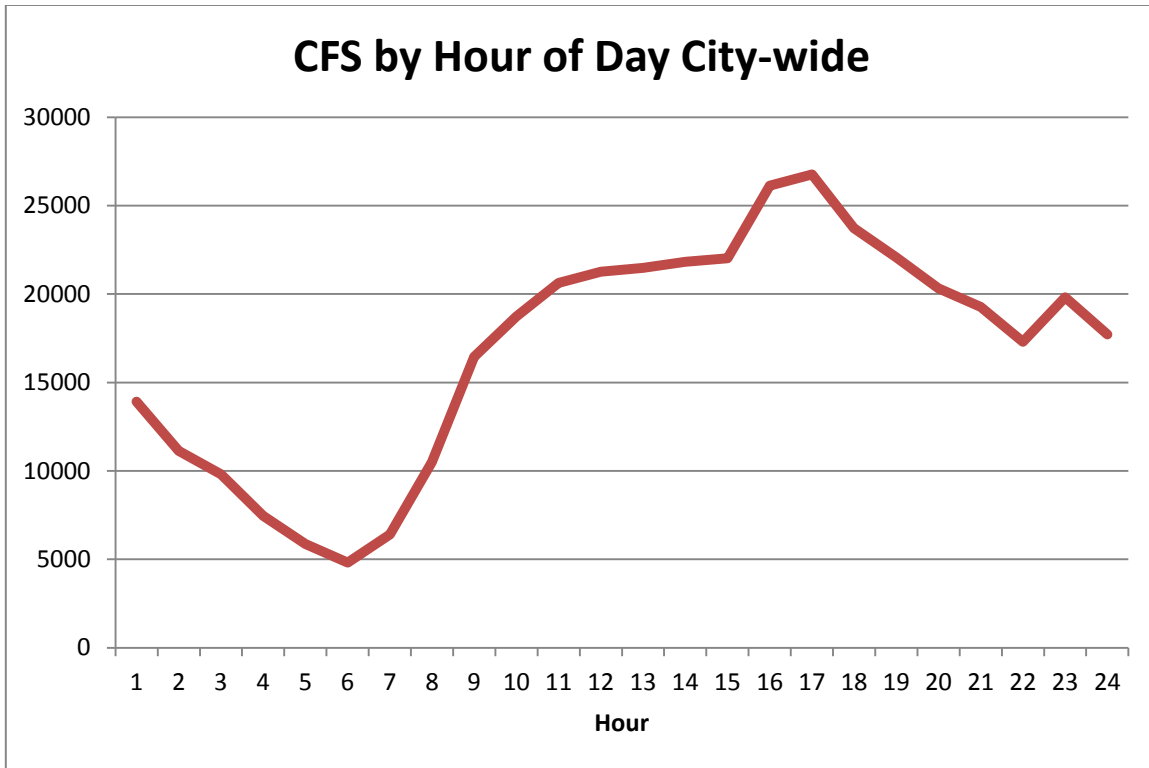


Figure 5 CFS by Hour (City-wide)

In Figure 6 we observe the distribution of calls by hour of day in each of the six commands. Although the number of calls varies by hour, the hourly patterns are similar.

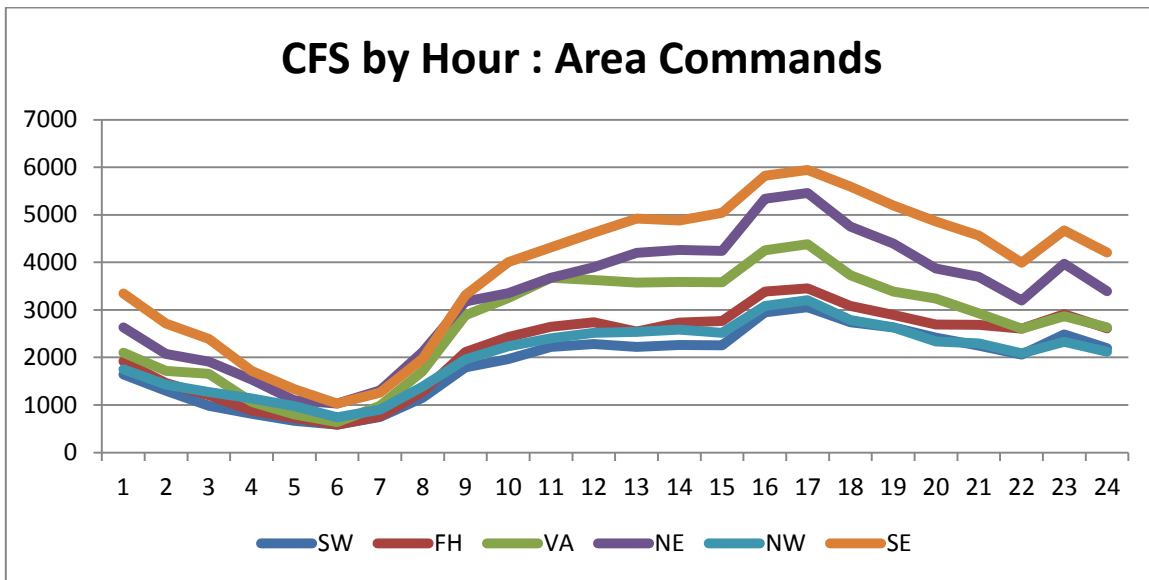


Figure 6 CFS by Hour by Area Command

Figure 7 shows the distribution of calls by day of week. There is relatively little variation by day of week. In fact, we observe that although Friday is the busiest day of the week, it

is not that much busier than the other days. Nevertheless, on Friday, all of the APD Field Services Bureau personnel are assigned to work.

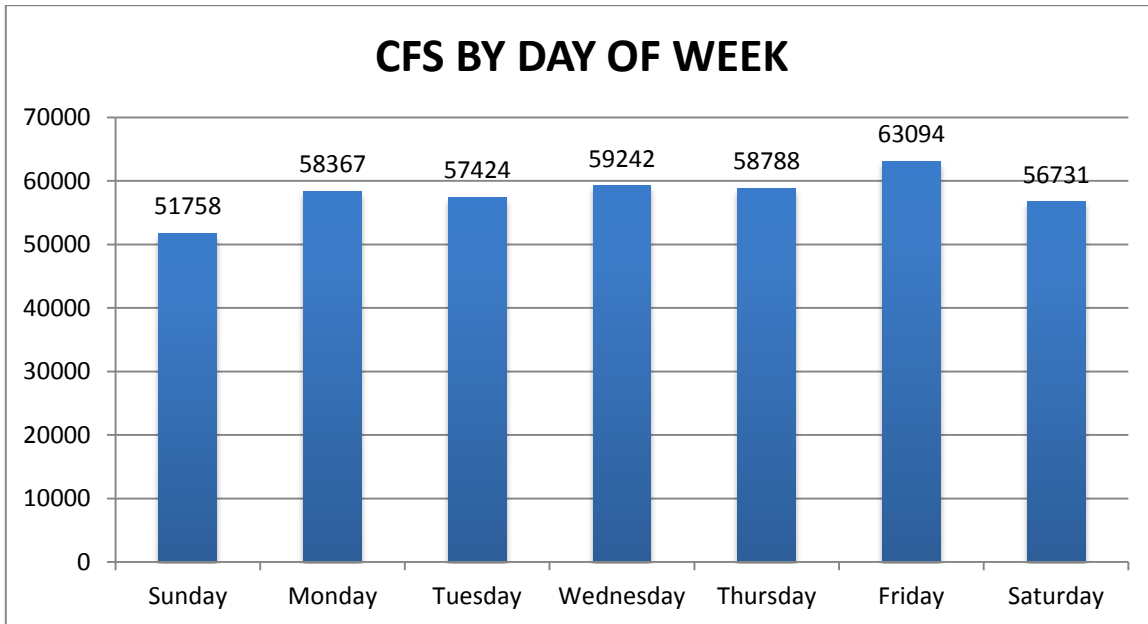


Figure 7 CFS by Day of Week (city-wide)

Next we observe the distribution of calls by month. Again, this is what we expect based on experience with similar agencies.

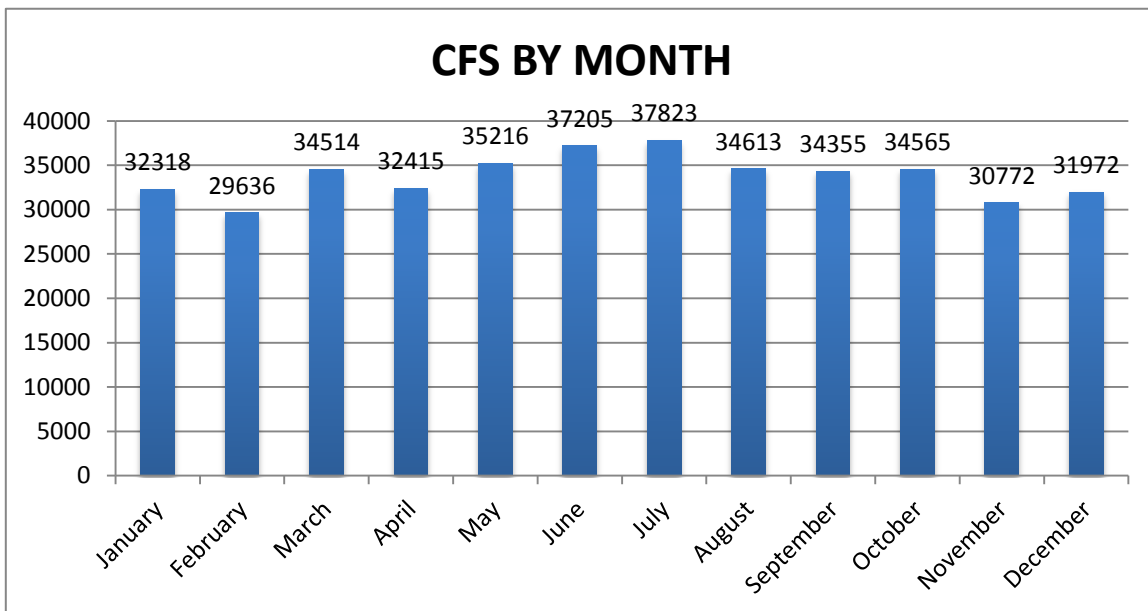


Figure 8 CFS by Month



Finally, we observe the percentage of calls by shift. It is interesting to note the relatively small fraction of CFS activity occurring after midnight.

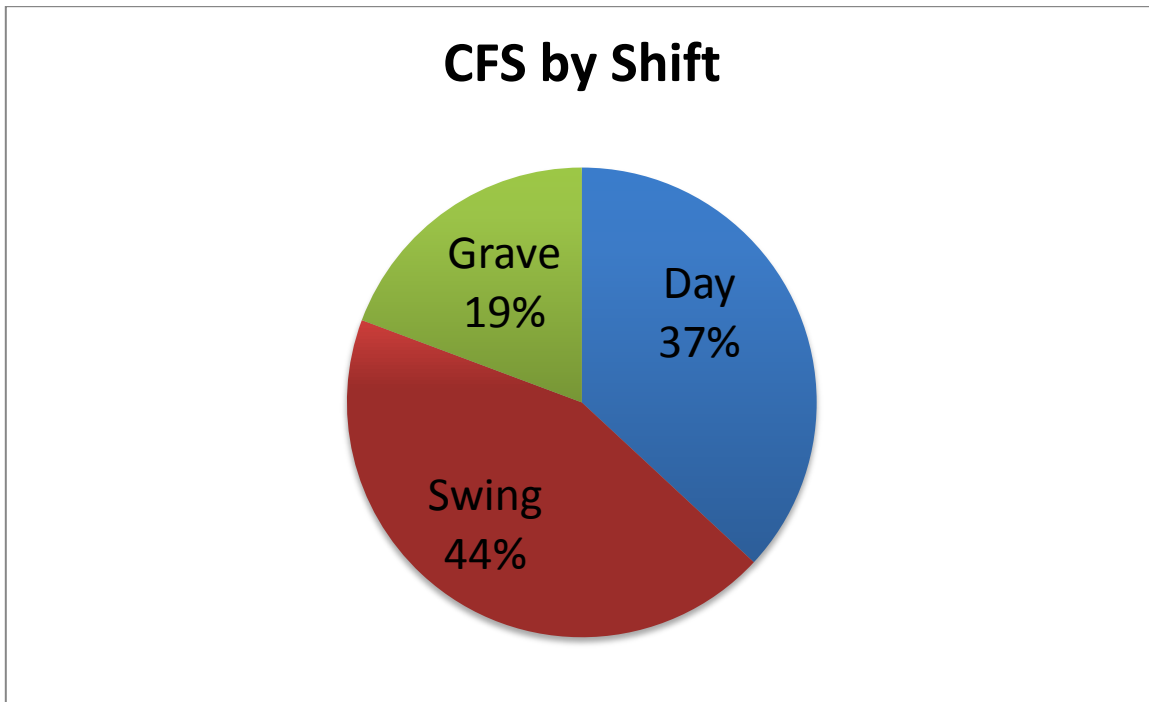


Figure 9 CFS by Shift

The following figure illustrates how we consider time in the context of a call for service.

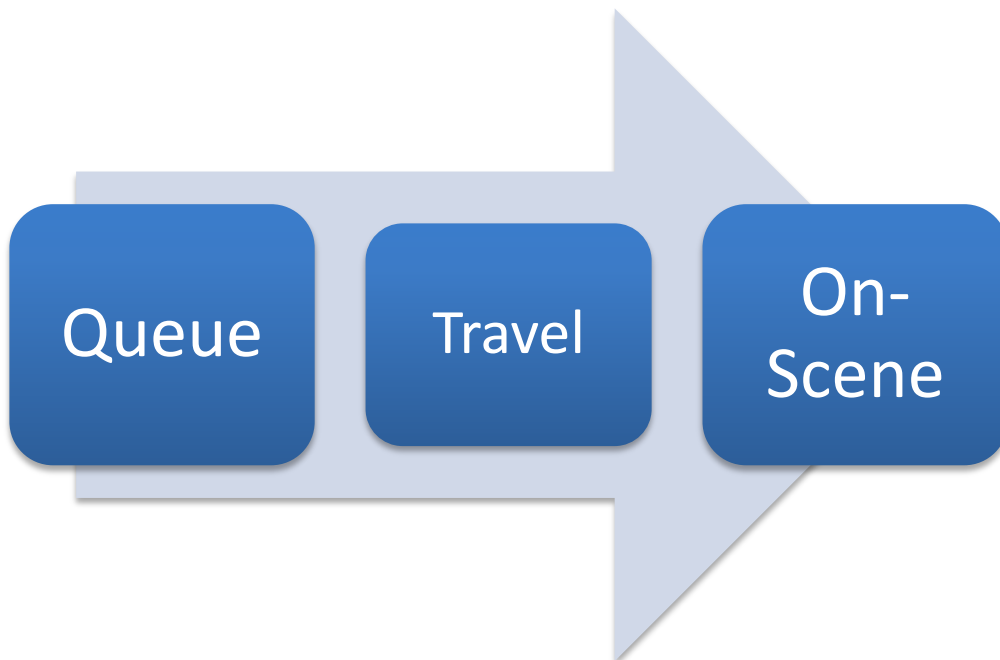


Figure 10 Model of CFS Time

Once a call has been created in the CAD system it is placed in **queue** awaiting dispatch. **Travel time** is the time from when the call is dispatched until the first officer arrives on scene. In our analysis the **time consumed** on the call is reflected by the time from dispatch until the time the last officer has cleared. Table 3 illustrates the average times in each category for APD.

Queue for all Priority One calls	1 Minute, 47 Seconds
Queue (for all calls, average)	14 Minutes 48 Seconds
Travel	8 Minutes 31 Seconds
Dispatch to Clear	48 Minutes 15 Seconds

**Table 3 Components of CFS Time (city-wide)**

The city has a three priority system for assignment of calls to officers with a priority one (calls with weapons or significant injury or potential for injury) being assigned the highest level, a priority one call. It should be noted each call is evaluated to determine what occurred, how long ago the incident occurred, if weapons were involved and/or if there are injuries. With these factors known, a priority is then assigned to the call and it is entered in to the system and queued for the dispatch of officers.

Our analysis of all three priority types of calls indicated the average time spent on scene of a call for service was 48 minutes and 15 seconds. This call duration is relatively long compared with similar jurisdictions. This may reflect a few factors. First, the Albuquerque area commands cover large geographical areas and thus travel times can be significant. Second, in our experience, when officers face backlogs of calls for service they tend to complete more work at the scene rather than wait and do it later in the shift. Interestingly we found that the travel times and total times were nearly identical across the area commands.

Of particular concern was that all calls requiring the response of an officer are held in queue on average nearly 15 minutes. This figure is a total for all three priorities of calls. This could include calls where a person is reporting a theft of a piece of property from a week ago where immediate officer intervention isn't as critically necessary as well as a call of a violent nature which just occurred (armed robbery). In order to examine this more closely we disaggregated high priority calls and calculated the queue times.

Figure 11 illustrates queue times for high priority (life threatening) calls by area command. These times indicate APD has the capacity to respond promptly to critical calls. **Their performance on this measure is the best we have seen in our studies in other cities.**

Although the average CFS time is about 48 minutes, as we can see in the Figure 12 a substantial fraction of calls takes far less time. In fact 56% of calls consume less than 40 minutes, including travel time.

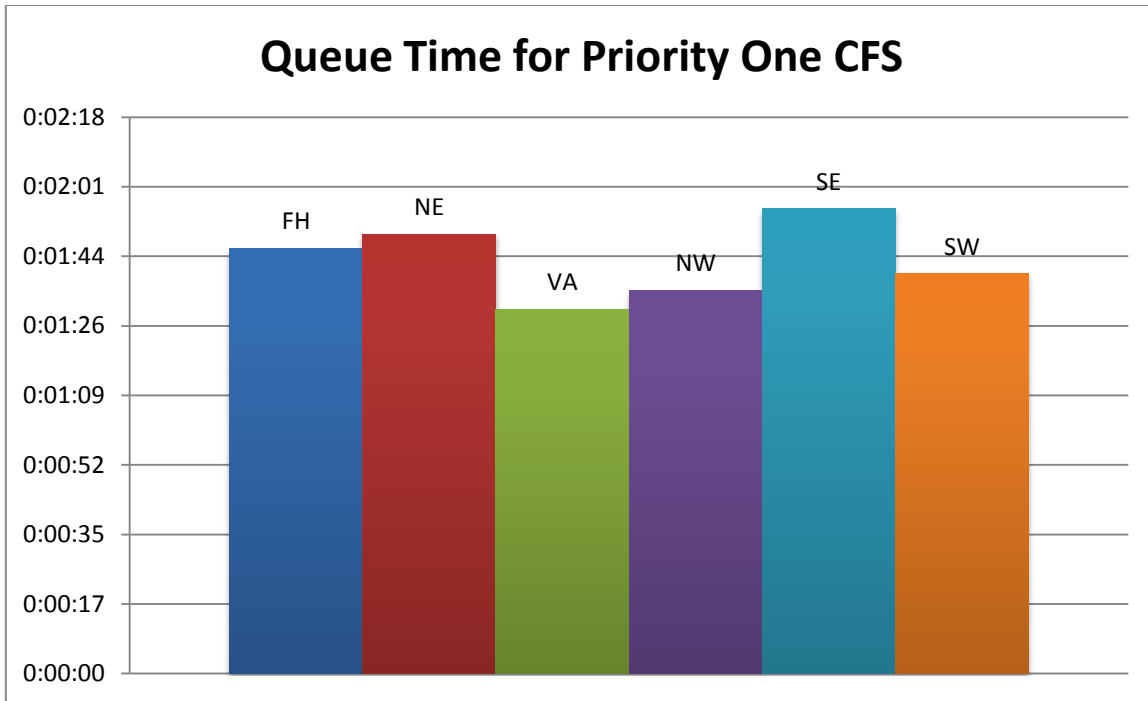


Figure 11 Queue Time for Priority One CFS by Area Command

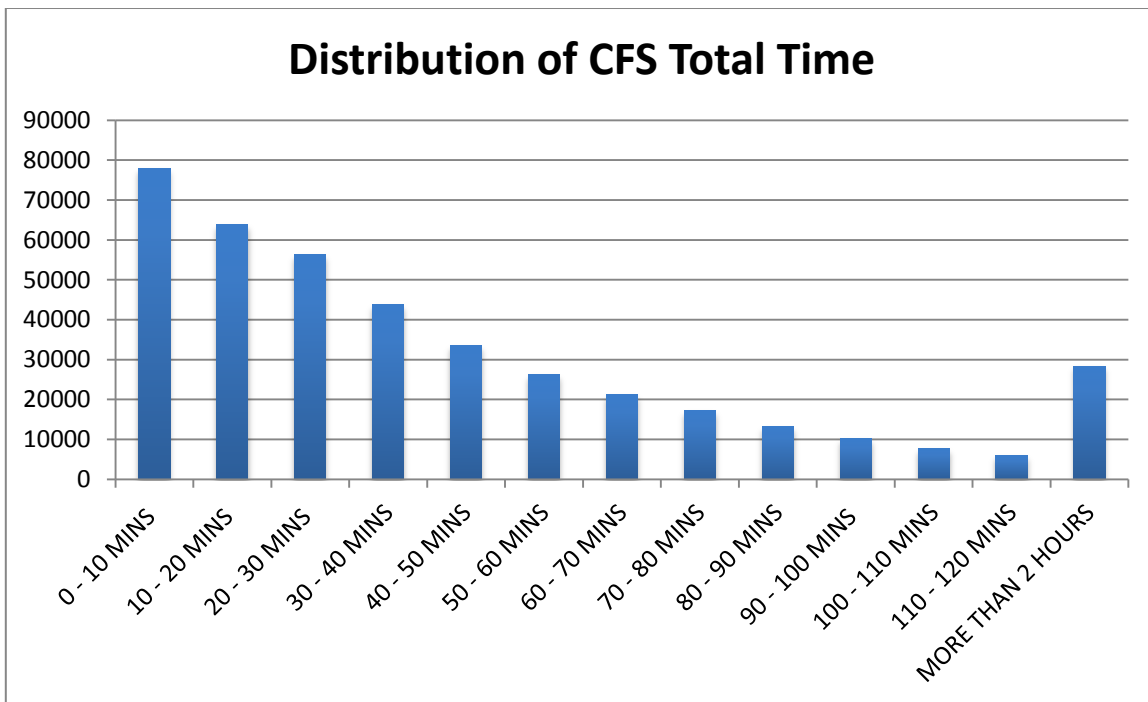


Figure 12 Distribution of CFS Total Time

Next, we examine the nature of calls for service. Table 4 illustrates the top call for service categories. These call types represent 65% of all calls for service in the city.

Type of Call	Number
Suspicious Person/Vehicle	81506
Disturbance	55583
Non-injury Traffic Crashes	28029
Contact	22495
Burglar Alarms	22082
Theft/Fraud/Embezzlement	18798
Family Dispute	17080
P-watch	16970
Direct Traffic	15606

Table 4 Largest CFS by Category (city-wide)

There are several illustrative items in this list:

- There a number of calls that could be reduced through alternative response strategies including alarms, property damage accidents, theft and “contact”.
- Some calls could be handled by non-sworn staff such as property damage crashes or directing traffic.
- P-watch calls are sometimes for informational purposes, and officers will handle them as time permits.

The next step in our staffing estimate is to calculate the shift relief factor. The shift relief factor tells us the number of officers that we need to assign to a shift in order to ensure that a sufficient number of officers are on duty to meet performance objectives. We obtained data for the study period concerning time off for 904.8 FTE sworn personnel. That data is shown in Table 5.

Benefit Time Off	Hours
Birthday	6,682
Hazard Duty	1,740
Holiday	73,598
Jury Duty	8
Military	22,123
Paid Leave	468
Personal Leave	1,116
Sick	52,199
Vacation	93,334
Comp Time	93,970
Float Holiday	1,415
Injury	19,735
Education	184
Total	366,571

Table 5 Summary of Benefit Time Off

In Table 6 we calculated the ratio of the maximum hours they could have worked to the hours worked. That result is 1.74.

Maximum Hours Possible	Benefit Time Off	Regular Days Off	Total Time Off	Total Working	Shift Relief Factor
2642016	366571	754820	1121391	1520625	1.74

Table 6 Calculation of Shift Relief Factor

The shift relief factor tells us how many officers we would have to assign to a shift in order to ensure that a sufficient number were working. For example, if we wanted 10 officers to be on duty during the day shift we would need to assign 17.4 (18) officers to the shift  $(10 \times 1.74)^2$ .

One of the factors that can influence a staffing model is time spent on preparation of reports. In some communities officers respond to calls for service and prepare their reports while on-scene. As a result, the time for report preparation is included in the total call time. However, if an officer clears the call and prepares the report at a subsequent time that time will appear as a portion of their uncommitted time. In order to capture this data in Albuquerque we looked at the disposition of calls and whether a report was prepared. During our study period a report was written on 24% of calls for service. Thus for the vast majority of calls no additional time is consumed on report writing.

In order to use this staffing model agencies must make two critical decisions. First, the agency must decide whether it is more appropriate to assume that 25% or 50% of calls require a backup. The most reliable choice will be based on consideration of the setting. APD responds to many calls that require backup including alarms, domestic violence, and many traffic crashes. Of course, the incidence of calls that require backup will vary significantly by neighborhood and time of day.

The second decision focuses on the allocation of officer time. We know that police officers do many things other than answer citizen calls for service. Our model includes time for those other activities at various levels. We are often asked whether there is some standard or benchmark that an agency should adopt in this area. In fact, this should be a community-based decision. There are a number of factors that influence that choice:

- Some agencies have a high degree of specialization including traffic, street crime, and tactical units. Those agencies generally have lower expectations about proactive activities by patrol officers than those that are more generalized

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<sup>2</sup> The shift relief factor is based on the assumption that officers work five eight-hour shifts per week. The shift relief factor will be larger for officers that work four ten-hour shifts per week. See section on work schedules.

- Some agencies expect patrol officers to engage in community policing and problem-solving activities. These task can take up a lot of time
- In some agencies there is a philosophy that the principle job for officers assigned to patrol is to answer citizen calls for service and to remain available for emergency response.

Most police executives agree that the key question is not how much discretionary time is available, but how is that time being utilized.

Now we can turn to our staffing estimate. Estimates based on an eight-hour schedule are shown in Tables 7 and 8. Table 7 is based on the assumption that 25% of all calls require a backup unit and Table 8 is based on the assumption that 50% of calls require a backup.<sup>3</sup> In all other respects the tables are the same. As you can observe there is a staffing estimate for each area command.<sup>4</sup>

1	2	3	4	5	6	7	8
SW	CFS	25%	ADJCFS	HOURS	UNITS	50%CFS	XSRF
0700-1500	16158	4039.5	20197.5	16158	5,5	11.1	<b>20.0</b>
<b>FH</b>							
0700-1500	19255	4813.8	24068.8	19255	6.6	13.2	<b>23.0</b>
<b>VA</b>							
0700-1500	25895	6473.8	32368.8	25895	8.9	17.7	<b>31.0</b>
<b>NE</b>							
0700-1500	28930	7232.5	36162.5	28930	9.9	19.8	<b>35.0</b>
<b>NW</b>							
0700-1500	18135	4533.8	22668.8	18135	6.2	12.4	<b>22.0</b>
<b>SE</b>							
0700-1500	33062	8265.5	41327.5	33062	11.3	22.6	<b>40.0</b>

Table 7 Staffing Estimates (25% Backup)

<sup>3</sup> It is very difficult to obtain reliable data about backup units from CAD Data, so we estimate that value.

<sup>4</sup> APD has requested that the patrol allocation be based on the assumption that 25% of calls on the day shift require a backup and that 50% of calls on the afternoon and midnight shifts require a backup.

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1	2	3	4	5	6	7	18
SW	CFS	50%	ADJCFS	HOURS	UNITS	50%CFS	XSRF
1500-2300	20587	10293.5	30880.5	24704.4	8.5	16.9	30
2300-0700	8932	4466	13398	10718.4	3.7	7.3	13
<b>FH</b>							
1500-2300	23708	11854	35562	28449.6	9.7	19.5	34
2300-0700	10151	5075.5	15226.5	12181.2	4.2	8.3	15
<b>VA</b>							
1500-2300	27386	13693	41079	32863.2	11.3	22.5	40
2300-0700	11593	5796.5	17389.5	13911.6	4.8	9.5	17
<b>NE</b>							
1500-2300	34679	17339.5	52018.5	41614.8	14.3	28.5	50
2300-0700	14975	7487.5	22462.5	17970	6.2	12.3	22
<b>NW</b>							
1500-2300	20762	10381	31143	24914.4	8.5	17.1	30
2300-0700	10323	5161.5	15484.5	12387.6	4.2	8.5	15
<b>SE</b>							
1500-2300	40643	20321.5	60964.5	48771.6	16.7	33.4	59
2300-0700	17984	8992	26976	21581	7.4	14.8	26

Table 8 Staffing Estimates (50% Backup)

In the first column of Tables 7 and 8 we have divided the day into 3 eight-hour shifts (day shift for Table 7 and swing and midnight shifts for Table 8). You will note the number of calls during each shift in column 2. In the third column we make the backup unit adjustments (adding 25 and 50% of calls respectively). Column 4, which includes the backup unit adjustment, is the basis for our analysis. In Column 5 we estimate the total time consumed on calls (in hours) by shift. In the next column we identify the number of units required to handle these calls if a unit worked every day and 365 days per year. This calculation is based on the total time consumed divided by 2920, the number of hours that an officer would work if they worked an eight-hour shift every day. **The unit value (Column 6) is the number of officers that should be on duty if they only answered calls for their entire shift, and if they worked every day.**

Next (column 7) we multiply the unit value times the performance objective. In this case the model is based on providing enough officers to permit them to spend 50 percent of their time on calls for service and fifty percent on other activity.

In column 8 we multiply the required units times the appropriate shift relief factor. This tells us the number to **assign** to the shift in order to ensure that the appropriate number of units were on duty.<sup>5</sup>

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<sup>5</sup> The convention is to round up at this point.

Using these tables we can estimate staffing requirements for each area command by shift. This analysis is illustrated in Table 9. Based on this model APD would require 522 police officers assigned to patrol.

**8 HOUR WORK SHIFT ANALYSIS**

<b>SW</b>	
0700-1500	20
1500-2300	30
2300-0700	13
<b>FH</b>	
0700-1500	23
1500-2300	34
2300-0700	15
<b>VA</b>	
0700-1500	31
1500-2300	40
2300-0700	17
<b>NE</b>	
0700-1500	35
1500-2300	50
2300-0700	22
<b>NW</b>	
0700-1500	22
1500-2300	31
2300-0700	15
<b>SE</b>	
0700-1500	40
1500-2300	59
2300-0700	26
<b>Total</b>	<b>522</b>

Table 9 Staffing Estimates for Area Commands

When using the workload-based approach it is important to consider some of the potential limitations. First, this model relies heavily on averages in producing the estimates. To the extent that workload demands exceed averages, relying on averages for scheduling may affect agency performance. An example of where this might occur is during substantial emergencies, concurrent major calls, or some unplanned event. In these sorts of unpredictable situations, the workload-based model, like other approaches, may not provide for an adequate number of officers. The main effect of this shortfall will be to reduce the availability of discretionary time. Second, the models do not



differentiate about the job functions of the police units. That is, we assume that calls are handled by police officers. To the extent that calls are handled by supervisors or by non-sworn staff, officer-staffing requirements will diminish. Third, we include the response time as a component of the call for service time, which we believe is reliable in most communities. In communities with large geographical patrol zones, agencies may find that even when officers are available for calls for service, travel time to answer calls exceeds that needed to provide acceptable performance. In these agencies it is important to consider re-designing patrol zones to ensure that officers can respond to calls appropriately.

Finally, it is important to note that the workload-based approach works best when a community responds to at least 15,000 citizen-generated calls per year. Otherwise, the time required for calls for service is so low that the number of officers recommended is far fewer than is thought reasonable. While this is generally not an issue in large communities, we do see some evidence of this problem in the APD analysis. For example, several areas had fewer than 15,000 calls on the midnight shift, and as a result, the staffing estimates may be unreasonably low. It is important for the agency to utilize its institutional knowledge to address these anomalies.

One approach to addressing this problem of inadequate staffing on midnight shifts is to adopt a 12 Hour work schedule.<sup>6</sup> By staffing on two shifts rather than three or more you can introduce some efficiencies and having a more balanced staffing by shift.

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<sup>6</sup> See page 31 for a discussion of twelve-hour work schedules.

Using the APD workload data we constructed a staffing table based on two twelve-hour shifts starting at 0600 Hours and 1800 Hours. It is shown below.

### 12 HOUR WORK SHIFT ANALYSIS

1	2	3	4	5	6	7	8
SW	CFS	ADJ	ADJCF5	HOURS	UNITS	50% Obl.	XSRF
0600-1800	25645	6411	32056	25645	5.9	11.8	31
1800-0600	20032	10016	30048	24038	5.5	11	29
FH							
0600-1800	29938	7485	37423	29938	6.8	13.6	36
1800-0600	23176	11588	34764	27811	6.4	12.8	34
VA							
0600-1800	39244	9811	49055	39244	9	18	47
1800-0600	25629	12815	38444	30755	7	14	37
NE							
0600-1800	45785	11446	57231	45785	10.5	21	55
1800-0600	32799	16399	49198	39358	9	18	47
NW							
0600-1800	28108	7027	35135	28108	6.4	12.8	34
1800-0600	21112	10556	31668	25334	5.8	11.6	31
SE							
0600-1800	51683	12921	64604	51683	12	24	63
1800-0600	40007	20000	60007	48006	11	22	57
<b>Total</b>							<b>501</b>

Table 10 Staffing Estimates for 12-Hour Shifts

This model is very similar to the one used for the eight hour schedule with a few exceptions:

- We assumed that 25% of calls on day shift required backup and 50% on night shift required backup. In the eight-hour model we were assuming 50% backup for 16 hours per day-in this one 12 hours per day.
- We have utilized a shift relief factor of 2.6 (typical for 12 hour schedules) however it should be noted that 12-hour schedules result in a 42-hour workweek. The actual shift relief factor will vary based on how the department adjusts for that anomaly.

Based on these assumptions APD would require **501 officers in patrol**.

## Work Schedule

The second component of patrol resource analysis is the work schedule. The work schedule is critical because it is a tool to ensure that resources are aligned with organizational objectives.

Our work in Albuquerque suggests that patrol performance is significantly affected by work schedule. Among the critical issues are:

- Work schedules are not well aligned with the workload
- There are several different work schedules in use, resulting in unnecessary complexity
- In some cases work schedules were implemented to motivate police officer performance. While this may have been beneficial for the officers, it appears that these schedules are not based on deployment requirements.

In order to better understand these issues it is instructive to review the scheduling process.

Police work schedules come in all shapes and sizes. Although each seems unique there is a methodology to apply so that we can compare work schedules. Among the important components of a work schedule are:

- Average work week
- Shift length
- Number of consecutive work days
- Weekend time off
- Staffing by day of week.
- Percentage of officers on duty each day.

Consider the following figure that illustrates a common work schedule.

	S	M	T	W	T	F	S
1	Off	Off					Off
2		Off	Off				
3			Off	Off			
4				Off	Off		
5					Off	Off	
6						Off	Off
7	Off						Off
% On	71	71	71	71	71	71	71

Figure 13 Example of 5-2 Work Schedule

Figure 13 illustrates a work schedule in which officers work a five-day on/two-day off schedule with eight-hour days. We observe that the shift has unique properties:

- Fixed days off
- Three groups of officers have either a full or partial weekend day off
- Equal staffing by day of week
- Longest on duty cycle is five days.

Importantly, we observe that on every day, 71 percent of the officers are assigned to be on duty, and that the number of officers on duty each day is the same. These are two very important criteria that can be used in evaluating a work schedule.

Figure 14 shows how we can build a schedule that increases staffing on weekends. Let’s say we have a workgroup with nine officers and we wish to provide staffing proportional to the daily workload. Each officer is assigned a day off group, but groups two and three each have two officers. This allows the reduction of staffing on some days, and the increase on others. This schedule is particularly attractive to employees that want fixed days off. It works well for officers that are going to school, and may be beneficial for those that assist in childcare. The disadvantage is that a substantial portion of employees never gets a weekend off.

	S	M	T	W	T	F	S
1	Off						Off
2 (2)		Off	Off				
3 (2)			Off	Off			
4				Off	Off		
5					Off	Off	
6						Off	Off
7	Off	Off					
On	7	6	5	6	7	7	7
Off	2	3	4	3	2	2	2
% On	77%	66%	55%	66%	77%	77%	77%

Figure 14 Example of 5-2 schedules with variable staffing by day of week

Another schedule that is based on an eight-hour day is commonly described as a “six and two” schedule. Over the course of the seven-week duty cycle each officer will work the following pattern:

- 6 on 3 off
- 5 on 3 off
- 6 on 2 off
- 6 on 2 off
- 6 on 2 off
- 6 on 2 off

It is illustrated below.

Week	S	M	T	W	TH	F	S
1			Off	Off			
2				Off	Off		
3					Off	Off	
4						Off	Off
5	Off						Off
6	Off	Off					
7		Off	Off				
% On	71	71	71	71	71	71	71

Figure 15 6/2 Work Schedule

This schedule has several interesting attributes:

- The percentage of officers assigned each day is the same as a 5/2 schedule
- Rotating days off
- Each officer gets two three-day weekends during each duty cycle.

#### Ten- Hour Shifts

More than 30 years ago, several law enforcement agencies began adopting the “4–10” plan. Under this plan, officers work four 10-hour shifts and have 3 days off each week. The plan appeals to officers because it reduces the number of days worked, the likelihood of working on a holiday, and commuting time. The plan can also appeal to agencies. Because the work schedules have an “overlap” period between shifts, when officers on two shifts are working, the agency can double staffing during peak demand times. The following figure illustrates a typical 4/10 plan; one that is based on a seven week duty cycle.

	S	M	T	W	T	F	S
1	OFF	OFF					OFF
2	OFF	OFF	OFF				
3		OFF	OFF	OFF			
4			OFF	OFF	OFF		
5				OFF	OFF	OFF	
6					OFF	OFF	OFF
7	OFF					OFF	OFF
%	57	57	57	57	57	57	57

Figure 16 4-10 Plan

Compared to 8-hour shifts, the above 10-hour schedule significantly reduces the proportion of officers assigned to be on duty; dropping from 71% to 57%. This happens

because the agency must use the same number of officers that are used to provide 24 hour staffing to provide 30 hours of staffing a day. In many agencies, those additional 6 hours of coverage are unnecessary. Moreover, 10-hour shifts require additional police vehicles to cover overlap times, which may reduce productivity for some officers.

Consider the following example. A department has 84 officers assigned to patrol (28 officers are assigned to each eight-hour shift). On each shift we would expect about **20 officers** (71%) to be assigned to duty.

The department decides to implement a 4/10 plan with shift times of 0600 to 1600, 1400 to 2400, and 2200 to 0800. If we continue to assign 28 officers to each shift we would expect that on each shift **16 officers** (57%) would be assigned to work. The resulting deployment scheme is illustrated below.

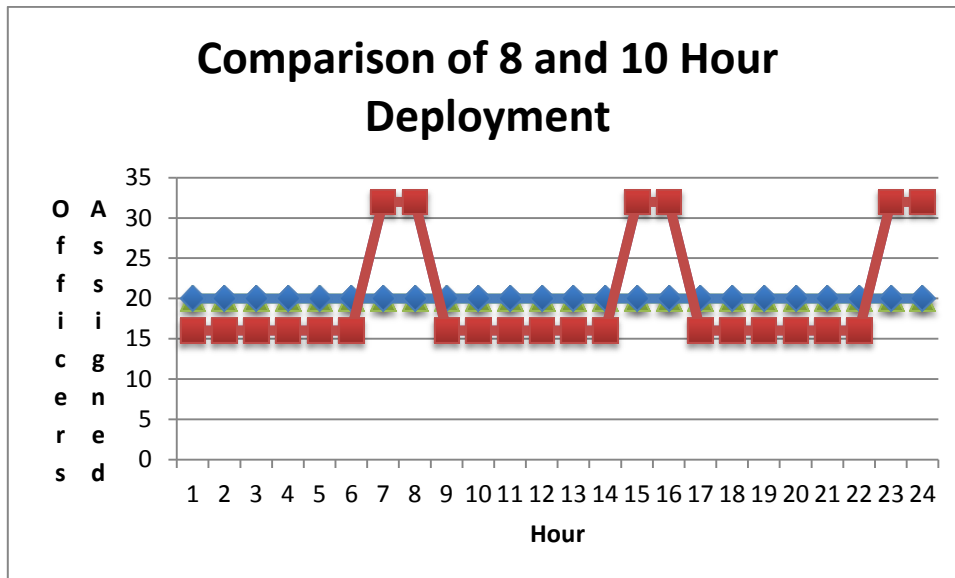


Figure 17 Comparison of 8 and 10-hour deployment

In Figure 17 we observe what happens when we shift from an eight-hour to a 10-hour work schedule with the same number of officers. The blue line depicts the eight-hour schedule. As we see, except for the six hours of overlap when the staffing doubles, there are fewer officers assigned than when officers are working eight-hour shifts. The only way to reach the level of staffing provided under the eight-hour scheme is by adding officers. Importantly, it may be the case that an agency can use the additional capacity that comes from the ten hour plan to its advantage, but they must understand that any advantage it experiences may be at the expense of another goal.

APD Field Services uses two different work schedules. Officers on the day shift and swing shift work a 5 on, 2 off eight-hour day schedule with fixed days off. Officers on the graveyard shift work a 4 on, 3 off schedule with ten-hour days with fixed days off.

First, let's examine the eight hour schedule.

	M	T	W	T	F	S	S
SQUAD1						OFF	OFF
SQUAD2	OFF	OFF					
SQUAD3			OFF	OFF			
% ON	66	66	66	66	100	66	66

Figure 18APD Work Schedule (Day and Swing Shift)

This schedule has three critical attributes. First, as we can observe one third of the officers get every weekend off, while the others never do. Second, on six days of the week 66% of officers are assigned to work-a five percent reduction in productivity as compared to a more traditional 5 on 2 off schedule. Finally, we observe that on Friday the entire shift is scheduled to work.

Next we examine the 4/10 plan used on the graveyard shift. Figure 19 illustrates the distribution of personnel (23 officers) in the Valley Area Command.

OFFICERS	M	T	W	T	F	S	S
4					OFF	OFF	OFF
5	OFF					OFF	OFF
5		OFF	OFF	OFF			
2			OFF	OFF	OFF		
4	OFF	OFF					OFF
3	OFF	OFF	OFF				
ON DUTY	11	11	13	16	17	14	10
OFF DUTY	12	12	10	7	6	9	13
% On Duty	48	48	57	70	74	61	43

Figure 19 APD Graveyard Shift Work Schedule

This schedule has also has unique aspects. First, we observe that 13 officers (57%) get either a full or partial weekend off. Second, we observe that there is proportional staffing by day of week but it is not well aligned with the workload. For example, there are considerably more officers assigned to work on Thursday than Monday or Tuesday. Finally, proponents of the 4/10 plan often tout the benefit of the overlap coverage. In the APD schedule the overlap occurs between the hours of 2200 and 0000, clearly not the busiest time. Moreover, it is important to note that an officer scheduled to work on Friday actually begins work at 2200 Hours on Thursday, so the department's biggest deployment under this schedule is on Wednesday and Thursday nights. **We recommend that APD abandon the use of 10 hour shifts unless the unit assigned to that schedule is providing 10 or 20 hours of service per day.**

### Twelve-Hour Shifts

One of the most interesting recent changes in police work scheduling has been the widespread adoption of the 12-hour shift. Hundreds of agencies have adopted this approach, and the number of implementations continues to increase. Evidence, both anecdotal and more systematic, suggests that this approach can be highly effective<sup>7</sup>. One of the advantages for such a schedule is that it would eliminate the inefficiency of the 10-hour schedules currently in use.

The twelve-hour schedule is relatively straightforward. It is a fourteen-day duty cycle. The pattern consists of: 2 days on / 2 days off, 3 days / 2 days off, 2 days / 3 days off. This schedule results in a 42-hour average workweek. Over the two-week cycle officers would earn four additional hours. All officers are assigned to one of two groups. This schedule makes it easier for supervisors and officers to work on the same schedule. A typical work schedule is illustrated below.

	Su	M	T	W	T	F	Sa
One				Off	Off		
Two	Off	Off	Off			Off	Off
% On	50	50	50	50	50	50	50

Table 11 Example of 12 Hour work schedule

As can be seen, officers have rotating days off during the duty cycle, but the pattern is repeated every two weeks. Thus, an officer could expect, for example, to have every other Monday and Tuesday off. Officers assigned to this pattern would have every other weekend off.

At first glance it looks like 12-hour shifts actually reduce resource availability, but recall that the agency need only staff two shifts per day. Staffing 7 officers on 12 hour shifts is equivalent to staffing 10 officers assigned to eight hour shifts.

Twelve-hour shifts, while growing in popularity, do have several disadvantages including:

- Officers engage in more outside activities
- Officers are more willing to live farther from the community
- The potential of more off-duty court time
- More difficult to schedule training
- Greater fatigue/ lower productivity

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<sup>7</sup> A Look at the 12-Hour Shift: The Lincoln Police Department Study. Captain Jon Sundermeier, Lincoln, Nebraska, Police Department. *The Police Chief*. March 2008.



- Uniform staffing by day of week and by shift
- Fewer works days per officer per year
- More difficult to maintain communications
- Results in 42 hour average work week

There are a number of advantages to this approach:

- Two shifts instead of three-easier to administer
- Fewer shift changes
- More days off per year
- More time for outside activities
- Fewer trips to and from work
- Less overtime
- Less sick leave
- Greater productivity
- Easier supervision

Agencies that adopt 12-hour work schedules are particularly concerned about fatigue. The evidence on this issue is mixed. On its face a 12-hour shift seems very long and one could easily predict an increase in accidents and injuries related to fatigue. However, the schedule does provide significant amounts of time off, and most agencies that adopted this approach have not experienced those anticipated increases. In fact, most agencies report that officers on 12-hour schedules use less sick time, and have lower levels of stress and illness.

The key to successful implementation is effective management of off duty time, particularly during the 12-hour break between consecutive days on duty. It is critical that officers get sufficient rest during their time off. For the department that means closely monitoring off-duty employment, court, and other obligations that may diminish the opportunity for sleep.

## **Managing the Demand for Police Services**

Much of our discussion to this point has focused on supplying enough police officers to meet citizen demands for service. Now we examine ways in which APD can more effectively manage demand.

### *Reducing Calls for False Alarms*

During our study period APD responded to the 22082 burglar alarms. If we use an average CFS time of 30 minutes and assume that two officers are required for these calls, this equates to roughly 22,000 officer hours are consumed responding to alarms, the vast

majority of which are false. APD officers work, on average 1680 hours per year. Thus, the department consumes the equivalent of 13 FTE just to answer alarm calls.

Nationwide, police departments respond to millions of false alarms annually at a cost that tops \$1 billion. In cities for which we have data, 90 to 99 percent [of these alarms] are false. False alarms are a wasteful use of police resources and a problem that many law enforcement agencies struggle to manage. "Solving the problem of false alarms would by itself relieve 35,000 officers from providing an essentially private service." Moreover, an alarm signal is NOT an indicator of a criminal activity; in most instances, it is designed to detect motion, including "human error, system malfunctions and abnormal conditions, most of which have little to do with crime." Police departments and the municipalities that finance their needed services can realize significant savings and increase productivity by reducing this often unproductive use of officers' time.<sup>8</sup>

Many communities are taking an aggressive approach to reducing response to false alarms. For example, the Milwaukee Police Department implemented the Verified Response Policy for burglar alarms in September 2004. Under this policy, the Milwaukee Police Department does not respond to the report of a burglar alarm activation that was not first verified by a Private First Responder Service. Milwaukee reduced the number of calls for service due to alarms from more than 30,000 to 620 in 2012 as a result of their policy change.

In 2008, the San Jose Police Department conducted a study of false alarms and found that over 98% of all alarm calls were false alarms. The cost of these false alarms to the Department was \$662,000. A subsequent study in 2010, revealed 12,450 alarm responses resulted in only two arrests and 113 police reports.

As a result of this research, San Jose adopted a Verified Response Protocol on January 1, 2012, and no longer responds to alarms solely on the request of alarm monitoring companies. The police will continue to respond to panic and robbery alarms. The department will also respond to "verified" alarms. Verification may come in the form of sound, video, or eyewitness accounts that indicate a crime is occurring and thereby constituting a "verified" response. Alarm verification can also be accomplished when an alarm company agent, property owner or any witness is at the scene of activation and affirms that police are needed because a crime is occurring or has occurred.<sup>9</sup>

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<sup>8</sup> Opportunities for Police Cost Savings Without Sacrificing Service Quality: Reducing False Alarms. Philip S. Schaenman, Aaron Horvath, Harry P. Hatry, The Urban Institute, January 2013

<sup>9</sup> [http://www.sjpd.org/Records/Verified\\_Response.html](http://www.sjpd.org/Records/Verified_Response.html)

### *Alternative Responses to Traffic Accidents*

During our study period APD area command officers investigated 28,000 property damage only traffic crashes. Traffic accident investigation is a labor-intensive task, often involving more than one officer. Moreover, when vehicles are in the roadway (including emergency vehicles) it causes traffic delays and increases the risk of secondary collisions.<sup>10</sup>

Many police departments are revising their policy with respect to minor traffic accidents. In Minneapolis, for example, officers respond to the scene and ensure that no one is injured, that there are no DUI's and that the participants are willing to exchange information. If the crash meets these criteria the officer provides a packet of information and forms for the drivers to complete.

In Philadelphia, police do not investigate crashes in which:

- There are no personal injuries, and no damage to physical property surrounding the accident, such as commercial, residential or government-owned property (damage is associated with vehicles only)
- All vehicles may continue to be driven safely from the scene of the accident
- All drivers remain at the scene of the accident and agree to exchange owner/vehicle information.

Philadelphia drivers can report the auto accident in person at the police district office where the crash occurred or on the phone. After reporting the accident, they receive a "District Control" (DC) number, or accident record number, and can contact their insurance carrier with the DC number.

The San Diego Police Department responds only to injury and hit-and-run accidents. If it is a minor hit-and-run, drivers may be directed to the nearest police substation to complete a report. If it is a property damage accident, drivers exchange information with the other driver.

Finally, since 2014 the Las Vegas Metropolitan Police Department no longer investigates or prepares reports on non-injury accidents. It is the responsibility of the drivers in the collision to exchange identification and insurance information. Metro still responds to other types of accidents including:

- Accidents with injuries or fatalities;
- A driver under the influence of alcohol, narcotics or other substances;

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<sup>10</sup> Albuquerque encourages drivers to move crash vehicles from roadway. Thus the value of the officer investigation is limited.

- A driver who doesn't have a driver's license, proof of insurance or registration;
- A hit and run;
- A vehicle disabled on the roadway as a result of an accident; an
- An uncooperative driver (i.e. will not exchange information) or any other disturbance meriting a police response.

### *Web-based Crime Reporting*

APD is currently using a Telephone Reporting Unit (TRU) to take citizen crime reports by phone. TRU handles the following types of incidents:

- Auto Burglary
- Auto Theft
- Larceny
- Lost Items (i.e. cell phones, purse)
- Vandalism/Graffiti
- Runaways
- Simple Assault and Battery
- Harassment/Threats
- Embezzlement
- Indecent Exposure
- Fraud/Forgery

The APD also employs an on-line reporting system that permits the reporting of the following offenses:

- Lost Property
- Vandalism
- Vandalism of a Vehicle
- Theft/Larceny
- Auto Burglary
- Telephone Harassment

**In our view APD could do more to increase the use on citizen self reports.** First, the department should ensure that the web-based system mirrors the TRU. Second, the department should examine the policy and procedure that is used to screen TRU calls. We were informed by a number of members of the organization that TRU call takers often refuse to take a report claiming they cannot take a report when the suspect is known. This occurs even when the victim provides the scantest of suspect information. Ironically, the criteria for this parameter for self-reporting on-line is "You know who committed the crime." This is a much more reasonable standard.

One additional advantage to the on-line approach is that the victim receives a report number immediately and prints a copy of a report. This is better for citizens and reduces demand on the records division. We recommend that the department transition away from a telephone based system to a web-based system.

## **Operations Support Staffing**

This section of the report examines the assignment and utilization of resources currently committed to specialized units within the department. When analyzing the staffing for specialized or support units, it is important to note that there is no universally accepted “one size fits all” formula for police departments. Rather, the evaluation must be based on a number of factors such as:

- The agency’s policing philosophy
- The agency’s policies and procedures defining the roles and responsibilities of support units
- The availability of alternative resources to provide equivalent services currently being provided by the support and specialized units
- The effectiveness of the support and specialized units
- Community expectations
- City and police department budgets and resources
- Collective bargaining agreements

### *Investigative Bureau*

A deputy chief leads the investigative bureau. There are five divisions in the bureau:

- Special Investigations
- Criminal Investigations
- Scientific Evidence Division
- Property Crimes Division
- Real Time Crime Center

APD employs a combination of centralized and decentralized approaches to managing criminal investigations. Each area command is assigned investigators. They are referred to as “impact” officers. These officers do both proactive work under the direction of the area commander and investigate cases that have not been assigned to investigative units.

APD Policy 2-24 describes the procedures to be followed by a field service officer:

#### *A. Preliminary Investigations*

1. *Field Services officers will conduct preliminary investigations on all felony and misdemeanor crimes and any other incidents of a suspicious nature.*

2. *Field Services officers will determine the exact nature of the call and either begin a preliminary investigation or call out a specialized unit.*
  
3. *Field Services supervisors will be dispatched to the following:*
  - a. *Fatal and Serious Accidents*
  - b. *Accidents Involving Police Vehicles*
  - c. *Pursuits*
  - d. *Violent Crimes*
  - e. *Unattended Death*
  - f. *Suicide*
  - g. *Serious Injury*
  - h. *Hostage/Barricaded Subject/Sniper Situations*
  - i. *Hazardous Materials Incidents*
  - j. *Use of Force*
  - k. *Injury to an Officer*
  - l. *Riots/Civil Disorders or other Major Incidents*
  - m. *When Requested by an Officer*
  
4. *In the event that a case is assigned to a specialized unit, the primary officer called to the scene will write the initial offense/incident report. The last sentence of the narrative will indicate the officer and/or specialized unit the case was assigned to.*

In most cases, the officer, in conjunction with their supervisor will decide whether the case will be assigned to a specialized unit and whether or not the specialized unit should respond to the scene.

The policy also mandates that the primary field services officer “will submit a copy of the original offense report and all related documents to the assigned detective by the end of shift.” During our interviews several senior level managers gave differing interpretations of which unit (Investigative Bureau of Area Commands) had the primary responsibility for follow-up.

It is interesting to note that the decision about who will be assigned to follow up a case lies with FSB, and that it is incumbent upon FSB to forward cases to the appropriate unit for follow-up. We were told that on occasion this does not occur in a timely manner. That is, sometimes a case has not been forwarded to investigators and they only learn about it later when they are reviewing cases in the information management system.

Not only is there some uncertainty about how cases are assigned to specialized units, there is no policy that describes how cases are assigned to detectives for follow-up, nor is there any policy or procedure to manage the timely completion of investigations. The department does not use a formal system of case management based on solvability or

seriousness, a strategy widely employed in agencies across the country.<sup>11</sup>

Another remarkable aspect of the Investigative Bureau is that a very small fraction of the detectives work at night or weekends. Moreover, there is relatively little use of detectives assigned to one division to support the work of another.

### *Special Investigation Division*

The SID has three sections each headed by a lieutenant:

- Career Criminal Section
  - Gangs (1 sergeant, detectives)
  - Criminal Intelligence Unit (1 sergeant, 3 detectives)
  - Joint Terrorism Task Force (1 detective)
  - Investigative Support (1 sergeant, 5 detectives)
- Narcotics
  - Central Narcotics (1 sergeant, 7 detectives)
  - Meth Unit (1 csa., 1 detectives)
  - Vice (1 sergeant, 3 detectives)
  - Air Support (1 sergeant, 4 police officers)
- HIDTA
  - FBI Safe Streets (2 detectives)
  - DEA Task Force (3 detectives)
  - HIDTA Region 1 (3 (non-sworn)
  - HIS Task Force (1 sergeant, 3 K-9 officers)

Most of the activity performed by these units is proactive in nature, and is based either on intelligence information, citizen complaints, or projects conducted in cooperation with area commands. There is a high degree of cooperation and collaboration with federal law enforcement agencies.

With respect to SID deployment there are several critical issues:

- All of these sworn personnel are assigned to work Monday through Friday during normal business hours. This does not align very well with the nature of this activity, and thus detectives are often called out on overtime to assist FSB. Unit commanders could not provide any rationale for this approach to scheduling.
- There is significant uncertainty in the agency about the jurisdiction of the Gang Unit. Policy indicates, “The Gang Unit is responsible for investigating all crimes involving individuals who are documented gang members....” Some members of the agency reported that the threshold for notifying the Gang Unit was actually

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<sup>11</sup> Moving the work of criminal Investigators towards crime control. Anthony A. Braga, Edward A. Flynn, George L. Kelling and Christine M. Cole. National Institute of Justice, 2011.

that the offense or offender had to be related to gang activity.

- The SID utilizes an information system to collect intelligence data on gang members. There appears to be very limited analysis of this data, particularly link analysis.<sup>12</sup> Ironically, staff assigned to the department's Crime Analysis Unit does not have access to the gang data.
- The agency has made a strong commitment to participating in federal task forces. While laudable, this strategy should be evaluated in the context of critical staffing shortages.

### *Criminal Investigations Division (CID)*

CID consists of four units:

- Family Advocacy Center
- Violent Crimes
- Crisis Intervention Team
- Juvenile

The largest part of the division is Violent Crimes. Its staffing is:

- 3 lieutenants
- Homicide (1 sergeant, 7 detectives)
- CACU (1 sergeant, 8 detectives)
- Robbery (1 sergeant, 6 detectives)
- SORD (1 detective)
- Cold Case (1 sergeant, 6 detectives)
- FASTT (1 sergeant, 2 detectives)
- CED (1 sergeant, 2 detectives)
- Sex Crimes (1 sergeant, 4 detectives)
- CIU (1 sergeant, 6 detectives)

All of these members work normal business hours with weekends off.<sup>13</sup> As we can observe there is a high degree of specialization within the Violent Crimes Unit. With 9 sergeants and 42 detectives the nominal span of control is 1:4.6.

The Homicide unit responded to 25 homicides in 2014. Interestingly, their jurisdiction is limited. That is, the Gang Unit investigates homicides involving gang members, and

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<sup>12</sup> The Corner and the Crew: The Influence of Geography and Social Networks on Gang Violence. Andrew V. Papachristos, David M. Hureau, Anthony A. Braga. *American Sociological Review* June 2013 vol. 78 no. 3 417-447.

<sup>13</sup> CACU works a 4/10 plan schedule with days off on Friday, Saturday and Sunday, or Saturday, Sunday, Monday.



homicides involving children are assigned to Crimes Against Children Unit. Homicide also responded to in custody deaths and officer involved shootings, but it is our understanding that the Force Investigation Team will handle these incidents in the future.

The Armed Robbery Unit conducts follow-up investigations on assigned cases and will respond to call-outs for robberies that meet APD criteria (generally when the suspect is in custody) and may be asked to respond to other violent crime call-outs.

The FASTT unit describes its core functions as dealing primarily as a liaison and advocate for victims of domestic violence and to investigate “high-lethality” cases.

The Missing Persons Unit appears to do much of its work by telephone and computer. They ensure that the information provided by the investigating officer is correct and they use financial records and mobile phone activity to help locate subjects. It is not clear from department reports whether these strategies are successful.

Cold Case Units and the Task Forces are difficult to assess, however a recent study by RAND concluded:

- “Clearing a cold case does not automatically lead to making an arrest. A substantial portion of successful investigations in all sites (from one in three to one in two) did not result in an arrest for a variety of reasons, including the inability to locate witnesses, uncooperative witnesses, a suspect being deceased or incarcerated, or DNA results that implicated multiple individuals or were otherwise inconclusive.
- In sexual-assault cold cases, even when a suspect DNA match has been made, about one- third of cases are not filed because of problems with victim cooperation, credibility, or availability of suspects who are deceased or in prison. However, those cases that are prosecuted resulted in convictions and lengthy prison terms more than 90 percent of the time.
- Cooperation between police and prosecutors can improve both the efficiency and effectiveness of cold-case investigations. Typically, a prosecutor is not brought into the picture until a cold-case investigation has produced results. But, when police consult with prosecutors beginning at case screening, as they do in Denver, prosecutors can offer advice on whether the case is likely to produce a conviction if cleared and on what kinds of evidence will be most compelling in court.”<sup>14</sup>

The Crisis Intervention Unit staffing is defined, in part, by the Settlement Agreement.

Paragraph 123 of the agreement states that “APD shall maintain a **sufficient number of**

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<sup>14</sup> Cold-Case Investigations: An Analysis of Current Practices and Factors Associated with Successful Outcomes. Robert C. Davis, Carl Jensen, Karin E. Kitchens. RAND, 2011.

**crisis intervention certified responders** who are specially trained officers across the Department who retain their normal duties and responsibilities and also respond to calls involving those in mental health crisis. APD shall also maintain a Crisis Intervention Unit (“CIU”) composed of specially trained detectives housed at the Family Advocacy Center whose primary responsibilities are to respond to mental health crisis calls and maintain contact with mentally ill individuals who have posed a danger to themselves or others in the past or are likely to do so in the future. **APD agrees to expand both the number of crisis intervention certified responders and CIU.”**

Paragraph 124 indicates that, “The number of crisis intervention certified responders will be driven by the demand for crisis intervention services, with an initial goal of 40% of Field Services officers who volunteer to take on specialized crisis intervention duties in the field. **Within one year of the Effective Date, APD shall reassess the number of crisis intervention certified responders, following the staffing assessment and resource study required by Paragraph 204 of this Agreement.**

Paragraph 135 mandates that, “Within three months of completing the staffing assessment and resource study required by Paragraph 204 of this Agreement, APD shall develop a recruitment, selection, and training plan to assign, within 24 months of the study, 12 full-time detectives to the CIU, **or the target number of detectives identified by the study, whichever is less.”**

The department is in the process of providing crisis intervention training for all officers in the Field Services Bureau, and is expected to reach that goal in December 2015. We concur with the recommended staffing level of 12 full time detectives for CIU.

*Property Crimes Division*

The property crimes division consists of two sections, each directed by a lieutenant. The Property Crime Section includes:

- Auto Theft (1 sergeant, 5 detectives)
- Burglary (1 sergeant, 5 detectives)
- Night Investigation Teams (1 sergeant, 4 detectives)

The Economic Crime Section includes:

- Criminal Nuisance Abatement (1 sergeant, 2 detectives)
- Organized Crime (1 sergeant, 3 detectives)
- White Collar Crime (1 sergeant, 3 detectives)
- Pawn Shop Detail (1 sergeant, 3 detectives)
- Crime Stoppers (1 sergeant, 1 detective).

With the exception of the NITE teams that focus on bait car operations, all of these detectives work during the day and have weekends off.

### *Special Services Bureau*

The Special Services Bureau (SSB) is directed by a deputy chief, and contains four divisions:

- Special Operations
- Metro Traffic
- Open Space
- APD Academy

The Special Operations Division (SOD) is directed by a commander and a lieutenant, and includes the following units:

- SWAT (2 sergeants, 11 officers)
- K-9 (1 sergeant, 7 officers)
- Bomb Squad (1 sergeant, 3 full-time officers, 3 part-time officers)

APD maintains a full-time SWAT team. The team works a 4/10 schedule with hours from 1000 to 2000. The team is off Saturday, Sunday and Monday. Of the four days that the team is working one day is used for training, one day is allocated to assist with staffing in the area commands and the other two days are used for a variety of activities.

The following table illustrates SWAT team callouts through September for the past two years.

	2014	2015
January	5	4
February	3	7
March	9	2
April	3	2
May	4	7
June	4	5
July	5	8
August	5	0
September	1	1
	39	36

Table 12 APD SWAT Activations Year to Year Comparison

One of the issues that agencies face is whether a SWAT team should be full or part time. Each approach has merit. It can be argued that a full-time team will be more cohesive, and will attain more experience. However, most full-time teams do not operate 24/7 and as a result, critical time may be lost in activation. The APD team only works 40 hours a week, thus it is more likely than not that an incident will occur requiring their services while they are off duty. Another disadvantage of a full time team is that they might be

used on an incident *because* they are available. That is, they might be assigned to an incident because they are working-an incident that may have been resolved in another way if the team was not readily available

By contrast, part time SWAT teams must work harder to ensure that members are properly trained and have enough exposure to the range of incidents they are likely to encounter. However, because officers are on duty 24/7 they are much more likely to be available to respond to an active shooter incident.

A recent survey conducted by the US Bureau of Justice Statistics revealed that of the 95 participating agencies with 100 or more sworn officers, 30% maintained a full-time SWAT Team.<sup>15</sup> The Louisville METRO Police Department (1200 sworn officers) recently conducted a review of its part-time SWAT team, and decided to maintain that structure.

The Tucson Police (940 sworn) SWAT team is operationally deployed on average 200 times every year; and those calls for assistance include calls with other local, state, and federal law enforcement agencies. The team consists of one lieutenant, four sergeants, and 40 officers. Three of the officers and one sergeant are full time and they make up the SWAT team. This squad is responsible for vehicles, equipment, weapons maintenance, setting up training, and various other assignments. The rest of the team members all have other full time jobs within the police department.<sup>16</sup>

The Indianapolis Metro Police Department (1700 sworn) recently shifted from a part-time team to a full-time team with a very focused mission. In an interview with the Indianapolis Star the chief indicated, "They're targeting those violent offenders in those areas where we have violent crime," he said. In the past, the city's SWAT team operated on a callout basis, suiting up specifically to deal with dangerous situations such as crowd violence or armed suspects barricaded inside buildings. The full-time SWAT team, with about a dozen members, has a different mission: to seek out and neutralize violent offenders.

That objective, said Lt. Chris Bailey, means the heavily armed SWAT officers are often "working with district personnel to identify hot areas and -conduct covert investigations. The anti-crime plan, fully operational since last month, has the blessing of top city officials, from Mayor Greg Ballard to Public Safety Director Troy Riggs. It has other components, as well: community meetings in neighborhoods within 72 hours after a shooting; close monitoring of people with a history of violence; careful tracking of robbery felons recently released from prison. The permanent members are getting a hand from about 35 part-

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<sup>15</sup> Source: Bureau of Justice Statistics, Law Enforcement Management and Administrative Statistics (LEMAS) Survey, 2013.

<sup>16</sup> <http://www.tucsonaz.gov/police/swat>

time SWAT team members, Bailey said".<sup>17</sup>

### *Canine Unit*

The APD Canine unit is staffed from 1800 hours until 0400 hours. It is estimated that the police service dogs are deployed 7 to 10 times per week. Canine officers also receive tactical training, and three of the dogs are trained to detect explosives.

In some cities canine units are assigned to a patrol sector. For example, the Minneapolis Police (MPD) Canine Unit currently has 17 canine teams working in the city. The 17 teams attend roll call at the police kennel and are assigned shift duties from that location. Canine teams are on duty almost 24 hours a day and can also be called in at any hour. Canine teams patrol all parts of the city.

MPD Canine teams work regular uniform patrol in their assigned precinct and respond to assist on alarm calls; burglary calls; building searches; article searches; suspect tracking; area and building searches for suspects; narcotics and bomb calls; and officer safety assists. Canine officers may also assist on other police calls but they try to stay available for calls where their dog might be deployed.

The Austin Police K9 Unit's main responsibility is to support the Patrol Division. When on duty, Patrol K9 teams remain on patrol until they are called to assist patrol officers. Typically the K9 teams are used to locate suspects who have fled the scene of a crime, but on occasion are requested to search for missing individuals and evidence. Two of the K9 teams are also SWAT-certified and deploy for all SWAT related incidents.

The final component of SOD is the Bomb Squad. It consists of full and part-time personnel. The full-time staff is assigned to the day shift. Like the other SOD activities, ordinance work requires extensive training and certifications. There are a number of ways to staff and deploy for EOD calls. For example, in many cities such as Dallas, Ft. Worth, San Diego, Orlando, and Cincinnati, bomb disposal is a function provided by the fire department, sometimes in collaboration with the police.

### *Metro Traffic*

A commander directs the Metro Traffic Division. Their principle activities are traffic enforcement, accident investigation, DWI enforcement and hit and run follow-up investigation. There are two sections each headed by a lieutenant: the Traffic Section and the DWI Section.

The Traffic Section consists of 2 sergeants and 11 officers, all of whom use motorcycles

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<sup>17</sup> <http://www.thecrimereport.org/news/crime-and-justice-news/2014-07-indy-swat-team>

for traffic duties. The unit works from Monday through Friday 0700 to 1500. During other hours officers are on call for fatal traffic crashes. Their key duties are to investigate traffic crashes and to enforce traffic laws.

The following figure illustrates the distribution of traffic accident calls in the city. As we see the peak demand time for traffic accident investigation is in late afternoon.

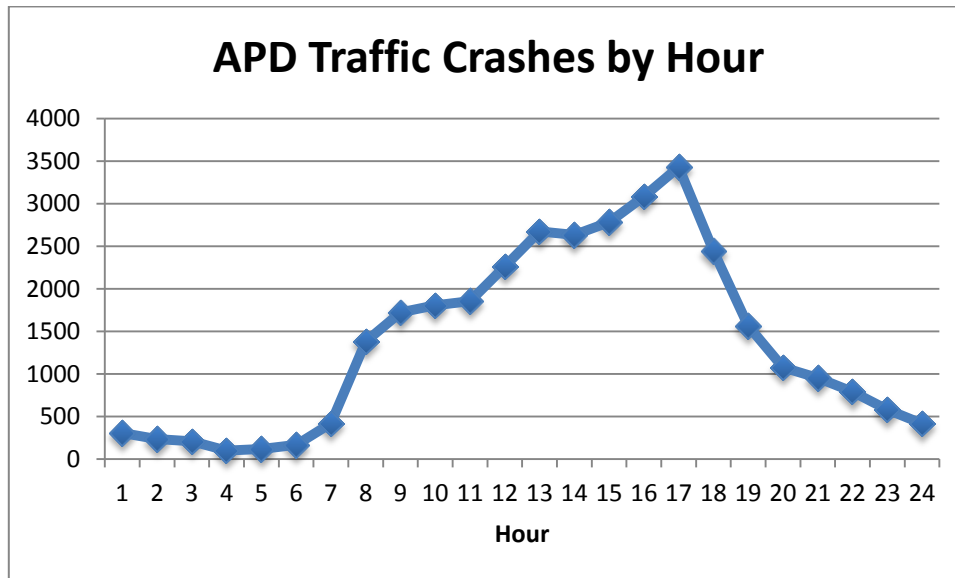


Figure 20 APD Crashes by Hour of Day.

The DWI program is based on a model that is designed to encourage officers in the field to make DWI arrests. The notion is that if field officers believe that someone else will relieve them of the burden of processing DWI offenders they will pursue these cases. The DWI Unit consists of one sergeant and 10 officers. They are assigned from 1800 Hours until 0400 Hours (4/10 plan) with Sunday, Monday and Tuesday off. The section often uses grant funds to provide coverage on the other nights.

During 2014 the DWI Unit made 2302 DWI arrests, or an average of 225 per officer. Based on an officer working 1680 hours per year it equates to a DWI arrest about every 7.5 hours.

### *Open Space Division*

When the Albuquerque Open Space Division was created there were three sections: Operations and Maintenance, Law Enforcement and Visitor Services. The Operations and Maintenance Section was charged with the responsibility of overseeing all park maintenance needs, including fencing, trail work, and building upkeep.

The Law Enforcement Section was added to the Division in 1986. Open Space law enforcement officers were fully commissioned police officers that ensured the protection of the natural and archaeological resources within Open Space Division managed lands. This section had 15 positions, including one chief and three sergeants. After 2000 Open Space officers were absorbed into APD.

Today a commander directs the Open Space Unit as well as several support units including:

- Prisoner Transport
- Metro Court Protection
- Office of Emergency Management
- Homeland Security
- Horse Mounted Unit

Of particular interest is the Open Space Unit that consists of one lieutenant, 2 sergeants, and 8 officers. The day shift consists of 1 sergeant and 4 officers. Two officers are off Friday and Saturday and the other two are off on Sunday and Monday. The staffing is the same on the night shift. It is hard to understand why officers with these types of assignments would be scheduled to be off on the weekends.

The other critical issue is that given the relative low staffing and the fact that Open Space facilities are all over the city, it seems unlikely that these officers could handle much of what takes place in the Open Space. That is, most of the calls are being assigned to area command officers.

It seems that the principle contribution of the open space officers is their unique skills in search and rescue. While laudable, it would seem that these tasks could be performed in cooperation with the many search and rescue groups in the area and the Albuquerque Fire Department. Alternatively, the APD could take the lead in organizing volunteers to perform this important work.

### *APD Academy*

As a result of the Settlement Agreement, (SA) the department must deliver significantly more training to personnel. These requirements cannot be met with the current Academy staffing levels. Using officers from the Field Services Bureau to supplement the Academy staff would place a significant burden on the already understaffed Field Services Bureau.

The department can avoid that burden by hiring part-time contracted employees who have law enforcement experience as well as teaching certifications for law enforcement. The contracted employees could be used on an as needed basis in order to meet the requirements of the Settlement Agreement. Among the possible types of training the contracted employees could assist with include (SA paragraphs referenced):

- |   |                      |
|---|----------------------|
| • Paragraph 33 – Annual ECW Recertification | 2 Hours              |
| • Paragraph 86 – Use of Force               | 40 Hours             |
| • Paragraph 86 – Use of Force Refresher     | 24 Hours             |
| • Paragraph 88 – Supervisor Use of Force    | 24 Hours             |
| • Paragraph 89 – Firearms Training          | 8 Hours              |
| • Paragraph 150 – Training on New Policies  | Yet to be determined |
| • Paragraph 158 – FTO School                | 40 Hours             |
| • Paragraph 199 – Misconduct Investigation  | 24 Hours             |
| • Paragraph 199 – Misconduct Inv. Refresher | 8 Hours              |
| • Paragraph 209 – New Sergeant Training     | 40 Hours             |
| • Paragraph 211 – Supervisor Management     | 32 Hours             |

The courses listed above are in addition to the other ongoing training conducted by Academy staff.

We recommended the Albuquerque Police Department supplement its current Academy staff with up to twenty (20) additional part-time contracted staff, and that this level be closely monitored to ensure that it is appropriate.

### **Professional Accountability Bureau**

An Assistant Chief heads the Professional Accountability Bureau (PAB). The Professional Accountability Bureau is comprised of the East and West Field Services Bureaus, the Communications Division, Internal Affairs, Operations Review and the Department's Public Information Officer.

Of particular concern to this study is the staffing for the new Internal Affairs Division (IAD). The Division will have two components: Critical Incident Review Team and Internal Affairs.<sup>18</sup> This division will play a key role in APD's efforts to gain compliance with the USDOJ agreement.

The Settlement Agreement states that:

“The City shall ensure that APD and the Civilian Police Oversight Agency have a sufficient number of well-trained staff assigned and available to complete and review thorough and timely misconduct investigations in accordance with the requirements of this Agreement. The City shall re-assess the staffing of the Internal Affairs Bureau after the completion of the staffing study to be conducted pursuant to Paragraph 204. The City further shall ensure sufficient resources and equipment to conduct thorough and timely investigations.”

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<sup>18</sup> The Force Investigation Team will report directly to the Assistant Chief



As part of the staffing study we interviewed the commander of the division and examined the proposed procedures and staffing for the division. The proposed organization is illustrated below:

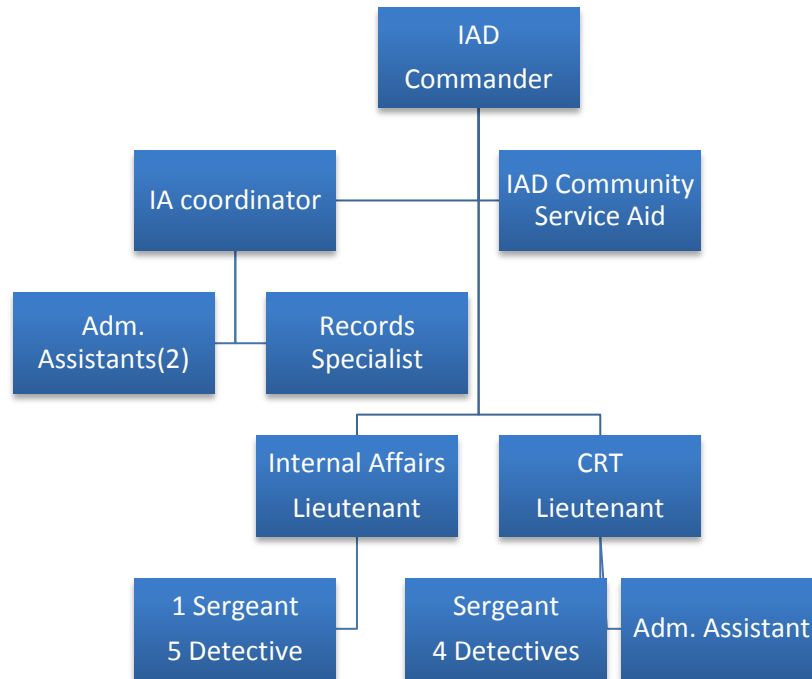


Figure 21 Proposed Staffing for IAD

We concur with this proposed staffing plan with one important caveat. The Settlement Agreement has identified a number of tasks to be performed to increase accountability and transparency of Internal Affairs. It is difficult to forecast the labor demands of these activities. Therefore we recommend that **APD conduct regular semi-annual analyses to ensure the staffing levels in the division are appropriate.**

The other major unit in PAB is the Communications Center. The center is staffed by:

- 74 911 Operators
- 12 NCIC operators
- 42 Dispatchers
- 10 Supervisors

The center answers 911 calls for police and fire but only dispatches for police.

The current daily staffing of the center is as follows:

Hours	Supervisors	NCIC Operators	911 Operators	Dispatchers
0700-1500	1 or 2	2	13	8
1500-2300	1 or 2	2	14	8
2300-0300	1	2	13	8
0300-0700	1	1	10	8

Table 13 Communication Center Daily Staffing

There are a number of issues that affect the communications unit performance.

First, comparable sized PSAP organizations have middle management to act as Assistant Manager, Lead Supervisors and Quality Control Supervisor to ensure policy and procedure is followed and training is ongoing. In this center, the operational management staff is a staff is very limited (one FTE). The administrative management staff does provide on call back up for absences, however, operations questions still are referred to the center manager. The center supervisors are often unable to assume managerial responsibilities due to the nature of the work they do to manage the increasing volume of 9-1-1 calls coming into the center, the calls for service and the level of dispatch oversight that is required. This also reduces their ability to offer additional training and development.

Second, there is an organization and structural barrier between the communication Center and the Albuquerque Fire Department (fire dispatch is physically separated from the rest of the center). Since the key job of the center is to facilitate the delivery of all public safety service, this disconnect can be problematic. The evidence of this structural issue can be seen in the city's response to "man down" calls for service. Whenever the 9-1-1 Center receives a call about a medical call, the fire department insists that the police respond to the scene first to ensure security. While this might be a sound strategy for calls that are clearly violent (e.g. shootings) it makes far less sense for cases where individuals are passed out on a sidewalk.

A recent article in *Fire Engineering* summed up this dilemma:

"These violent activities to which firefighters respond can include shootings, stabbings, domestic disputes, gang activities, or assaults. In far too many cases when these calls for assistance are received, the police may or may not be on the scene and may be unaware of the nature of the call to which firefighters/EMS are responding. It is clear that these incidents are, for the most part, a law enforcement incident. However, equally important is the need for immediate emergency medical aid. The responding companies need to

take steps to ensure their safety while at the same time providing the emergency medical aid that is required. <sup>19</sup>

**In our view the key to providing police and fire response to these types of incidents is coordination and this can best be done through a unified communication system; that is through non-sworn cross-trained dispatchers for police, fire and EMS. All personnel in the Communications Center should report to the Director of the center.**

Third, as we can observe in Table 13 there is little variation in staffing by hour of day. As APD adopts a more workload driven staffing model for patrol it will become necessary to make adjustments in communication center staffing. For example, the numbers of police officers on duty during peak demand times may be double that of off-peak times. It will be important for the communication center to monitor this closely. If they retain their current configuration they are likely to be understaffed at times and overstaffed at others. Like patrol, we believe that the center would benefit if there were one work schedule for all employees.

Finally, we believe that the TRU should be organizationally housed in the Communication Center. This will provide more integrated and consistent public service.

## **Administrative Support Bureau**

The Administrative Support Bureau was formed in late 2014 and consists of the Planning Division, Fiscal Division, Records Division, Personnel and Payroll Division, and Inspections/Audit.

Most of these units are relatively small and appropriately staffed. The largest unit is the Records Division. While it is beyond the scope of this study, it appears that the Records Unit is hampered by some legacy policy and procedures that result in less than desirable results. For example, a significant amount of staff time is devoted to reviewing and correcting police reports (the unit supervisor indicates that 100% of reports have missing data). Some of these corrections are a result of the lack of correspondence between the software that officers use to prepare reports, and the software used to submit UCR and NIBRS reports. We were also told that when officers investigate a crime and stolen property needs to be entered in NCIC, the officer must *telephone* the Records Unit and provide a list of the property and the serial numbers. The officer must enter that same information into the case report. It seems as though this process is both time-consuming and the likelihood of an error in transmittal seems much greater on the phone than electronically.

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<sup>19</sup> <http://www.fireengineering.com/articles/2015/05/fire-and-ems-responses-to-violent-incidents-tactical-considerations.html>

## Conclusion and Recommendations

In a recent study conducted by the Police Executive Research Forum police respondents were asked to describe the effects of the economic downturn on their agency's staffing<sup>20</sup>.

The actions taken included:

- Cut overtime spending: 66%
- Eliminated or reduced police employee salary increases: 58%
- Imposed a hiring freeze for sworn positions: 43%
- Imposed a hiring freeze for civilian positions: 43%
- Reduced staffing levels through attrition: 36%
- Laid off employees: 22%
- Implemented unpaid furloughs: 16%.

Indeed, the recent past has been extraordinarily challenging for communities as they struggled to provide high quality public safety services under unusual fiscal constraints. However, one of the byproducts of that effort has been a heightened awareness of how important it is to critically examine the deployment of police personnel. In many cases police executives have had to ask tough questions. Whereas in the past those inquiries focused largely on what the agency does and how does it do it; more recently that focus has shifted to why the agency does things and who should do it?

The Albuquerque Police Department is in a period of significant change. A heightened level of scrutiny, coupled with challenges in recruitment and retention has prompted the organization to make significant organizational changes. Many of these actions will help to rectify previously problematic staffing issues. Our perspective is that there are two components to the police-staffing question. The first, of course, is whether there are enough officers to meet performance standards. The second question is whether an agency is using its staff in the most effective and efficient manner. Before offering our recommendations we will summarize some of the key findings and observations of our study.

**APD is a highly compartmentalized, and fragmented organization.** At a high level APD appears to be a decentralized police organization with a strong orientation towards neighborhood based policing. There are, for example, area commands and majors that have responsibility for a geographic region. This image, however, is not very accurate. Most of the decentralization is, in fact, in the Field Services Bureau. By contrast, most of the units that are designed ostensibly to support patrol in the other bureaus, are strategically and operationally disconnected from field service delivery. One only need look at the work schedules for these units to see how disconnected they are. Senior level managers we interviewed had difficulty in demonstrating how the Investigative Bureau

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<sup>20</sup> <http://policeforum.org/library/critical-issues-in-policing-series/Econdownturnaffectpolicing12.10.pdf>

and the Special Services Bureau integrated with the Field Services Bureau, or integrated within each Bureau to advance a cohesive and comprehensive crime fighting strategy or plan.

**APD Area Commanders are accountable to their communities, but lack the authority and resources to accomplish their mission.** In recent years policing has placed great emphasis on accountability-not just for officer misconduct, but for the control of crime and disorder. APD has charged the area commanders with the task of working with their communities to establish confidence in the department's ability to make their neighborhoods safe. Unfortunately, even though the area commanders must face tough questions about APD performance from those communities, they have relatively little control over the resources they need to address these issues. What can they say, for example, about their ability to address burglary, when all the decisions about the department's response to burglary are made elsewhere. In our interviews, managers would often refer to headquarters-type units as being "inside," and those in the FSB as "outside". Clearly, this suggests that those assigned to patrol have a lower status. This must change for the organization to be more effective.

**APD has very limited flexibility in how it deploys sworn personnel.** Like most departments that operate under a collective bargaining agreement, APD has constraints in the way in which officers are deployed. However, in our view, these constraints are unusually challenging in APD. First, it appears that once an officer in patrol has selected a shift and day-off group, the officer *may* be involuntarily reassigned, but we were told that it rarely happens. Many managers, in fact, said it could not be done. Similarly, everyone we spoke to told us that a person assigned to a special unit could not be reassigned to field services unless a unit was disbanded. Many managers also argued that an officer could not be transferred within a bureau, for example from robbery to burglary. Ironically all of these officers hold the same rank and thus the agency should not have the kinds of problems that occur when "detectives" hold a different rank. We often heard managers talk about the "property rights" of an officer assigned to a specialized unit.

**Concerns about staffing have caused managers to adopt very conservative deployment strategies.** Senior level managers routinely and repeatedly spoke of "under-staffing or manning issues." These statements were heartfelt; however, beyond the simple analysis that X number of years ago there was Y number of officers, no senior level managers articulated any analysis that demonstrated an understanding of the optimal staffing levels in the past or today. Senior level managers simply concluded that the number of personnel in place now was below the staffing level in the past – therefore, the unit under discussion was understaffed. Some unit managers have significantly restricted how and when these units are used (e.g., SWAT, Traffic, Open Space) and that raises the question as to whether or not those units should be staffed at all. Some units such as the SWAT team, as one example, could become regionalized in a cooperative agreement with neighboring cities, county or State Police.

**APD has made significant progress in optimizing the use of nonsworn personnel.** This is particularly evident in the criminalistics area where nonsworn field investigators have replaced sworn evidence technicians. APD has, for a number of years, used nonsworn staff to investigate minor traffic crashes. We recommend that this be expanded.

**Recommendation One. The APD should adopt a “flatter” organizational structure that will facilitate communication and accountability.**

As APD introduces an organizational strategy that places greater emphasis on the area commands it will become necessary to refine and balance the responsibilities of the senior leadership group. In order to accomplish this we are recommending an alternative organizational structure. In this model the department eliminates the position of deputy chief, and the five bureau majors and executive director report directly to the Assistant Chief of Police.<sup>21</sup>



Figure 22 Proposed Leadership Structure

**Recommendation Two. The APD should adopt the verified response model for burglar alarms.**

APD uses a traditional method to control false alarms. That is, after a certain number of false alarm calls, the resident or business is fined. Unfortunately, evidence suggests that this approach is of limited value. There are many communities that have adopted verified

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<sup>21</sup> The special operations bureau has been renamed Operations Support and contains the Special Operations, Metro Traffic and Open Space Divisions.

response with good results. There will likely be some resistance to this approach, particularly from the alarm industry, but the results speak for themselves.

**Recommendation Three. APD should adopt a more strategic approach to criminal investigation.**

For many years researchers have sought to better understand the criminal investigation function and its relationship with other police personnel.<sup>22</sup> Police administrators have found it difficult to make substantial changes in how investigations are conducted and how they are organized. In fact, a recent study done by researchers at Michigan State University concluded that, “the criminal investigation process has remained relatively unchanged in the face of the many paradigm shifts in the profession of policing over the past 30 years.”<sup>23</sup>

Of particular concern in Albuquerque is the lack of a systematic approach to case assignment. Many organizations combine solvability factors with crime seriousness to craft a score for each crime. For example, case review might include the following:

- Can the identity of the suspect/s be established through:
  - Useable fingerprints being discovered
  - Significant physical evidence being located –Victims/witness/informant information
  - A license number of or a significant description of the vehicle used in the offense
- Is there serious physical harm or threat of serious physical harm to the victim?
- Did the suspect(s) utilize a deadly weapon?
- Is there a significant m.o. that will aid in the solution of the offense?
- Is it a sex offense in which the victim and suspect(s) had physical contact?
- Can a suspect be named?
- Can a suspect be identified?
- Can a suspect be described?

We recommend that all investigation of property crime be assigned to the area commands. Moreover, we recommend that investigator work schedules should more closely reflect the temporal nature of police work.

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<sup>22</sup> For example see: John Eck. (1983) Solving Crime: A study of burglary and robbery. Police Executive Research Forum.

<sup>23</sup> Frank Horvath; Robert T. Meesig; Yung Hyeock Lee (2001) National Survey of Police Policies and Practices Regarding the Criminal Investigations Process: Twenty-Five Years After Rand

**Recommendation Four. The APD Special Operations Division should be repurposed to provide better and coordinated support to the area commands.** A case can be made for a part time SWAT team in Albuquerque, particularly given the relatively low frequency of activations. However, because of its size APD must often take the lead responsibility for these functions in the region, and thus a full time team may be warranted.

If the agency opts to maintain a fulltime team we would recommend a different strategic approach. First, because a relatively small fraction of their on-duty time will be devoted to activations it is important that their unobligated time be well managed. They may be able to assist during peak calls for service demand times, or to work with area commands on tactical plans. These officers could be an important part of the agency's problem-solving efforts, particularly when the agency is seeking to increase police visibility.

**Recommendation Five. APD should add resources to Metro Traffic while ensuring that these resources are effectively deployed.** One of the most significant challenges for an urban police department is how to effectively and efficiently manage resources in order to ensure traffic safety. This is particularly true in communities in which there is widespread concern about crime and disorder.

There are a number of factors that may impede a city's ability to provide an effective police traffic management program. Among these are:

- There is a generally held belief that traffic crashes are "accidents" and are not preventable,
- Police traffic enforcement, the principal tool in the department's crash prevention program, is rarely applied, and when it is applied, it may not be done at the places where traffic crashes are occurring,
- Most citizens care a great deal about traffic safety, but they do not see the nexus between traffic law enforcement and crash prevention. Many citizens view traffic law enforcement principally as a tool for generating revenue.

There are several reasons that a police department must devote resources to traffic safety:

- Traffic violations are significant contributing factor in traffic crashes,
- Traffic violations, particularly speeding and red-light running, pose significant threats to the quality of life in neighborhoods,
- Traffic stops are an important opportunity for police-citizen interaction, and
- Traffic law enforcement has shown to have significant deterrent effects on non-traffic crime.

One of the most challenging aspects of providing police traffic services is the best way to handle citizen traffic complaints. Almost every department receives numerous complaints from citizens about speeding cars or reckless drivers in their neighborhood. The typical response to these complaints is to "increase patrol" in the area or in some cases an



agency may assign an officer to monitor the location for violators. Very often the officer spends an hour or two at the location, and reports back that there was very little traffic, and even fewer violators. Many police officials view this activity as unproductive.

In spite of this apparent inefficiency, we suggest that citizen generated traffic complaints are critical for several reasons. First, the nature of these offenses is not amenable to citizen response. That is, unlike some types of crime in which citizens can take preventive action (alarms, lights, and target hardening) there are few actions that citizens can do to control traffic in their neighborhood. Second, whether or not there really is a speeding problem is arguably irrelevant. The fact that citizens perceive a threat (particularly to their children) makes the threat very real in their mind. Finally, these situations provide great opportunities for officers to interact with citizens in problem solving. To the extent that they are successful in handling these problems, it could result in benefits in other areas.

Another benefit of traffic law enforcement is the opportunity that it provides for police-citizen interaction. According to a recent study conducted by the Bureau of Justice Statistics, each year about 19% of the adult population in the United States has a face-face contact with a police officer. *About one half of those contacts are during traffic stops.* The implications of this are important. For many citizens the only contact they have with an officer is during a traffic stop. Thus, these encounters provide a unique opportunity to influence how citizens view their police department and its members.<sup>24</sup>

Finally, we know from years of empirical research that under certain circumstances traffic enforcement can be an effective deterrent to crime<sup>25</sup>.

We recommend adding additional resources to Metro Traffic but under a different model:

- The main function of the Traffic Unit should be to investigate serious and fatal accidents and to conduct traffic enforcement at high accident locations. They should no longer handle property damage only accidents. APD should examine alternative ways to handle minor accidents including citizen self-reports and the enhanced use of non-sworn accident investigators.
- The Traffic Unit should provide coverage seven days a week, at least 20 hours per day.
- Officers must maintain acceptable levels of productivity in order to remain in the unit.

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<sup>24</sup> Contacts between Police and the Public Series, Bureau of Justice Statistics

<sup>25</sup> Weiss, Alexander. DDACTS: An Historical Overview. National Highway Traffic Safety Administration. July 2013.

- Even though APD staffs a centralized Traffic Unit it is critical that the agency adopts the following strategy:
  - Accident prevention must be a core value, and every member of the department must understand that it is a critical part of the mission,
  - The program must emphasize that accident prevention is an agency-wide responsibility, not just the responsibility of the Traffic Unit,
  - Area commanders should be accountable for accident prevention
  - The department should provide the necessary training, equipment and staffing to support the program

**Recommendation Six. APD should adopt a career development program that includes a strong emphasis on the importance of patrol and mandates periodic transfers from specialized assignments back to patrol.**

There are a number of factors that influence the careers of law enforcement officers. First, the nature of the enterprise requires that most officers will be assigned to uniformed service delivery; with the resulting requirement for shift work. Second, as officers age their capacity to perform the duties of patrol may be diminished. Third, in most agencies police officers reach top pay in four to five years. Finally, a relatively small percentage of officers are likely to be promoted in their careers.

In the face of these constraints many officers seek specialized assignments. Depending on the agency there can be many different opportunities including, traffic, investigations, community affairs, SWAT, etc. These assignments often offer significant benefits including better hours and working conditions, additional pay, advanced training, and the opportunity to become highly skilled in a discipline that might have application outside of policing.

APD has a number of specialized units and positions and as a general rule members can stay in those assignments indefinitely. This is true not only for police officers but for supervisors and commanders as well.

Unfortunately, the methods that are used in many law enforcement agencies to staff these units are problematic for a number of reasons:

- The factors that influence whether a person receives an assignment may not be merit based, or at least not perceived to be<sup>26</sup>
- In many organizations officers can remain in specialized assignments indefinitely, thus limiting opportunities for others
- Specialized units often define the nature of their responsibilities; at times they are not consistent with the agency mission

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<sup>26</sup> Each specialized position in Lansing Michigan PD has a set of formal job requirements but in practice the posts are assigned largely on the basis of seniority.

- Specialized unit commanders often think that they have the best possible individuals in their units, often ignoring the fact that there may be others more qualified that have not been afforded access
- Managers in specialized units have limited exposure to the requirements of managing other units.

It is not uncommon to hear police executives proclaim, “Patrol is the backbone of the department. “ While this sounds good we find that in many departments there is a disconnect between their rhetoric and reality. For example, it is not uncommon to find departments in which vacancies in special units are filled as soon as they occur, even though it means that the patrol unit will be short-staffed. Moreover, in some departments once an officer leaves patrol there is a relatively high probability that they will not return.

The best strategy to address this issue is to implement systematic job rotation for officers and supervisors assigned to special units back to patrol.

Job rotation has been common in police organizations since the 1980’s. Nonetheless, it still has many critics. To some, it is inefficient to remove highly trained and experienced officers and return them to patrol. To others, special assignments are a reward for years of service in patrol, and serve a useful function in the organization. Finally, critics of job rotation argue that there are some officers that cannot be in patrol because of physical or other limitations, and special units provide a place for them.

These critiques, of course, aren’t consistent with good organizational development. When an officer with experience and training returns to patrol, those skills aren’t lost-rather they bring those skills with them. This improves their performance and ostensibly the performance of their squad. Secondly, police officers that are not able to perform the functions of their job should be released.

**Recommendation Seven. APD should adopt a more strategic approach to crime control that focuses on the area command.**

As we have pointed out elsewhere in this report APD is a highly centralized organization. A substantial fraction of resources are devoted to specialized units that have, in some cases, become isolated from the core mission. We believe that it is fundamental to good policing that the agency should focus its resources at the neighborhood level. To that end we are suggesting a new model for area command organization. It is illustrated below.

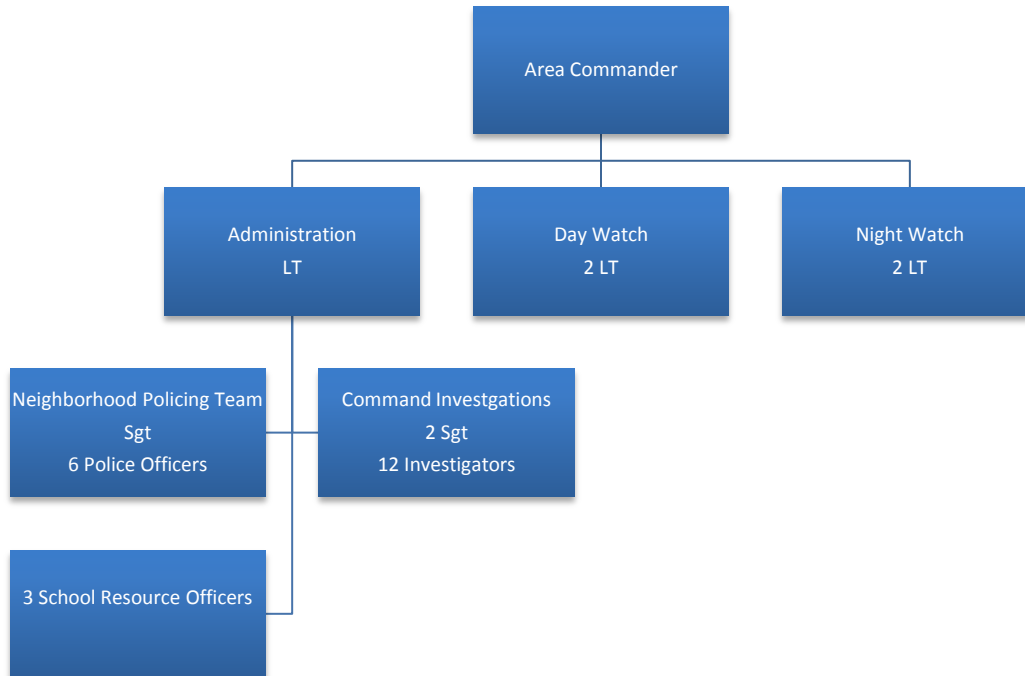


Figure 23 Area Command Organizational Structure

This model introduces a number of changes in the way in which the area command operates. **Under this new model 75% of APD sworn staff are assigned to area commands.**

- Patrol is organized under a 12-hour work schedule. On each watch there are two day off groups (“A” and “B”). A lieutenant heads each group. In this approach there is nominally a lieutenant on duty seven days a week, 24 hours a day.<sup>27</sup> On many days there will six lieutenants on duty round the clock in Albuquerque.
- Officers are assigned to a watch and a day off group. Sergeants will be assigned based on a span of control of 6 or 7, but in no case greater than eight. For example, if 28 officers were assigned to the day watch, “A” team, we would assign 4 sergeants. Each officer is assigned to a specific sergeant, but all of the sergeants and officers will work the same schedule, and thus be familiar with each other and each other’s work. This can be important when an officer is involved in a use of force incident and his or her sergeant is not on duty.
- Each area command will have an administrative lieutenant. In addition to assisting the area commander, the lieutenant will supervise area command support personnel, including area investigators, school resource officers, and the newly formed neighborhood policing team.
- Each area command will deploy 12 investigators<sup>28</sup>, and two sergeants to direct them. They should staff day and evening shifts, but be flexible enough to

<sup>27</sup> Of course, there will some days when the lieutenant is off due to illness, training, etc.

<sup>28</sup> This is the initial level of staffing and should be periodically reviewed.

accommodate the needs of the command. The area commander will choose area command Investigators and sergeants.

- Area commands will deploy a neighborhood policing team (NPT) with six officers and a sergeant. Neighborhood policing is an approach that seeks to increase contact between the police and local communities. Neighborhood policing emphasizes a local approach to policing that is accessible to the public and responsive to the needs and priorities of neighborhoods. Its key elements can be summarized as:
  - The presence of visible, accessible and locally known figures in neighborhoods,
  - Community engagement in both identifying priorities and taking action to tackle them; and
  - The application of targeted policing and problem solving to tackle public concerns in neighborhoods.

Members of the NPT should be volunteers and be chosen by the Area Commander. Members should agree to serve in the post for a minimum of three years.

### Appendix One: Sworn Officer Staffing by Unit of Assignment

	Chief	AC	Major	Comm.	LT	SGT	PO	Total
<b>Office of Chief</b>	1							1
PIO							1	1
<b>PAB</b>		1						1
FIT					1	1	4	6
IA				1	2	2	9	14
Ops Review					1		1	2
<b>Field Services East</b>			1					1
Foothills				1	5	11	91	108
South East				1	5	20	141	167
Northeast				1	5	19	124	149
<b>Field Services West</b>			1					1
Valley				1	5	16	105	127
Northwest				1	5	13	86	105
Southwest				1	5	11	81	98
<b>Investigation</b>			1					1
Mayor's Detail							3	3
SID				1	3	7	37	48
CID				1	3	8	42	60 <sup>29</sup>
SED				1				1
<b>Operations Support</b>			1					1
SOD				1	1	4	29	35
Metro Traffic				1	2	4	30	37
Open Space				1	1	2	14	18
<b>Training</b>			1		1	2	11	15
<b>TOTAL</b>	1	1	5	13	45	120	809	1000

<sup>29</sup> Includes six additional detectives for CIU

**Minneapolis Police Department and Emergency  
Communications Center Staffing and Operations  
Assessment and Review of Problem Nature Codes**



JANUARY 2022



# Final Report

## MINNEAPOLIS POLICE DEPARTMENT AND EMERGENCY COMMUNICATIONS CENTER STAFFING AND OPERATIONS ASSESSMENT AND REVIEW OF PROBLEM NATURE CODES

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Allie Land, Jocelyn Cox, Bill Komiss, and Ed Flynn





This document contains the best opinion of CNA at the time of issue.

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# Introduction

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The City of Minneapolis requested a study to evaluate the current staffing and operational efficiency of the Minneapolis Police Department (MPD) and recommend improvements. In addition, the City recognized the need for a review of the Minneapolis Emergency Communications Center's (MECC's) use of problem nature codes to characterize incidents. CNA has executed both studies, and the results are presented in this report. This important effort will inform the City regarding whether the MPD's personnel resources effectively align with current and anticipated demand for public safety services and with emerging and best practices for public safety delivery. It will also assess fidelity of use of problem nature codes in the MECC, make recommendations to improve the use of these codes, and provide an understanding of the relationship between the codes and operational outcomes.

## Goals and objectives

This analysis will achieve the following:

- Recommend staffing resources that can effectively and efficiently meet the demand for service.
- Review internal business processes and identify gaps and areas for improvement.
- Inform needs for resource allocations that are aligned with City needs and demand for public safety services.
- Position the MPD for future success by providing the tools to further adapt staffing and processes to future changes in demand for service.

## Areas of focus and approach

Our report is organized into four major focus areas: staffing analysis, operations analysis, and problem nature code analysis, and business processes analysis.

- **Staffing analysis.** Using a workload-based approach, CNA produced estimates of the staffing required to support the MPD's current patrol workloads and evaluated the use of different shift lengths. In addition, we analyzed breakouts by specific call response types to estimate the effects of changing response policies (e.g., implementing alternate response models for mental health calls and property crimes) on staffing needs.
- **Operations analysis.** Using data collected from personnel interviews as well as review of the literature and peer agency practices, CNA assessed MPD operations and policies, including the use of one- versus two-person patrols, relative levels of civilianization, alternative response models (which also have implications for the staffing analysis), and information technology enterprise system use.

- **Problem nature code analysis.** Using calls-for-service data, including 9-1-1 call data, CNA reviewed the use of problem nature codes in the MECC using an exploratory descriptive analytical approach.
- **Business process analysis.** Using information from personnel interviews as well as review of operational documents, CNA assessed business processes in the MECC, Patrol Bureau, specialty units, and the investigative functions at MPD. We used a process mapping and pain points identification approach to map how business processes currently function and areas to improve the effectiveness and efficiency of these processes.

Across each of these focus areas, CNA relied on both quantitative and qualitative data from the MPD and MECC. These data sources included calls-for-service and 9-1-1 call data from 2016 through 2020, staffing data, documentation of MPD and MECC policies and procedures (including training materials), and information gathered through interviews with MPD and MECC personnel. Data sources and analytical techniques are described in more detail in each of the sections below.

For most of the quantitative analyses in the report, we used data from 2016 through 2020. As a result of the COVID-19 pandemic as well as changes in policing practice and policy after the death of George Floyd, policing response in 2020 differed from preceding years in substantive ways. Specifically, in Minneapolis as well as other cities across the country, nearly all measures of police activity were lower in 2020. However, we included 2020 in our analyses for the following reasons:

- Despite being unusual, 2020 represents the most recent year of data available at the time we performed analysis, and timely data are almost always preferable to older data.
- For the majority of our analyses, we relied on a five-year period of data, and thus the inclusion of 2020 did not drive the results.
- Trends seen in 2020 continued into 2021 for agencies nationwide; it is unclear whether or when police activity levels will return to pre-2020 levels, so to discount 2020 data as irrelevant would be improper.

## Overview of the report

This report contains six sections, including this introductory section. Following this section are sections presenting analysis, findings, and recommendations related to the staffing analysis, operations analysis, problem nature code analysis, and business processes analysis. The report closes with a brief conclusion section.

# Section 1: Staffing Analysis

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## Approach

CNA conducted a staffing analysis for the MPD to systematically determine patrol staffing needs based on actual workforce demand. Although there are several common approaches to staffing analyses, workload-based analysis provides the most accurate and objective way to determine current and future staffing needs (Wilson & Weiss, 2012). In line with the approach outlined by Wilson and Weiss (2012), our analysis involved the following six tasks.

1. **Analyze the distribution of calls for service.** Calls for service can differ by the hour of the day, day of the week, and month of the year. The MPD's peak call times have implications for resource allocation decisions, such as the use of overtime and scheduling training activities. Findings from this analysis will help the City understand when the highest levels of patrol staffing are needed.
2. **Analyze the nature of calls for service.** Understanding the nature of the MPD's calls for service, including the seriousness of calls based on their problem nature codes and priority levels, provides important information on the types of police work being conducted in the agency. The nature of calls for service also varies across precincts, requiring the MPD to staff areas accordingly.
3. **Review the time used for calls for service.** This task involves determining how long calls for service typically take from initial response to final paperwork, which is key to understanding how much time officers spend responding to calls for service during their shifts.
4. **Calculate the shift-relief factor.** The shift-relief factor is the relationship between the maximum number of patrol days officers are available to work and the number that they actually work. The shift-relief factor is a critical piece of data in estimating the number of officers that should be assigned to a patrol shift to ensure that the bureau is optimally staffed. This task involves calculating the shift-relief factor by dividing the total number of hours necessary to be fully staffed in a shift by the total number of off hours (i.e., hours outside of shift assignments) to which an officer is entitled.
5. **Identify performance objectives.** This task involves identifying commonly used performance objectives regarding the fraction of an officer's shift that should be devoted to calls for service and the fraction that should be devoted to other activities. This analysis provides critical information to the City about how varying performance objectives affect overall patrol staffing projections.
6. **Estimate staffing levels.** Drawing on results from the previous tasks, this task involves estimating the number and distribution of officers required to answer calls for service, accounting for the proposed performance objectives as well as the fact that data are unlikely



to capture calls that require multiple officer dispatches. We also estimated staffing levels for several subgroups of calls that could potentially be serviced by an alternative nonpolice response.

To execute these tasks, CNA primarily analyzed calls-for-service data provided by the MECC, the City's 9-1-1 call dispatch center. These data included all calls initiated by Minneapolis community members for police services between January 1, 2016, and December 31, 2020 (five complete years of data). We chose to use five years of data for most of the staffing analyses to provide a better overall representation of calls for service and police activity in Minneapolis. However, note that the most recent year of data (2020) is likely different from the overall reporting period because of the COVID-19 pandemic and the social unrest that occurred in Minneapolis after the killing of George Floyd. Therefore, this section also notes when the results of the analyses using only 2020 data differ from those using the 2016–2020 data.

Calls for service are received by the MECC and dispatched to responders. The calls-for-service data also included “onsites,” which are officer-initiated activities such as traffic stops, foot beats, and business checks. These are called into dispatch by the officer and added into the department's computer-aided dispatch (CAD) system. In total, the 2016–2020 data included 1,794,408 calls for service. Of these, 1,558,145 calls involved an MPD officer being dispatched to the scene. Some calls involved crimes or complaints outside of the MPD's jurisdictional area and were thus transferred to the appropriate emergency dispatch center. Other calls could be resolved directly by the dispatcher and did not require an officer to be dispatched.

The data also included detailed information about each call, such as the location where the call originated; the date and time the call was received and completed; the incident type, priority level, and disposition of the call; and other administrative indicators. By providing a detailed overview of the demand for police service in the city, these data allow CNA to better estimate the MPD's workload and staffing needs. We cleaned the calls for service data and analyzed them using descriptive statistics.

In addition to calls for service, CNA collected and analyzed timesheet data from the department to calculate the shift-relief factor (task four). These data covered all the planned and actual shift deployments for MPD personnel for the most recent complete year of data available (i.e., January 1 to December 31, 2020).<sup>1</sup> Information in this dataset included officers' rank, assignments, staffing activity, and shift start and end times. Findings from our analyses are organized by the six tasks listed above and presented in the following section.

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<sup>1</sup> This is the only analysis we restricted to 2020 data. To ensure the robustness of our results, we conducted the shift-relief factor analysis using 2019 data as well, but we found that the results did not differ substantively from those seen in 2020. Thus, we opted to use the most recent year of data available. See further explanation on page 16 for more information.

# Findings

## Task one: analyze the distribution of calls for service

Figure 1 shows the aggregate of the MPD's calls for service between 2016 and 2020 across its five precincts.<sup>2</sup> The MPD received more than 1.5 million total calls for service over this period, which means that the MPD dispatched officers to roughly 853 calls for service on an average day over this five-year period. Figure 1 also illustrates the variation in calls for service among the MPD's precincts. The 3rd and 4th precincts had the most demand for police services, whereas the 2nd precinct had the lowest volume of calls for service.

**Figure 1. Calls for service by MPD precinct (2016–2020)**

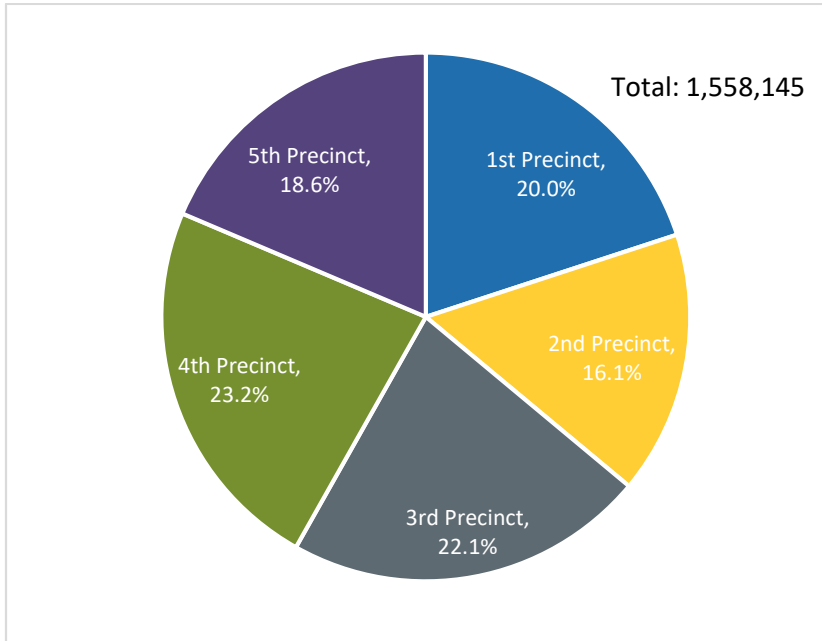
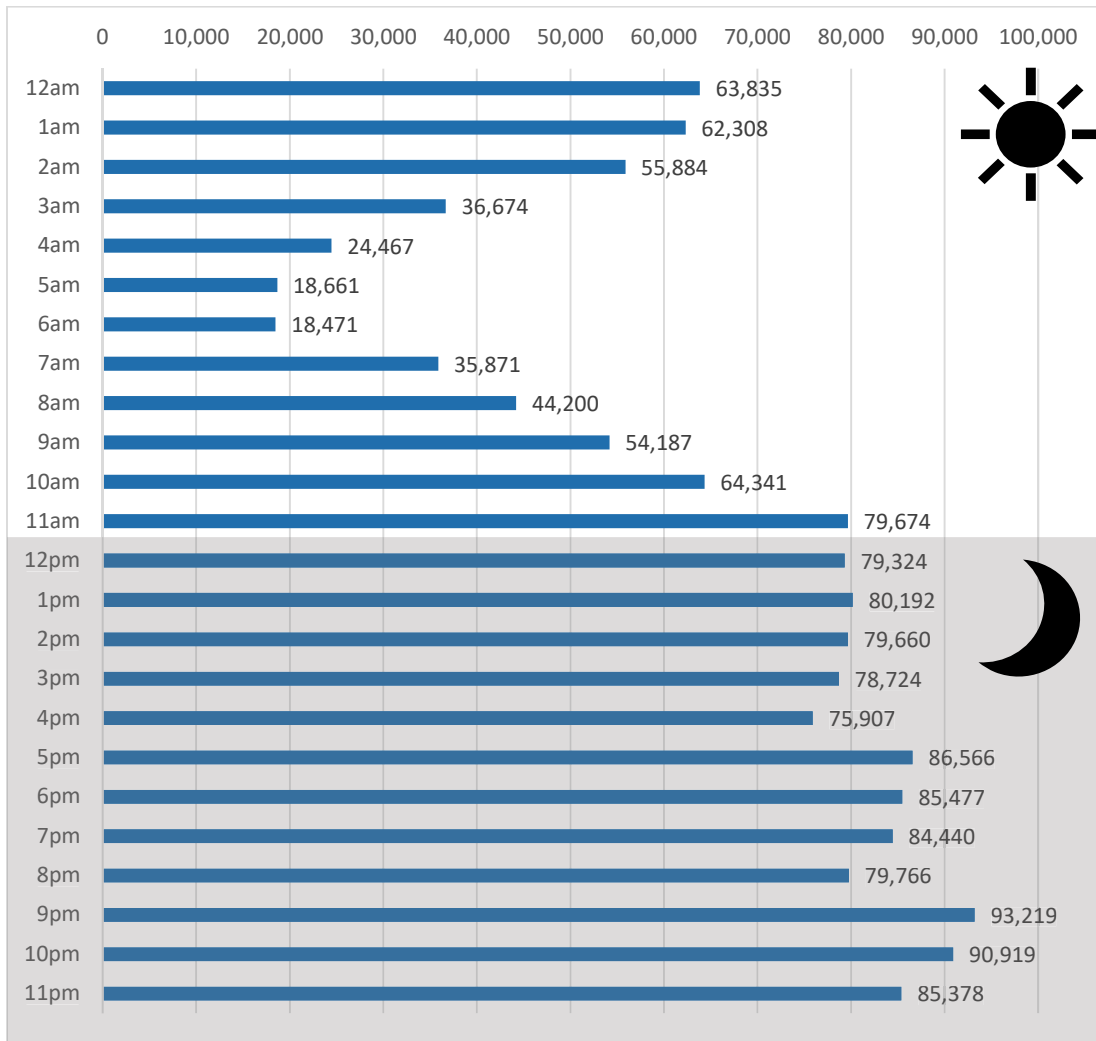


Figure 2 shows the MPD's aggregate calls for service by time of the day over the same reporting period. The peak hours of demand for MPD services appear to be between 11 a.m. and midnight, with the most active hour of the day between 9 and 10 p.m. Calls for service are generally less frequent in the early morning hours, particularly between 3 and 7 a.m. These findings are consistent with those observed in other police agencies across the country and consistent across the five years of MECC data.

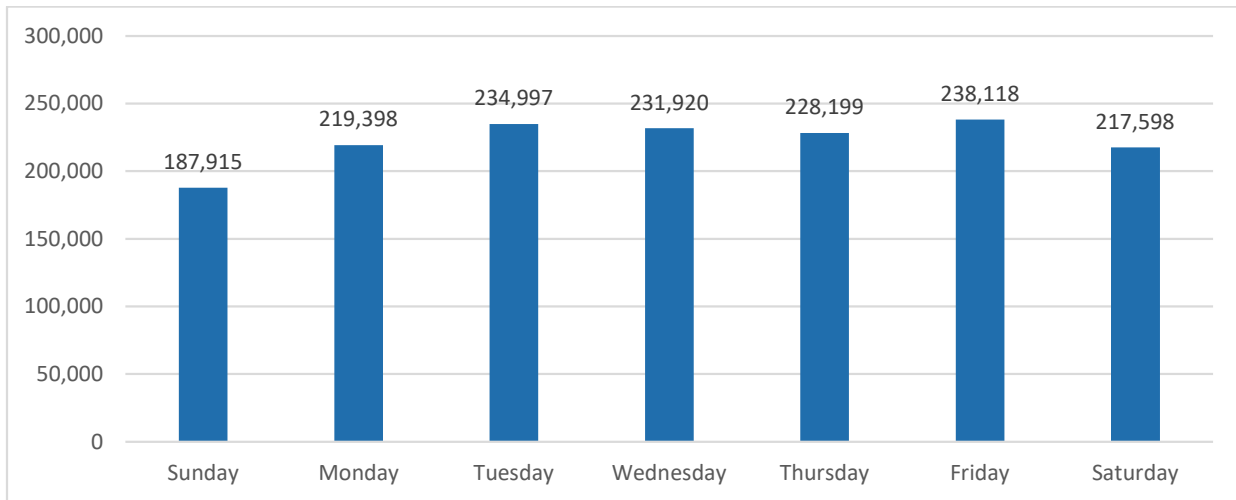
<sup>2</sup> MPD responded to 34,810 calls for service that were outside city boundaries over this period. Thus, the aggregate of calls in figures in this section does not add up to 1,558,145.

**Figure 2. Calls for service by hour of the day (2016–2020)**



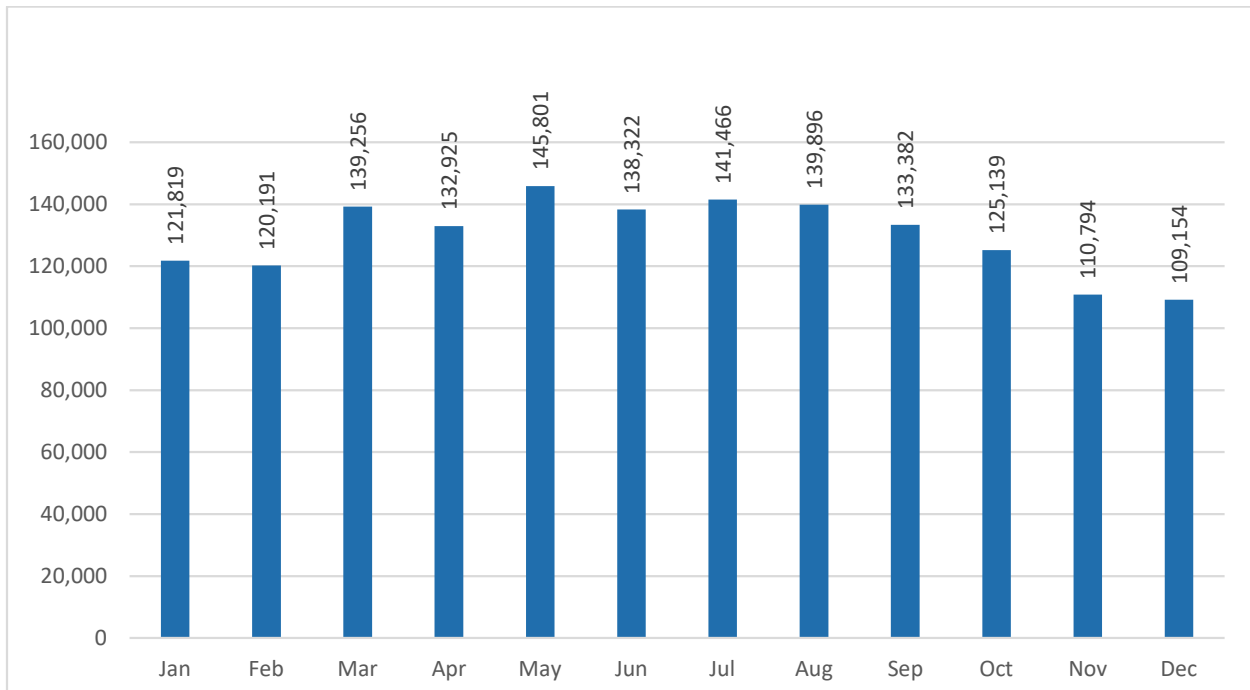
The distribution of calls for service by day of the week is presented in Figure 3. Across the five years of data analyzed for this report, the MPD experienced the most calls for service on Fridays and the fewest on Sundays. However, Tuesday through Friday, on average, experienced higher amounts of calls for service (totals between 234,997 and 238,118) than Saturday through Monday (totals between 187,915 and 219,398). These trends are also consistent within each of the five years of available data.

**Figure 3. Calls for service by day of the week (2016–2020)**



Next, CNA examined the number of calls for service by month (Figure 4). Analyses of crime and police activity data consistently find that demand for law enforcement services increases in summer months when the weather is warmer. These trends are reflected in the MPD’s calls-for-service data: peak call levels occurred between May and August, with the lowest levels occurring in November through February. Of note, this trend is consistent across all the years examined for this analysis except for 2020. In 2020, the number of calls for service was proportionally lower during the summer months relative to the previous four years of data. In fact, every month in the second half of the year (June through December) experienced fewer calls for service than any month in the first half of the year (January through May). This trend corresponds to the timeline of George Floyd’s killing and the following social unrest in the city, which likely affected community members’ calls for police services. Fewer officers were also working during this period because of departures and because many were working in specialized units to respond to unrest.

**Figure 4. Calls for service by month of the year (2016–2020)**



These analyses indicate that calls are not evenly distributed across geographic areas or time periods. Thus, to best meet the service demands of the City, the MPD’s staffing allocations and shift assignments should reflect these distributions. For example, based on this five-year data reporting period, the MPD should have proportionally more officers assigned to the 3rd and 4th precincts, on Tuesdays through Fridays, and on shifts that cover the late morning through late evening hours (11 a.m. to midnight).

## Task two: analyze the nature of calls for service

The next task involved analyzing the nature of the MPD’s calls for service. This task is critical in determining the nature of calls for service within a jurisdiction as well as the type and scope of responses provided by the police department. Results from this task, particularly those regarding the problem nature codes, will also inform the final task (the estimation of staffing levels).

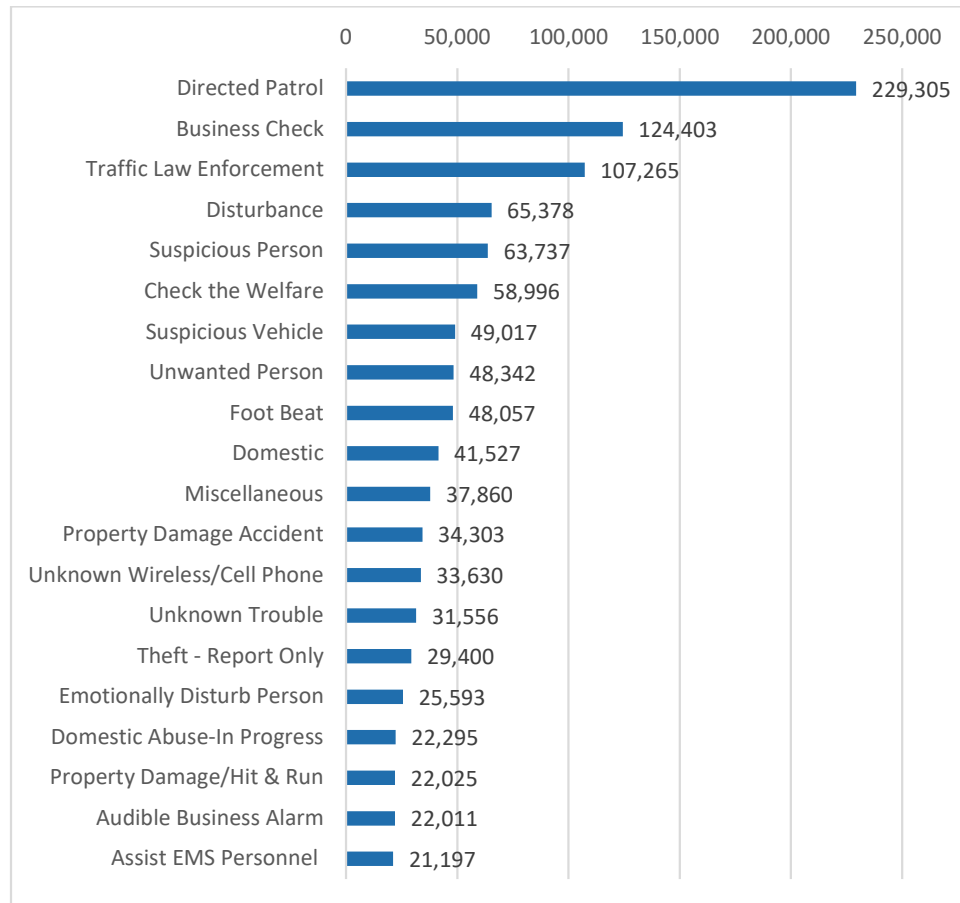
### Problem nature codes

There were 158 distinct categories assigned as the final problem nature code (PNC) in the calls-for-service data. The top 20 categories, accounting for more than 70 percent of all calls for service, are listed in Figure 5. The most common PNC was directed patrol activities, which involves assigning officers to patrol areas within the city where crime is expected to occur based on internal analysis of crime reports and other intelligence gathered by the department. The other most common PNCs were business checks, traffic enforcement, responding to disturbances, checking on suspicious persons or vehicles, and welfare checks.

The most common PNC categories were similar in the 2020-only data, but the ordering was different. Most notably, directed patrol activities was the 20th most common PNC in 2020, whereas it was the

most common across all five years of data. This finding is consistent with findings from CNA's interviews with MPD personnel, who indicated that the number of directed patrol and other officer-initiated activities has dropped since the summer of 2020.

**Figure 5. Calls for service by final problem nature code (2016–2020)**



In addition to examining the most common PNCs, CNA examined the frequency of four PNC subgroups. These subgroups are *exclusive* in the sense that no PNC falls in more than one of these groups but they are not fully *inclusive* of all PNCs, some of which were not included in the subgroup analyses. A complete list of PNCs within in each subgroup is included in Appendix C.

1. **Police officer statute PNCs.** This subgroup includes all calls for service with a PNC that requires a sworn officer response by state law. This subgroup includes many of the PNCs that involve life-threatening situations (e.g., assaults, shootings, and domestic abuse) as well as calls that generally require a police response (e.g., directed patrol activities, business checks, triggered alarms, suspicious persons or vehicles, and crimes in progress).
2. **Behavioral health PNCs.** This subgroup includes incidents involving a person who appears to lack essential reasoning faculties or who exhibits bizarre behavior as well as requests from friends or relatives to check on old, sick, or vulnerable persons. As discussed in more detail in Section 2, these types of calls could be handled through alternative response models that do not necessarily involve police response.

3. **Theft-reporting PNCs.** This subgroup includes calls in which a person is reporting a property-related crime after it has already been committed (i.e., not a crime in progress). This subgroup includes reporting on a theft, forgery, burglary, or incident resulting in property damage. These calls also represent a category of responses that could be handled by means other than sworn officer response.
4. **Other alternative response PNCs.** This subgroup includes all calls not included in the previous two subgroups to which an alternative agency or group could reasonably respond. This subgroup includes complaints about unoccupied parked vehicles, reports of road hazards, requests to check abandoned buildings or construction sites, animal control incidents (e.g., bites, off-leash or aggressive animals, animal fights), and general disturbances (e.g., loud noises, consumption of alcohol in public, public urination, idling vehicles).

These subgroups allow for a better understanding of the types of services that require a police presence versus those that could potentially be handled by an alternative entity (e.g., a community group or non-law enforcement City or county agency). For some of these subgroups, the City is already piloting nonpolice responses. In late 2021, for example, the City began its partnership with Canopy Mental Health and Consulting to deploy behavioral health response teams. These teams are dispatched to some of the behavioral health PNCs in lieu of MPD officers.

Table 1 presents the aggregate calls for service for these PNC subgroups across the five-year data collection period. Calls that statutorily required a police officer response accounted for 1,126,515 calls, or 72.3 percent of all calls for service during this period. Each of the other three subgroups accounted for between 5.4 and 6.6 percent of all calls for service. In other words, approximately 17.6 percent of all calls for service between 2016 and 2020 that involved MPD officers being dispatched could potentially have been handled through a nonpolice response.

**Table 1. Summary of final problem nature code subgroups (2016–2020)**

	Total	Percentage of All Calls <sup>3</sup>
Police officer statute PNCs	1,126,515	72.3%
Behavioral health PNCs	84,589	5.4%
Theft-reporting PNCs	87,867	5.6%
Other alternative response PNCs	102,658	6.6%

### Response types

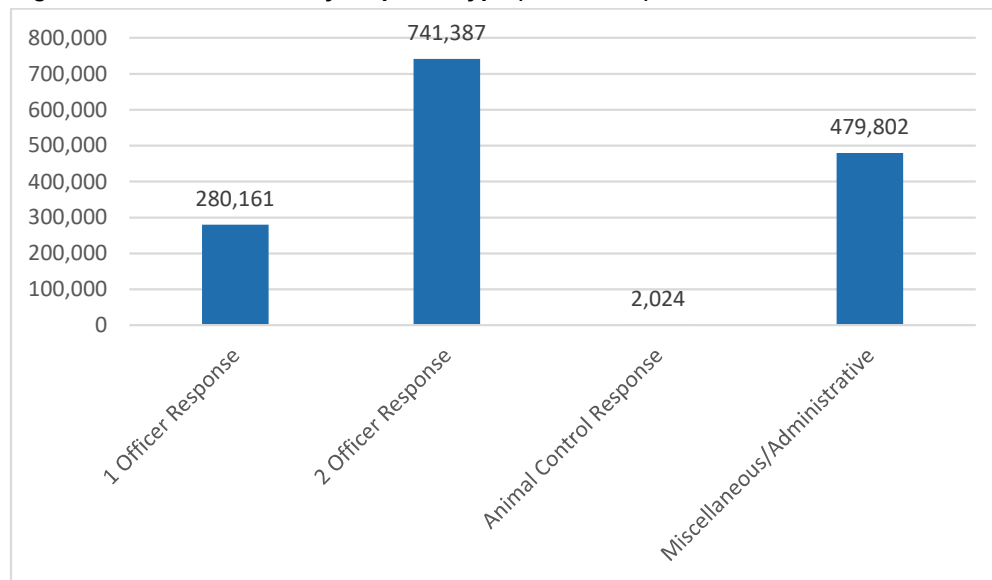
CNA also examined the distribution of calls for service by the type of response from MPD officers. The MPD employs both one-officer squad cars and two-officer squad cars in its patrol shifts. The MECC priority policy states that the type of response to calls for service is determined by the resources needed to respond to the initial incident. Thus, the CAD software makes recommendations based on each call’s initial PNC. For example, based on an analysis of the 2016–2020 data, more than 98 percent of calls assigned an initial PNC of “assault in progress” received a two-officer squad response,

<sup>3</sup> Note that the total does not sum to 100 percent, as not all PNCs are included in the subgroup analyses.

whereas more than 90 percent of calls assigned a PNC of “assault report only” (i.e., a call in which a community member wanted to report an assault after it had taken place) received a one-officer squad response. Likewise, more than 98 percent of disturbances, welfare checks, and suspicious person calls received two-officer responses, whereas nearly all parking problem, property damage, and theft-reporting calls received a one-officer response. In addition to the one-officer or two-officer response assigned by the MECC when a community member initiates a call for service, the MECC categorizes officer-initiated calls (e.g., business checks, community engagement activities, directed patrol, traffic law enforcement) as “Miscellaneous/Administrative.”

As shown in Figure 6, the most common type of response was a two-officer squad car (nearly 50 percent of all calls). The next most common response category was Miscellaneous/Administrative (roughly 32 percent of all calls), followed by one-officer responses (fewer than 19 percent of all calls).

**Figure 6. Calls for service by response type (2016–2020)**



### Priority levels

Next, the assessment team examined how calls for service were distributed among the MPD’s priority categories. According to the MECC priority policy, call prioritization is meant to (1) establish common working definitions about the urgency of any situation to facilitate service delivery, (2) organize calls in a dispatcher’s pending queue, and (3) provide a measurable method to assess the delivery of public safety services. Calls are assigned an initial priority, which affects the scope and speed of the police response. However, the priority may be raised or lowered as the situation evolves and after officers arrive on scene to assess the situation. The MECC uses five priorities:

- Priority 0 is assigned to calls involving a known crisis that threatens the life of an individual. This priority is preassigned to only a few types of calls. It is the highest possible priority and is meant to elicit the fastest possible response times.
- Priority 1 is assigned to calls involving situations in which risk to personal safety or health or risk of loss or damage to property exists and conditions at the scene of the call are

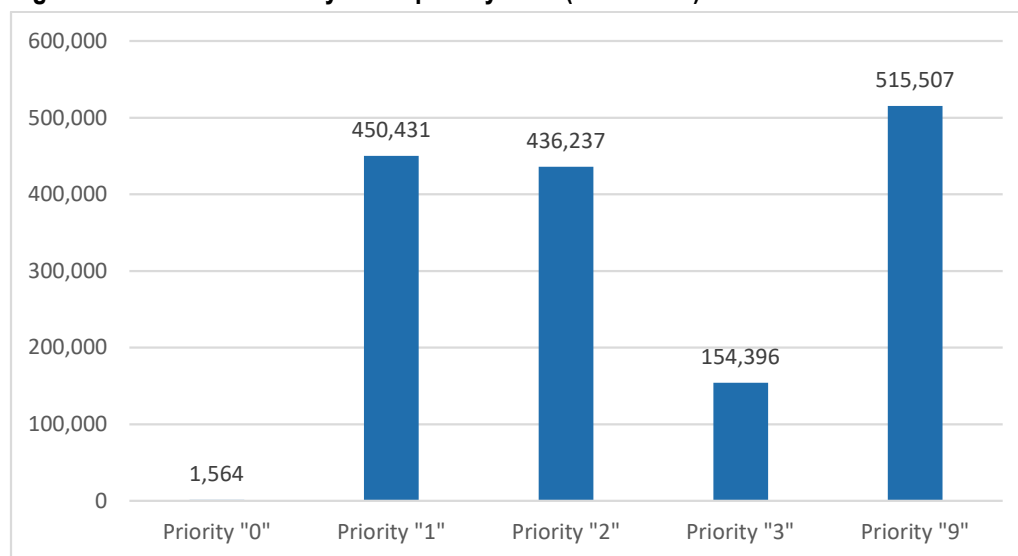


unstable. Speedy responses are important to protect personal safety or limit property damage.

- Priority 2 is assigned to calls involving situations in which no immediate threat of harm exists. Officers are supposed to be dispatched to these calls within 10 minutes, when available.
- Priority 3 is assigned to calls involving stable conditions that may be handled at the convenience of available units as competing demands permit.
- Priority 9 is assigned to “onsite” calls initiated directly by an officer in the field.

Figure 7 shows the distribution of calls for service by their initial priority level in the five-year period between 2016 and 2020. Very few calls were assigned priority 0 over this period, compared with 29 percent of calls being assigned priority 1, 28 percent priority 2, and just under 10 percent priority 3. This finding suggests that calls from residents are about equally likely to be serious in nature as they are to be less volatile. Almost exactly one-third of calls were assigned priority 9, which includes policing activities that are generally simple or low risk (e.g., business checks and foot beats) but also those that could have moderate or serious risk depending on the circumstances (e.g., traffic stops, directed patrols, driving while intoxicated home visits, and predatory offender checks).

**Figure 7. Calls for service by initial priority level (2016–2020)**



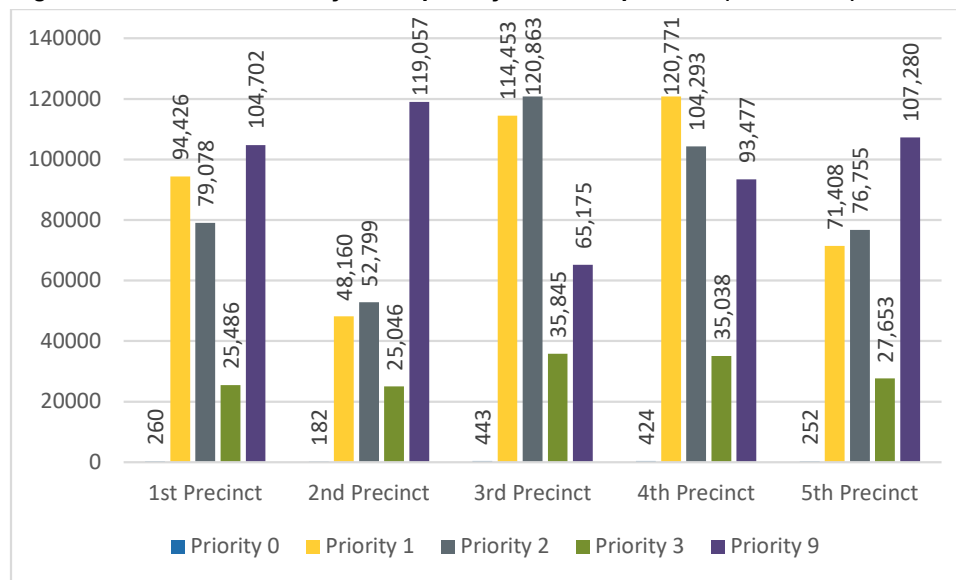
Although the data in Figure 7 are based on the initial priority of calls, it is worth noting that an analysis of final priority levels indicates that many of the calls initially assigned priority 1 were reassigned to lower priority levels once officers arrived on scene and assessed the situation. In fact, although 450,431 calls were initially given a priority 1, only 342,882 calls had a final priority of 1. Subsequently, the final priority categories 2, 3, and 9 increased by 54,007 calls, 5,764 calls, and 47,515 calls, respectively.

Of further note, the initial priority levels of calls for service in 2020 differ from those in the previous years of data. Specifically, MPD officers engaged in much less self-initiated activity in 2020, resulting in proportionally fewer priority 9 calls (14.4 percent) than in previous years. As a result, a higher

percentage of 2020 calls were priority 1 (37.8 percent), 2 (34 percent), or 3 (13.7 percent) than in the full five-year data.

Figure 8 shows the distribution of priority levels across MPD precincts. There are notable differences across precincts. For instance, the 3rd and 4th precincts experienced more high-priority calls during this period (i.e., many more priority 1 and 2 calls) than other precincts. Of note, although the 3rd and 4th precincts also had the highest volume of total calls for service (Figure 1 above), they also experienced a larger *percentage* of high-priority calls relative to the other districts. For instance, more than 34 percent of the calls in both precincts were priority 1, whereas only 19.7 to 31.1 percent of the calls in other precincts received that level of priority.

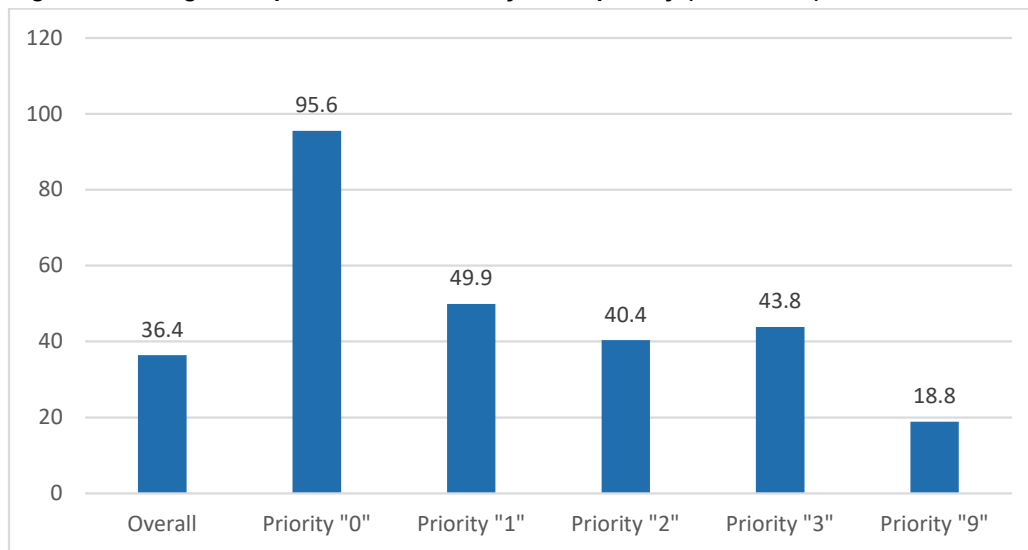
**Figure 8. Calls for service, by initial priority level and precinct (2016–2020)**



### Task three: review the time used for calls for service

Next, CNA estimated the average length of time MPD officers take responding to and handling calls for service, calculated as the total number of minutes between the time the first unit was assigned to respond to a call and the time the call was closed. This calculation provides a better understanding of how much time officers likely spend on calls for service during their shift. Figure 9 provides the average time used for calls for service by initial priority.

**Figure 9. Average time per call in minutes by initial priority (2016–2020)**

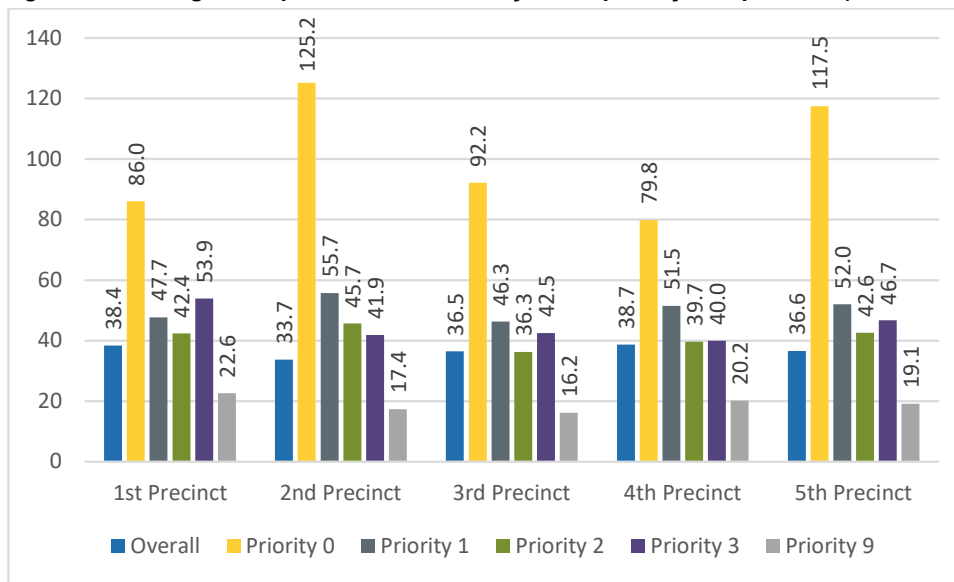


Overall, officers spent an average of 36 minutes on each call between 2016 and 2020.<sup>4</sup> Priority 0 calls took the most time, more than 95 minutes on average to complete. This finding makes sense because these are the highest priority calls and the most likely to require substantial resources and engagement on scene. Priority 1, 2, and 3 calls required much less time to complete. Priority 9 calls required fewer than 20 minutes to complete, on average. This time is lower than calls of other priority levels, perhaps partially because the dispatcher enters the call into the system at the same time as the officer arrives on scene.

Figure 10 breaks out the average times spent on calls by MPD precinct. These estimates exhibit similar trends across precinct. The overall average time to complete calls for service was similar across precincts, ranging from 33.7 minutes (2nd precinct) to 38.7 minutes (4th precinct). The 2nd and 5th precincts took longer on average to complete priority 0 calls than the other precincts, but, as indicated in Figure 8, these calls make up a very small percentage of all calls for service.

<sup>4</sup> The average presented here is the mean, which has a standard deviation of 58.6 minutes. Thus, some calls took substantially longer to address than other calls, which is typical in police response data. Half the calls took officers fewer than 17 minutes to complete (the median is 16.9 minutes), and 75 percent of calls required fewer than 40 minutes to complete. CNA chose to use the mean for this analysis because it is the only measure that accounts for this distribution. If we had used the median, the staffing estimates presented below would underestimate the levels of staffing required to handle calls for service in the City.

**Figure 10. Average time per call in minutes by initial priority and precinct (2016–2020)**

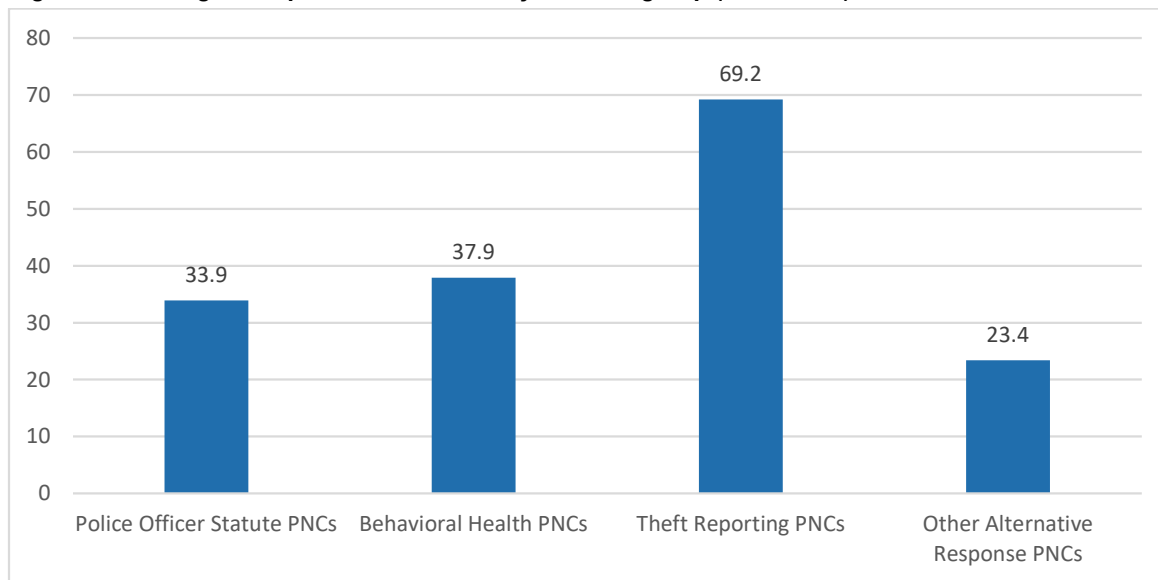


### PNC subgroups

Using the categories described in task two above, CNA also examined the time spent on calls for the four PNC subgroups (police officer statute PNCs, behavioral health PNCs, theft-reporting PNCs, and other alternative response PNCs). Figure 11 provides the average time spent on calls across these subgroups. On average, MPD officers spend less time on calls that require a police response by state law than on those that could be handled by nonpolice entities, except for calls that fall into the other alternative response PNC subgroup. In particular, calls that involve taking reports for theft and other property crimes take nearly twice as long for officers to complete than those they are statutorily required to handle (69.2 minutes versus 33.9 minutes).<sup>5</sup>

<sup>5</sup> We further explore the time spent on calls, only considering the primary responding vehicle, in Section 3.

**Figure 11. Average time per call in minutes by PNC subgroup (2016–2020)**



### Task four: calculate the shift-relief factor

CNA’s next task was to calculate the shift-relief factor. The shift-relief factor is an estimate of the number of officers that must be assigned to each shift to ensure it is adequately covered. It estimates how much time officers will actually spend on shifts by accounting for the number of hours officers take in paid or unpaid time away from patrol. That is, when a person who is regularly assigned to a shift is unavailable because they are occupied elsewhere (on leave, attending training, injured, etc.), additional staff must be allocated to that shift to ensure enough officers are available to respond to calls for service. The shift-relief factor accounts for these factors to produce an updated staffing estimate.

As noted above, CNA used MPD timesheet data from calendar year 2020 for this calculation. However, given that much of 2020 occurred after the start of the COVID-19 pandemic, which could have affected the amount of time officers took off for sick leave or vacation, we replicated the analysis with 2019 data. Overall, the results from the 2019 and 2020 analysis were very similar;<sup>6</sup> thus, this section focuses on results from the 2020 data.

The first step in calculating the shift-relief factor is to estimate the amount of benefit time off used by MPD line officers. Benefit time off includes administrative leave, sick leave, family leave, parental leave, vacation, holidays, compensatory time, training, military leave, and other paid or unpaid activities that take officers away from their regular patrol duties. In keeping with standard staffing analysis practices, benefit time off does not include time spent working specialty assignments, since those hours could be increased or decreased through a variety of policy and procedural levers. Within

<sup>6</sup> As shown later in this section, the shift-relief factor estimates for 2020 are 2.39 for the 4-day, 10-hour shift assignment; 1.91 for the 5-day, 8-hour shift assignment; and 3.30 for the 3-day, 12-hour shift assignment. The 2019 shift-relief factor estimates for the same shift assignments are 2.34, 1.88, and 3.24, respectively.

the MPD, 633 personnel with the rank of “police officer” were reported in the MPD timesheet data at any point in 2020. The benefit time for these individuals is shown in Table 2. On average, officers spent a little over 566 hours during 2020 engaging in one of these benefit time activities.

**Table 2. Summary of benefit time for MPD police officers (2020)**

Benefit Time Off	Hours	Average per Officer
Vacation	75,264.8	118.9
Holiday	70,667.0	111.6
Family and personal leave	56,915.0	89.9
Sick/medical leave	49,561.5	78.3
Training	34,836.8	55.0
Administrative leave	21,157.0	33.4
Military	17,510.0	27.7
Comp time	15,074.6	23.8
Special duty	10,375.3	16.4
Injury	7,312.0	11.6
<b>Total</b>	<b>358,673.9</b>	<b>566.6</b>

The next step is to calculate the total number of regular hours MPD officers had off during this period. Because most MPD officers work a 4-day, 10-hour shift assignment, they are expected to receive 1,560 “regular” off hours per year (i.e., 10 hours × 3 days off × 52 weeks = 1,560 hours). Thus, the total time off for officers is 2,126.6 hours (i.e., 566.6 benefit hours off + 1,560 regular hours off = 2,126.6 hours).

### Shift-relief factor calculations

Using these inputs, the shift-relief factor calculation is as follows:

$$366 \times \text{shift length} / (366 \times \text{shift length} - \text{total time off})$$

where 366 is the number of days in 2020 and the shift length is the number of assigned hours per shift. Thus, the MPD had a 2020 shift-relief factor of

$$3,660 / (3,660 - 2,126.6) \text{ or}$$

$$3,660 / 1,533.4 \text{ or}$$

**2.39**

This number estimates how many officers MPD supervisors would need to assign to a shift to ensure that enough officers would be available to work. For example, if MPD supervisors wanted 10 officers to be on duty during a particular shift, they would need to assign 24 officers to the shift (i.e.,  $10 \times 2.4 = 24$ ).

Note that the shift-relief factor is specific to the 4-day, 10-hour shift assignment; it would be different if the MPD had opted to use an alternative approach. For example, the shift-relief factor for a 5-day, 8-hour shift assignment is as follows:

$$366 \times 8 / (366 \times 8 - [566.6 + 832]) \text{ or}$$

$$2,928 / (2,928 - 1,398.6) \text{ or}$$

$$2,928 / 1,529.4 \text{ or}$$

**1.91**

And the shift-relief factor for a 3-day, 12-hour shift assignment is as follows:

$$366 \times 12 / (366 \times 12 - [566.6 + 2,496]) \text{ or}$$

$$4,392 / (4,392 - 3,062.6) \text{ or}$$

$$4,392 / 1,329.4 \text{ or}$$

**3.30**

Based on these calculations, the shift-relief factor for 8-hour shifts is much lower than that for the 10-hour shifts currently used by the MPD or the hypothetical 12-hour shifts. However, a department would need to consider many factors before deciding to implement different shift assignments. For instance, the department would need to staff only two shifts a day under a 12-hour model instead of the three needed for an 8-hour model. The shift-relief factor calculations above suggest that the MPD would need 6.6 officers to ensure at least one can be scheduled for both shifts in a day under the 12-hour model (i.e., 2 shifts  $\times$  3.3 = 6.6), whereas the MPD would require only 5.72 officers to ensure at least one can be scheduled under the 8-hour model (i.e., 3 shifts  $\times$  1.91 = 5.72).<sup>7</sup> Twelve-hour shifts can also lead to more officer fatigue than 10-hour or 8-hour shifts, which is compounded when officers remain on their shifts longer to complete calls or work overtime.

## Task five: identify performance objectives

The fifth task was to identify possible performance objectives regarding the fraction of an officer's shift that should be devoted to calls for service and the fraction that should be spent on other activities. No standardized approaches exist for establishing this metric. As outlined by Wilson and Weiss (2012), the International Association of Chiefs of Police introduced one of the earliest workload-based models more than three decades ago, which suggested that patrol officers should spend approximately one-third of their time responding to calls for service, with the other two-thirds split between proactive activities and administrative duties.

More recently, the International City/County Management Association (ICMA) outlined the "rule of 60" in their review of staffing allocation and deployment in 62 police agencies (McCabe, 2013). This rule suggests that departments should not dedicate more than 60 percent of their resources toward workload (which includes not only calls for service but also proactive and officer-initiated activities, directed patrol time, and administrative duties), with the remaining 40 percent used primarily for

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<sup>7</sup> It is difficult to create an apples-to-apples comparison of how many officers are needed to cover shifts under a 4-day, 10-hour model such as the one currently used in Minneapolis because 10-hour shifts overlap with one another throughout the day.

undirected patrol as well as training, time between calls, and other non-workload activities. McCabe (2013) found that, on average, departments committed less than one-third of their patrol resources to community-initiated calls for service. In other workload-based staffing analyses, performance objectives have been established at one-fourth, one-third, or one-half of officers' time dedicated to calls for service (see Weiss, 2015; Wilson & Weiss, 2012). Based on this variation, the assessment team used both the one-third and one-half metrics to produce the staffing recommendations in the following task.

## Task six: estimate staffing levels

### Staffing estimate for current 4-day, 10-hour shift assignment

Task six involved creating an estimate of MPD staffing levels in the five police precincts. This work was completed using the MPD's current 4-day, 10-hour shift assignment model as well as two alternate shift assignment models (5-day, 8-hour shift assignments and 3-day, 12-hour shift assignments).

The MPD's current shift assignment has shifts including daywatch (0600 to 1600), middlewatch (1600 to 0200), and dogwatch (2000 to 0600). Because of the overlap between shifts, it is impossible to break out the number of calls for service within each shift without duplication. Still, using the findings generated in the five previous tasks, CNA created an estimate for the staffing levels based on the 4-day, 10-hour shift assignment (Table 3).

**Table 3. Patrol staffing estimates based on current 4-day, 10-hour shift assignments**

	Calls for Service <sup>a</sup>	Adjusted (×1.6)	Hours on Calls	Officers Needed	Staffing Estimate (50% Objective)		Staffing Estimate (33% Objective)	
					×2	×2.39	×3	×2.39
<b>1st Precinct</b>	39,209	62,734.4	38,058.9	10.4	20.8	50	31.2	75
<b>2nd Precinct</b>	33,021	52,833.6	32,052.4	8.8	17.5	42	26.3	63
<b>3rd Precinct</b>	51,040	81,664.0	49,542.8	13.5	27.1	65	40.6	98
<b>4th Precinct</b>	55,539	88,862.4	53,909.9	14.7	29.5	71	44.2	106
<b>5th Precinct</b>	38,805	62,088.0	37,666.7	10.3	20.6	50	30.9	74
<b>Total</b>						<b>278</b>		<b>416</b>

<sup>a</sup> Calls-for-service data from 2020 only.

The first column in Table 3 shows the total calls for service that occurred in each of the five MPD precincts in 2020. The second column adjusts this number to account for calls for which more than one officer was dispatched. As indicated in Figure 6 above, the MPD deploys two-officer squad cars for nearly half of all calls. In addition, many calls involve the dispatch of multiple squad cars to a single scene. Because CAD data have limited ability to determine how many calls involve the dispatch of more than one squad car, common practice is to add a multiplier (such as 25 percent, see Wilson & Weiss, 2012) to the total number of calls. Given the high percentage of MPD calls that already involve two-officer squad car responses, CNA decided to apply a multiplier of 1.6 to the total calls for service to get the adjusted calls for service in the second column.



The third column estimates the amount of time required to complete the calls by multiplying the adjusted number of calls by the average time spent on calls calculated above in task three, which was 36.4 minutes or 0.607 hours (see Figure 9 above). The fourth column estimates the number of officers required to handle the 2020 calls for service. To calculate this estimate, CNA divided the expected number of hours to complete the calls (column four) by the available hours an individual officer could potentially work over the year. In other words, based on the 10-hour shift assignment, an officer working 10 hours a day every day in 2020 would have worked a total of 3,660 hours ( $366 \times 10$  hours).

The value in the fourth column is the number of officers needed in each precinct to answer calls, assuming that the officers only answered calls for their entire shift and worked every day. Thus, the final four columns make further adjustments to provide more-realistic estimates of the number of officers needed to handle the calls for service in each precinct, using the two different performance objectives established in the previous task (i.e., 50 percent of officers' time spent on calls for service versus 33 percent of their time). Under the 50 percent performance objective, the estimates in column four are multiplied by 2 and then multiplied by the previously calculated shift-relief factor for the 4-day, 10-hour shift assignment (2.39; see task four above). Under the 33 percent performance objective, column four estimates are first multiplied by 3 and then by the shift-relief factor.

Based on the model presented in Table 3, the MPD would require 278 police officers assigned to patrol duties in its five precincts under the 50 percent performance objective and 416 officers under the 33 percent performance objective. Based on the varying volume of calls across precincts, the 3rd and 4th precincts would need significantly more patrol officers than the other three precincts.

Note that, based on staffing numbers provided by the MPD to CNA in December 2021, the department currently has 289 patrol officers assigned to one of the three patrol watches across the five precincts (as well as another 10 assigned to critical response team shifts, 69 assigned to other nonpatrol duties, and 30 on leave). This number is closely aligned to the staffing estimates produced under the 50 percent performance objective model but is 138 officers short of the estimate produced under the 33 percent performance objective model.

### **Staffing estimates for alternate shift assignments**

Next, CNA created patrol staffing estimates for the two alternative shift assignments. Table 4 presents patrol staffing estimates for a hypothetical 5-day, 8-hour shift assignment model. Under this model, the MPD could schedule officers for one of three shifts: 0700 to 1500, 1500 to 2300, and 2300 to 0700. The inputs across the columns in this model follow the same logic as the previous model: calls for service are adjusted by 60 percent to account for multiofficer dispatches, multiplied by 0.607 hours to estimate the time on call, divided by the available hours an individual officer could potentially work over the year (in this case,  $366 \times 8$  hours = 2,928), multiplied by the corresponding performance objective multiplier, and multiplied by the appropriate shift-relief factor (in this case 1.91).

Results from this model are similar to those presented in Table 3. Under a 5-day, 8-hour shift assignment model, the MPD would require either 281 or 420 patrol officers, depending on the chosen performance objective.

**Table 4. Patrol staffing estimates based on projected 5-day, 8-hour shift assignments**

	Calls for Service <sup>a</sup>	Adjusted (×1.6)	Hours on Calls	Officers Needed	Staffing Estimate (50% Objective)		Staffing Estimate (33% Objective)	
					×2	×1.91	×3	×1.91
<b>1st Precinct</b>								
0700–1500	14,055	22,488.0	13,642.7	4.7	9.3	18	14.0	27
1500–2300	15,762	25,219.2	15,299.6	5.2	10.5	20	15.7	30
2300–0700	9,392	15,027.2	9,116.5	3.1	6.2	12	9.3	18
<b>2nd Precinct</b>								
0700–1500	9,431	15,089.6	9,154.4	3.1	6.3	12	9.4	18
1500–2300	14,267	22,827.2	13,848.5	4.7	9.5	19	14.2	28
2300–0700	9,323	14,916.8	9,049.5	3.1	6.2	12	9.3	18
<b>3rd Precinct</b>								
0700–1500	18,094	28,950.4	17,563.2	6.0	12.0	23	18.0	35
1500–2300	21,696	34,713.6	21,059.6	7.2	14.4	28	21.6	42
2300–0700	11,250	18,000.0	10,920.0	3.7	7.5	15	11.2	22
<b>4th Precinct</b>								
0700–1500	17,736	28,377.6	17,215.7	5.9	11.8	23	17.6	34
1500–2300	24,933	39,892.8	24,201.6	8.3	16.5	32	24.8	48
2300–0700	12,870	20,592.0	12,492.5	4.3	8.5	17	12.8	25
<b>5th Precinct</b>								
0700–1500	14,670	23,472.0	14,239.7	4.9	9.7	19	14.6	28
1500–2300	14,984	23,974.4	14,544.5	5.0	9.9	19	14.9	29
2300–0700	9,151	14,641.6	8,882.6	3.0	6.1	12	9.1	18
<b>Total</b>						<b>281</b>		<b>420</b>

<sup>a</sup> Calls-for-service data from 2020 only.

The patrol staffing estimates based on the proposed 3-day, 12-hour shift assignment model are presented in Table 5. This model would require only two shifts per day, such as 0600 to 1800 and 1800 to 0600. The inputs of this model again follow the logic of the previous two models. Results indicate that to implement this model, the MPD would need to employ either 323 or 482 officers to meet the patrol needs of its five precincts, which is less efficient than the current staffing model.

**Table 5. Staffing estimates based on projected 3-day, 12-hour shift assignments**

	Calls for Service <sup>a</sup>	Adjusted (×1.6)	Hours on Calls	Officers Needed	Staffing Estimate (50% Objective)		Staffing Estimate (33% Objective)	
					×2	×3.3	×3	×3.3
<b>1st Precinct</b>								
0600–1800	20,756	33,209.6	20,147.2	4.6	9.2	31	13.8	46

1800–0600	18,453	29,524.8	17,911.7	4.1	8.2	27	12.2	41
<b>2nd Precinct</b>								
0600–1800	14,216	22,745.6	13,799.0	3.1	6.3	21	9.4	32
1800–0600	18,805	30,088.0	18,253.4	4.2	8.3	28	12.5	42
<b>3rd Precinct</b>								
0600–1800	27,636	44,217.6	26,825.3	6.1	12.2	41	18.3	61
1800–0600	23,404	37,446.4	22,717.5	5.2	10.3	35	15.5	52
<b>4th Precinct</b>								
0600–1800	27,697	44,315.2	26,884.6	6.1	12.2	41	18.4	61
1800–0600	27,842	44,547.2	27,025.3	6.2	12.3	41	18.5	61
<b>5th Precinct</b>								
0600–1800	20,678	33,084.8	20,071.4	4.6	9.1	31	13.7	46
1800–0600	18,127	29,003.2	17,595.3	4.0	8.0	27	12.0	40
<b>Total</b>						<b>323</b>		<b>482</b>

<sup>a</sup> Calls-for-service data from 2020 only.

### Staffing estimates for PNC subgroups

Finally, CNA created similar staffing estimates for the four PNC subgroups described above. Because the 4-day, 10-hour shift assignment model currently used by the MPD was most efficient, CNA used that as the basis for the subgroup analysis. Therefore, the inputs in the subgroup model are the same as those presented in Table 3 above except that column three (“hours on calls”) in the subgroup model uses the average time spent on calls within each PNC subgroup rather than the overall average. That is, the “police officer statute PNCs” multiplier was 33.9 minutes, the “behavioral health PNCs” multiplier was 37.9 minutes, the “theft-reporting PNCs” multiplier was 69.2 minutes, and the “other alternative response PNCs” multiplier was 23.4 minutes (see Figure 11 above).

The results of the subgroup staffing estimates are presented in Table 6. Under the 50 percent performance objective, the MPD would require 172 police patrol officers just to respond to the calls that explicitly require a police response by state law. Under the 33 percent performance objective, the MPD would need at least 255 patrol officers for these calls.<sup>8</sup> These models also indicate that the MPD could free up 73 or 106 patrol positions if the City strictly allocated calls in the other three PNC subgroups to nonpolice groups or agencies. This allocation could potentially free up patrol officers to focus more attention on responding to calls for service that require a police presence.

**Table 6. Patrol staffing estimates for PNC subgroups based on 4-day, 10-hour shift assignments**

	Calls for Service <sup>a</sup>	Adjusted (×1.6)	Hours on Calls	Officers Needed	Staffing Estimate (50% Objective)	Staffing Estimate (33% Objective)
					×2	×2.39
<b>1st Precinct</b>						

<sup>8</sup> Note that not all calls for service fit in these four categories, so the sum of police and nonpolice estimates in Table 6 does not equal the estimates for the full department presented in Table 3. Some calls do not require a police response by statute but are not well suited for an alternative response model. In the current dataset, these PNCs include unwanted persons, the recovery of property or vehicles, and the reporting of assaults, among others.

Police statute	24,133	38,612.8	21,816.2	6.0	11.9	29	17.9	43
Behav. health	3,663	5,860.8	3,702.1	1.0	2.0	5	3.0	8
Theft report.	1,826	2,921.6	3,369.6	0.9	1.8	5	2.8	7
Other alternat.	3,071	4,913.6	1,916.3	0.5	1.0	3	1.6	4
<b>2nd Precinct</b>								
Police statute	22,908	36,652.8	20,708.8	5.7	11.3	28	17.0	41
Behav. health	2,128	3,404.8	2,150.7	0.6	1.2	3	1.8	5
Theft report.	1,842	2,947.2	3,399.1	0.9	1.9	5	2.8	7
Other alternat.	2,788	4,460.8	1,739.7	0.5	1.0	3	1.4	4
<b>3rd Precinct</b>								
Police statute	32,192	51,507.2	29,101.6	8.0	15.9	39	23.9	58
Behav. health	3,963	6,340.8	4,005.3	1.1	2.2	6	3.3	8
Theft report.	3,347	5,355.2	6,176.3	1.7	3.4	9	5.1	13
Other alternat.	4,262	6,819.2	2,659.5	0.7	1.5	4	2.2	6
<b>4th Precinct</b>								
Police statute	38,395	61,432.0	34,709.1	9.5	19.0	46	28.5	68
Behav. health	3,232	5,171.2	3,266.5	0.9	1.8	5	2.7	7
Theft report.	2,292	3,667.2	4,229.5	1.2	2.3	6	3.5	9
Other alternat.	5,403	8,644.8	3,371.5	0.9	1.8	5	2.8	7
<b>5th Precinct</b>								
Police statute	25,260	40,416.0	22,835.0	6.2	12.5	30	18.7	45
Behav. health	2,905	4,648.0	2,936.0	0.8	1.6	4	2.4	6
Theft report.	2,498	3,996.8	4,609.6	1.3	2.5	7	3.8	10
Other alternat.	3,386	5,417.6	2,112.9	0.6	1.2	3	1.7	5
<b>Total police</b>						<b>172</b>		<b>255</b>
<b>Total non-police</b>						<b>73</b>		<b>106</b>

<sup>a</sup> Calls-for-service data from 2020 only.

The above analysis reflects data from a particular time period, as noted. For the MPD to predict future staffing needs, which depend on the considerations (performance objectives, use of two-person cars, etc.) used in each task above as well as the volume of calls-for-service data overall, the assessment team will provide a spreadsheet-based tool that can be used to reproduce this analysis under different future scenarios. This tool will be more useful to the agency than our team positing possible hypotheticals because it can be used at any point based on real-world data.

## Limitations

When considering the patrol staffing analysis, the precise number of officers needed depends on several policy decision points, primarily the desired percentage of discretionary time for patrol officers and the use of one- versus two-person patrol car staffing, as noted above. Adjusting these factors in various combinations leads to the conclusion that the MPD's patrol division is either appropriately staffed or substantially understaffed. Determining the ideal values for these inputs is

grounded in local context, community expectations, and operational goals and goes beyond the scope of this assessment, although we do discuss these issues further in the next section to provide context to inform those decisions.

The primary limitation to our staffing analysis lies outside the patrol function. The assessment team had planned to perform similar analyses for the Investigations Bureau, Forensic Division, investigations staff within the Patrol Bureau, and Professional Standards Bureau. However, none of these divisions record personnel “deployment” information in a manner that allows for a workload-based staffing analysis. This is not atypical; most law enforcement agencies collate information in those divisions to track the process and progress of tasks, as the MPD does. However, to conduct a staffing analysis, knowing the time spent per task and the time spent within a task on subtasks is critical to developing workload-based personnel requirement estimates. We provide a recommendation below on the type of data the MPD would need to begin collecting to facilitate such an analysis in the future.

In addition, the assessment team had expected to conduct a related analysis of the current use of overtime in the Patrol Bureau as well as the aforementioned units. Unfortunately, the data available on overtime use were not sufficient to produce defensible analysis or recommendations.

## Recommendations

**Recommendation 1: The MPD and the City should identify a performance objective for the percentage of time officers spend responding to calls for service. As depicted in the analyses above, applying common metrics such as one-third or one-half results in very different recommendations for staffing levels. To that end, the City should consider how much time it would like MPD officers to engage in other typical police functions, such as patrolling the streets in their precincts or engaging in community policing activities. Although these activities may not be as critical as responding to calls for service, they are considered core functions in many police departments.**

**Recommendation 2: After identifying this objective, the MPD should consider the staffing levels for its patrol precincts. The staffing analyses revealed that, under the current 4-day, 10-hour shift assignment, the MPD’s current staffing levels are appropriate if patrol officers are expected to spend one-half of their time responding to calls for service (i.e., the 50 percent performance objective). However, if the MPD or the City expects these officers to spend more of their time on undirected patrol, community engagement, or other activities, the MPD would need to consider increasing its patrol staff or otherwise reallocating personnel to best meet the demand for service in each precinct and the City at large.**

**Recommendation 3: If further efficiencies are needed in the short term, the MPD could consider reducing the number of two-officer squad cars dispatched to calls in favor of one-officer squad cars. As noted in Figure 6, nearly half of all calls that occurred during the study period involved a two-officer response. Research has generally shown that one-officer squads are not less safe for officers than two-officer squads, whereas one-officer squads can improve**

overall staffing efficiency (e.g., Anderson & Dossetor, 2012). However, the ability for the department to make this change may vary across shifts and precincts. For example, shifts that put officers at greater risk might require more two-person patrols than other shifts. Likewise, the necessity for two-person patrols may vary across the department's precincts.

**Recommendation 4:** The City should examine the feasibility of implementing nonpolice response options for the PNC subgroups described above or expanding existing programs that serve this purpose (such as the behavioral health response teams). As noted in Table 6, the department could free up between 73 and 106 patrol positions if all these calls for service were handled by community groups or other nonpolice agencies.

Likewise, the MPD could examine how it uses its own personnel to respond to some nonemergency calls for service. As noted in Figure 7, most calls for service were lower priority calls for which no immediate threat of harm existed. Some of these calls could possibly have been handled without a patrol officer responding to the scene. For instance, in some police departments, patrol officers who are unable to participate in patrol duties (e.g., those on limited duty or other administrative assignments) address these calls by phone, thereby reducing the need for an officer to be dispatched on scene. MPD has implemented such a system, but its staffing levels have been inconsistent.

**Recommendation 5:** The current analyses focused on developing staffing estimates specifically for patrol officers, but CNA was unable to produce similar estimates for the department's other divisions (e.g., investigations). If the MPD would like to create similar staffing estimates for these divisions, it would need to collect additional data, specifically detailed information on how much time investigators spend on relevant activities throughout their day, such as driving to crime scenes, interviewing suspects or witnesses, analyzing evidence, and so forth. Note that this data collection would be a complex undertaking; these data are not commonly collected by other police departments, so there are no standard approaches for creating staffing estimates outside of patrol.

**Recommendation 6:** When developing a patrol performance metric to guide the deployment of uniformed officers, this model cannot factor in the several units staffed by uniformed officers that have been greatly reduced or eliminated because of staffing constraints. These include Community Response Teams, the Community Engagement Team, the Crisis Intervention Team, the Police Activities League, school resource officers, bicycle patrols, and foot beats. All at one time had strong support from segments of the community and had a role in crime prevention, mental health-related calls, community outreach, and fear reduction. We strongly recommend that, in the aftermath of the recent referendum, the City inventory these programs for their prior effectiveness and level of community support and determine whether the recommended number of call-response officers is sufficient to reproduce some of these services and activities or whether these units could potentially be staffed by civilian personnel (see Section 2 for more discussion of civilianization).

**Recommendation 7:** The reintroduction or reactivation of any special unit, or, for that matter, foot and bicycle beats, depends on the development of appropriate metrics and the ability to

**assess the effectiveness and support of these units. Business districts, for example, may highly value foot and bicycle beats for their fear reduction and order maintenance capabilities. This information could be ascertained through targeted community surveys. Separate metrics (and the ability to extract relevant data from information systems) must be applied to units such as Community Response Teams, the Community Engagement Team, and the Police Activities League. Their effectiveness and support should be measured to inform current and future staffing needs.**



## Section 2: Operations Analysis

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### Methods

CNA conducted 23 semi-structured interviews with relevant personnel, including representatives from the three MPD bureaus and the MECC, to develop an understanding of formal policies and procedures as well as to gain insights into the agency culture and community relations. MPD interviewees included individuals from the Deputy Chief to line officer levels, and MECC interviewees included individuals at the manager and dispatcher levels. The interviews provided qualitative data for our assessment of business processes, policing practices, communication structure, culture, and leadership, expanding our understanding of the agency's current capacity and unique dynamics. Because of the COVID-19 pandemic, our team conducted all interviews virtually, in accordance with national public safety guidelines. In line with best practices, we ensured the anonymity of those who participated in our interviews.

In addition, for each topic, assessment team analysts reviewed the literature to provide background information on the subject, summarize the evidence base, and gather lessons learned and best practices. These literature reviews were produced using standard methods such as keyword searches and iterative referencing (i.e., reviewing reference lists and "cited by" lists to identify additional sources). The literature reviews included both academic peer-reviewed literature as well as "grey" literature (i.e., reports published outside of peer-reviewed journals). The inclusion of grey literature is particularly important in criminal justice because an extremely robust set of publications is produced directly by agencies and by analysts working in nonacademic research organizations as well as by entities such as the Bureau of Justice Assistance and the Office of Community Oriented Policing Services (COPS Office).

Findings in this section have implications for the staffing and business process analyses, and we note these when appropriate. These summaries are not directly informed by those analyses.

### Civilianization

#### Findings from the field and research

Over the last several decades, civilians have become increasingly important to law enforcement operations. Historically, civilians performed relatively unsophisticated tasks, including record keeping and janitorial functions, and comprised a very small portion of employees. More recently, however, civilian roles have expanded into areas that had been primarily assigned to sworn officers. This process, known as *civilianization*, is defined as "a law enforcement agency's hiring of nonsworn personnel to replace or augment its corps of sworn officers, typically with the aims of reducing costs and improving service" (Forst, 2000). Civilianization in policing first began to increase in the 1930s (Davis et al., 2013) and increased again in the 1950s. By 1950, civilian staff comprised an estimated



8 percent of police employees. The 1967 President's Commission on Law Enforcement and the Administration of Justice identified civilianization as a primary method to increase community confidence in police. As a result, civilian representation in large law enforcement agencies grew 259 percent from 1955 to 1995 (Davis et al., 2013, p. 4). Civilianization continued to increase modestly from 1995 to 2008, when it leveled off at around 31 percent (Davis et al., 2013, p. 4). The increase was most substantial in sheriff's departments from 1987 to 2003; civilian representation in sheriff's offices increased 158 percent during that time (Davis et al., 2013). Davis et al. (2013) attribute the rise of civilian employees in law enforcement to three distinct time periods in which American policing underwent significant transformations: 1840 to 1955, 1955 to 1995, and 1995 to 2008.

Civilianization in policing has several possible causes. Generally, an increase in civilian staff has been attributed to budget cuts and an insufficient number of sworn staff to perform a variety of functions (Cox, 2012; Davis et al., 2013). In some jurisdictions, rapid population growth increased the demand for law enforcement personnel, and agencies struggled to keep up with that demand. Departments responded in several ways, one of which included hiring more civilians to conduct nonenforcement-related tasks (Cox, 2012). The 1967 President's Commission on Law Enforcement concluded that specific tasks would be better performed by civilians, including communications, planning, and forensic work (Kiedrowski et al., 2019). The Commission also recommended that law enforcement agencies create a community service officer (CSO) position to be filled by civilian staff (Davis et al., 2013). As the community policing movement grew in the 1970s, many departments began implementing CSO positions and associated programs. Civilianization was supported by the federal government through grant programs that required the employment of civilian staff, such as the Violent Crime and Law Enforcement Act and COPS Office grants (Davis et al., 2013).

As civilian roles in law enforcement grew, so too did civilian expertise in certain functions. According to Quattlebaum and Tyler (2020), civilians were increasingly hired by law enforcement to perform specific functions related to their expertise rather than as generalists. Forst (2000) argues that sworn officers are hired as generalists who are trained and rotated from one assignment to the next, whereas civilians are hired to perform specialized functions. Civilians are not only occupying roles with greater frequency than in the past but also increasingly being hired to fill traditionally sworn positions, including high-level leader, public information officer, crime and intelligence analyst, grant writer, information technology specialist, trainer or coordinator in training academies, traffic and motor vehicle crash investigator, forensic technician, investigator, and budgeting and fiscal manager (Davis et al., 2013). Here, we focus primarily on the role of civilians in investigations, forensics, and community engagement. Few best practices or lessons learned have emerged about civilianization in other roles, mainly because some are obvious and noncontroversial fits for civilian staffing (e.g., grant writers), some are relatively minor in terms of overall police operations and have received little attention (e.g., crash investigators), and some have only recently and very infrequently been staffed by civilians (e.g., leadership roles), so little research and few best practices have been documented.

### **Civilians in investigations**

Civilians have come to occupy various roles in investigations, including cybercrime investigations, property crime investigations, and crime scene investigations (Davis et al., 2013; Kiedrowski et al.,

2019). In Canada, investigative positions were created specifically for civilians to assist detectives with major cases and serve as informational liaisons to the Crown (Kiedrowski et al., 2019). In the United States, the recession in 2008 and resulting budget cuts forced agencies to reconsider their staffing operations, and police organizations began using civilians to conduct property crime and fraud investigations (Davis et al., 2013). This practice allowed sworn personnel to focus their efforts primarily on patrol and the crime problems in their communities. In England and Wales, civilian investigators were introduced into policing in 2002 by the Police Reform Act in order to enhance the police's investigative capacity (Rice, 2019). Rice's 2019 study is the only one of its kind to examine the role of civilian "junior partners" as investigators and found that civilian investigators engaged in the coproduction of investigative functions as equal partners more often than as junior partners or assistants. Despite the placement of civilian employees into investigative roles, little research has examined the effectiveness of civilians in these positions across a range of outcomes (Davis et al., 2013).

### **Civilians in forensics**

Crime scene and forensic analysis functions are increasingly being civilianized to allow detectives to focus on investigative work. This shift toward civilianization is most evident in large American police departments like those in Los Angeles, San Francisco, and San Diego. Crime scene investigative tasks are being conducted more often by civilians under the Criminalist civilian classification. The San Jose Office of the City Auditor (2010) estimated that one department could save approximately \$15,000 per forensic technician to civilianize the forensic investigator role.

In the Knoxville, Tennessee, Police Department, civilian forensic technicians process all crime scenes (Kiedrowski et al., 2015). Sworn personnel are responsible for securing the location and interviewing witnesses while forensic technicians collect physical evidence and document the crime scene. Once these processes are complete, the sworn investigators and civilian forensic technicians work together to assess the evidence. Other forensic roles filled by civilians include forensic electronic/audio/video analyst, forensic administrative assistant, fingerprint examiner, and image analyst (Kiedrowski et al., 2015).

### **Civilians in community engagement**

The civilian role in community engagement policing programs is based on the idea that civilians are better able to relate to the communities in which they live and therefore better equipped to reduce crime in those communities (Cordner, 1997; Davis et al., 2013; Hennessy, 1976). Others, such as Skolnick and Bayley (1986), view civilianization as a process in which the community and police can work together to increase community policing and reduce crime. Hiring civilians to engage in community outreach strategies is thought to be the most effective when civilians reside in the communities in which they are "policing," providing them with linguistic cues and a nuanced understanding of the cultural perspectives present in neighborhoods (Davis et al., 2013). Civilians serving in positions such as CSO may facilitate connections between the police and community groups that are traditionally isolated from police services because of language and cultural barriers (Maguire & King, 2004). Civilianization of community outreach programs has the potential to

increase police legitimacy and enhance the perspectives of citizens about police work in those neighborhoods (Davis et al., 2013).

### **Benefits of civilianization**

Civilian staff are beneficial to law enforcement agencies in several ways. First, hiring more civilian personnel allows sworn police officers to deploy to field assignments (Davis et al., 2013). Civilian personnel are more often specialists than generalists, which allows them to leverage their skills and talents more effectively. One of the most cited benefits of civilian employees relates to cost (Cox, 2012; Davis et al., 2013; Forst, 2000; Kiedrowski et al., 2019; Quattlebaum & Tyler, 2020). Despite having a relatively comparable salary to sworn personnel, civilian employees do not require an intense training program or an academy and have cheaper fringe benefits, have lower insurance costs, have fewer equipment costs, have lower overhead costs, and are easier to replace than sworn personnel (Davis et al., 2013; Quattlebaum & Tyler, 2020). According to Davis et al. (2013), a police officer in California costs about twice as much as a civilian employee. In the Houston, Texas, Police Department, hiring civilian personnel instead of sworn officers saves the department an estimated \$50,000 per officer (Quattlebaum & Tyler, 2020). The Chicago Inspector General suggested that the department saves between 16 and 41 percent per position through civilianization (Quattlebaum & Tyler, 2020). Civilian personnel are also easier to hire, whereas recruiting for sworn positions has become increasingly challenging in recent years. The applicant pool for civilian employees is larger because there are fewer disqualifying screening factors, less training is required, and there are no licensing requirements (Cox, 2012). Finally, civilian employees can make contributions almost immediately upon hire as opposed to nearly a year later, as is the case with most sworn personnel (Cox, 2012).

### **Drawbacks of civilianization**

Despite the cited benefits of employing civilians in traditionally sworn positions, civilianization is not without limitations. Kiedrowski et al. (2019) cited several limitations related to the hiring and retention of civilian personnel. Because of the nature of the jobs (i.e., specialization), civilian staff have limited career mobility and lower reported job satisfaction and morale than sworn officers. Sworn personnel are likewise not as receptive to civilian staff as they are to other sworn personnel and may not accept them as true partners. Although not inherently a drawback of civilianization, this divide between civilian and sworn staff does present particular challenges that agencies must address in order to expand civilianization, particularly beyond traditionally civilian roles. Some researchers suggest that this divide contributes to tension and may result in turnover among civilian staff (Kiedrowski et al., 2019). In a 2006 study conducted in Britain, civilian employees were surveyed to assess satisfaction with their job functions (Alderden & Skogan, 2014). The survey found that civilians faced widespread bullying by sworn personnel, they expected unequal status to continue, and they felt undervalued relative to their sworn counterparts (Loveday, 2006). The Major Cities Chiefs Association (2009) suggests an increase in the recognition of teamwork and interdependence between civilian and sworn personnel roles to combat these negative perceptions.

## Conclusion

Civilianization in policing has become an increasingly popular way for law enforcement leadership to address issues related to budget and personnel and to increase the efficiency of operations. Substituting civilian for sworn personnel occurs across several domains, including law enforcement leadership, crime and intelligence analysis, research and analytics, investigations, forensics, and community engagement. Although civilianization has numerous cited benefits, especially reduced costs, research on civilianization is dated. In addition, some research suggests that civilian employees face unique challenges in law enforcement positions, which can affect long-term retention rates of civilians. Ultimately, more research is needed to understand how civilians can benefit law enforcement operations and the extent to which specific roles could be effectively transitioned to civilian staff.

## Findings from personnel interviews

A common theme described in the interviews with MPD personnel was challenges related to staffing. Across precincts and departments, the MPD is experiencing attrition in both sworn and civilian personnel. Interviewees have largely attributed the loss of employees to the stress associated with the death of George Floyd, treatment by the community, and post-traumatic stress disorder. Below, we describe some of the sentiments expressed by MPD personnel as they relate to civilian and sworn staffing changes in the department.

Across the five precincts, approximately 420 officers were assigned to patrol in 2021. In 2017, 576 employees were assigned to patrol, 560 of which were sworn. Similarly, the investigations bureau has experienced a loss of 61 investigators from 2017 to present day, bringing total staff in the bureau to 97 (of which 14 are civilian) in 2021. The precincts have tried to maintain programs and the resources they had available, which has become extremely challenging. As the number of sworn personnel decreases, the MPD has come to rely more heavily on civilian personnel. For example, with the disbandment of the Community Engagement Division, civilian staff have taken on some responsibilities related to community outreach. These “community navigators” are responsible for building community engagement and trust on behalf of the department. An additional position, the crime prevention specialist, is tasked with working with the community on implementing crime prevention through environmental design (CPTED) strategies, preparing for crime stat meetings, and reaching out to community members. The City Council has since voted to move these positions outside of the police department, and MPD personnel expressed that they did not understand the reasoning for this decision.

In addition to patrol, the MPD uses civilian personnel in several other functions currently. We highlight these to describe the MPD’s current civilian personnel usage as well as to underscore some of the benefits and drawbacks of civilianization that MPD is currently experiencing. The Business Technology Unit (BTU) has experienced a loss in civilian staff. In 2017, the BTU comprised four sworn and six civilian personnel. The BTU has since lost two civilian staff, who operated as the body-worn camera and taser coordinators in the unit. They also have an open auditor position for a sworn staff

member. The unit is seeking to keep these open positions civilian and not fill them with sworn personnel.

Civilians fulfill several other department functions, including fleet management, evidence property management, crime lab tasking, and central records management. The current fleet manager is a civilian employee and works with the City garage for all department needs related to fleet maintenance. The evidence property room is open Monday through Friday and is run solely by 11 civilian staff. The crime lab has mostly civilian staff as well. In addition, 13 civilian staff comprise the central records division; the department is seeking more civilian personnel for clerical work because of their efficiency.

MECC roles typically filled by civilian staff, such as police dispatch, are also facing major staffing shortages. Police dispatch typically experiences quite a bit of turnover, but staff report that this turnover has increased of late. Dispatch currently has open positions for an interim director, operations manager, and quality assurance specialist. Dispatchers reported that the MECC is never fully staffed on the floor.

The MPD is currently experiencing challenges related to resources and staffing of both sworn and nonsworn personnel. In the face of these shortages, the department has continued its patrol operations in all five precincts, but through our interviews, we repeatedly heard concerns from personnel about understaffing and its effects. Staff report that several programs (including, notably, the Community Engagement and Outreach Bureau) have been disbanded or cut to meet demands for service elsewhere. Although some divisions have been able to use civilian staff to fulfill traditionally sworn positions, the department could potentially employ civilian staff more broadly to address the vacancies that currently exist departmentwide.

## Recommendations

**Recommendation 8: The MPD should continue to expand the use of civilian personnel to fulfill positions as appropriate within the agency, particularly in units such as community outreach, forensics, and information technology.**

**Recommendation 9: The MPD and the City should explore the possibility of implementing civilianization in additional roles outside the patrol function; however, the City and MPD should remain mindful that civilianization outside the roles listed in the previous recommendation is not (yet) widespread and little-to-no information is available about best practices or outcomes and effects. It would be beneficial to both the MPD and the broader field to carefully document such civilianization efforts and perform process and impact evaluations of them.**

**Recommendation 10: The MPD and MECC should develop recruitment strategies specific to civilian personnel and by role and focus area. These strategies should include mechanisms for reaching qualified applicants; considerations for diversity, equity, and inclusion in the hiring process; and proactive methods for promoting the MPD and MECC as progressive, fulfilling**

workplaces with opportunities for career advancement. We recommend reviewing COPS Office publications for specific guidance on these topics.<sup>9</sup>

**Recommendation 11: The MPD and MECC should collect data allowing for workload-based analysis of civilian roles within their organizations to ensure that these positions are staffed appropriately based on organizational priorities and activity levels. Please refer to Recommendation 5 for more details on the type of data required for this task.**

## Alternative response models

### Findings from the field and research

Law enforcement responds to calls for service concerning a wide range of matters. They must be equipped to interact with community members in various physical, emotional, and psychological states. Researchers have studied multiple approaches to both address increasing calls-for-service volumes and ensure that the correct entities are responding to calls for service. Recently, there has been particular attention to the potential to implement alternative response models for law enforcement responses to low-level calls involving property crimes and calls involving individuals experiencing mental health crises in which responders must attempt to deescalate the situation and provide resources. The three most popular alternative response models are crisis intervention teams (CITs), mobile crisis teams (MCTs), and community service officers (CSOs).

The CIT model was developed in 1988 by Dr. Randolph Dupont and Major Sam Cochran of the University of Tennessee, Memphis, and the Memphis Police Department. It consists of officers who are trained in identifying signs and symptoms of mental health conditions and providing individuals with access to mental health services (Dupont & Cochran, 2000). More than 2,700 law enforcement agencies operate a CIT program in some capacity, and many of these provide all officers with basic CIT training (National Alliance on Mental Illness, n.d.). Researchers have shown that this model can lead to improved law enforcement attitudes toward those living with serious mental health conditions (Compton et al., 2006), earlier treatment for those individuals experiencing crisis (Strauss et al., 2005), and cost benefits (Cowell et al., 2004). Furthermore, there is evidence that CIT-trained officers are less likely to use force with individuals experiencing a mental health crisis (Compton et al., 2015).

MCTs are pairs or groups comprised of clinicians, social workers, and/or law enforcement officers who respond to calls involving individuals with mental health conditions. One such MCT model is the Crisis Assistance Helping Out On The Streets (CAHOOTS) program, which began in Eugene, Oregon. Paramedics and mental health crisis workers respond to nonviolent mental health-related calls to assist community members (White Bird Clinic, n.d.). In 2017, this team responded to 17 percent of the City's calls for service, saving it 8.5 million dollars (White Bird Clinic, 2020). Other models pair

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<sup>9</sup> The COPS Office resource page on recruitment, hiring, and retention can be found here: [https://cops.usdoj.gov/recruitment\\_hiring\\_and\\_retention](https://cops.usdoj.gov/recruitment_hiring_and_retention).



an officer and licensed mental health professional. These teams have been shown to be effective in addressing situations with higher potential for violence (Lamb et al., 1995).

CSOs are typically civilians employed by a law enforcement agency who complete tasks that do not require sworn personnel, such as traffic enforcement and report writing. Cities such as Akron, Ohio (Nethers, 2021), Fort Worth, Texas (Gordon, 2021), and Charlotte, North Carolina (Kuznitz & Zhou, 2020) are implementing programs to use civilians to respond to low-level calls for service, such as abandoned cars, burglaries, and noise complaints. Other cities, such as Birmingham, Alabama, also use CSOs to respond to calls involving individuals experiencing mental health crises. One study showed that this model, as compared to CITs and MCTs, has a higher likelihood of resolving situations on scene rather than transporting the individual to a hospital or psychiatric facility (Shapiro et al., 2015).

Recently, with increased scrutiny on law enforcement, other cities have chosen to implement programs that do not involve direct law enforcement engagement at all. For example, the County of Santa Clara Behavioral Health Services Department is currently funding an effort to implement a community mobile response program for individuals experiencing mental health crises. This program would be a completely community-led effort addressing groups with “historical trauma due to police brutality” and those who have been “historically unserved, underserved, and inappropriately served” by police (National Alliance on Mental Illness Santa Clara County, n.d.).

## Findings from personnel interviews

All MPD officers are mandated to receive 40 hours of CIT training in the academy. Interviewees noted that, in the past, the MPD operated a co-responder model unit with Hennepin County’s Community Outreach for Psychiatric Emergencies (COPE) unit and Child Crisis unit. The COPE unit comprised two mental health specialists and one officer who followed up on EDP calls from 9 a.m. to 5 p.m. The unit was later disbanded. MPD personnel perceived that it was disbanded because the involved organizations were wary of association with the MPD, although the MPD spokesperson cited insufficient staffing as the primary reason (Saint Louis, 2021).

More recently, new efforts have been made to incorporate alternative response models. Canopy Mental Health, a local organization comprised of civilians, began responding to EDP calls December 13, 2021. One interviewee expressed that, although they believed this effort is generally positive, a police response is still necessary in some situations. This sentiment reflects aspects of the national conversation about alternate response models.

Interviewees also expressed concerns about the availability of community-based resources for community members experiencing mental health crises. These concerns again mirror challenges identified across the nation in fully implementing alternate response models. Local organizations may not always have the capacity and resources to respond to the number of incidents occurring in a community. Another MPD member shared that surrounding suburbs in Hennepin County have begun embedding social workers into their police departments, a strategy the MPD is also interested in developing. As of mid-2021, the City has allocated funds to a provider, Canopy Mental Health, to respond to certain mental health emergencies. This strategy is currently underway and being evaluated (Jany, 2021).

Consistent with the recurrent theme of understaffing, most interviewees agreed that finding effective methods of diverting calls for which sworn law enforcement response is not necessary, such as calls involving quality-of-life issues and nonviolent mental health crises, would ameliorate burnout and morale issues.

## Recommendations

**Recommendation 12: Recognizing that MPD personnel may still be required to respond to some mental health crisis calls (those with threats of violence or those in which officers respond initially while mental health response teams are dispatched), the MPD should continue to maintain crisis intervention and other applicable training programs and ensure all officers have basic competency in these areas, as is the current practice in the department.**

**Recommendation 13: The City should commit resources to undertake an objective, rigorously designed evaluation of Canopy's mental health crisis team response model, including a process and impact evaluation as well as an analysis of costs and staffing implications.**

## Centralization of specific functions

### Findings from the field and research

Research in policing has generally overlooked the effect of a police department's organizational structure on efficiency of operations. Research has focused on the issue of centralization vs. decentralization as a primary difference in structure. In centralized departments and units, all individuals working in a particular role are typically co-located and report to a single supervisor. For example, crime analysts who work together in the same room producing analytical reports under a single director. In decentralized structures, in contrast, individuals working in a specialized role are typically located in precincts or districts and while they may still report to a centralized supervisor, their day-to-day tasking is at least in part directed by the commander of that district or precinct. For example, crime analysts who work in a precinct, producing analyses specific to that precinct and in response to requests and needs identified by that precinct's command staff and officers.

A great deal of research in this area has focused on investigatory functions and whether centralization or decentralization result in superior outcomes. Thus far, it is unclear whether the centralization of any investigatory functions affects case outcomes, including clearance rates and crime levels (McCluskey et al., 2014). Early research in this field indicated that investigative structures have little effect on case clearance (Kenney et al., 2010). Despite this finding, various policing models support both centralization and decentralization of investigatory functions, and most agencies report employing a centralized model of investigatory functions (Horvath et al., 2001). Manning (1992) and Sanders (1977) recommended centralization of investigative functions because of the breadth of information processing conducted by detectives, whereas the community policing model supports decentralization to allow for stronger community ties and greater information flow. Benefits of centralizing personnel and resources for investigative purposes include enhancing



connections among detectives, increasing information sharing, and possibly improving some investigative outcomes (McCluskey et al., 2014). Although centralization is the norm in policing, an advantage of decentralization is the ability to strategically deploy investigators in the communities in which they operate (McCluskey et al., 2014). Separating investigators by division can also facilitate relationships between investigators, patrol officers, and the community, resulting in increased awareness of the division's crime problems. Although the empirical literature is sparse, a few studies have examined the effect of organizational structure across a range of outcomes.

One of the earliest studies to address centralization and decentralization was the 1975 RAND report on the criminal investigation process. The report was a large multisite study of police departments and their investigative processes. Since then, a handful of studies have examined the state of centralization in policing. Horvath et al. (2001) conducted a national survey of police departments and sought to build on the findings from the RAND report. Horvath et al. (2001, p. 26) found that 83 percent of all agencies had centralized investigative functions, regardless of department size, and that investigators were more centrally located than reported in past studies. Of the agencies that reported decentralization of investigatory functions, 48 percent of investigators were assigned to district stations, 20 percent were assigned to neighborhood substations, and 6 percent were assigned to mobile community substations (Horvath et al., 2001).

McCluskey et al. (2014) examined the restructuring of a decentralized robbery investigative unit to a centralized model in a single department. Specifically, they examined the effect on two outcome measures: case clearance rates and crime reduction, hypothesizing that centralizing robbery investigations would improve both outcome measures because of increased information flow. Following centralization, the researchers observed a statistically significant increase in case clearance rates as well as a reduction in robberies committed. Qualitative data support these findings; robbery investigators felt that centralizing their arrest processes and functions improved investigative efficiency.

Research on police investigations and outcomes is not well represented in the academic literature. Early studies determined that investigative practices have little effect on case outcomes, and later studies have suggested the opposite. One way in which investigations can affect case outcomes is through centralization, but more research is needed to support these findings beyond the study site.

## Findings regarding decentralization of property crimes investigations in the MPD

Unlike the violent crime investigators in the MPD, property crimes investigators are not centralized. Each precinct houses its own property crimes unit as part of the patrol bureau. Property crimes investigators are considered detectives; all hold the rank of sergeant. Property crimes investigations encompass all property crimes, including missing persons and all nonviolent crime.

Like other areas in the MPD, property crime units are severely understaffed, and this understaffing is exacerbated by the low levels of patrol staffing. One interviewee noted that in their precinct, officers have received job offers for other police departments and that the precinct forecasts having

to close the property crimes unit altogether to be able to answer calls for service at the patrol level. Another precinct has just two property crimes investigators, down from 10 before the pandemic and protests. One interviewee suggested that property crimes are a major point of concern in their precinct, with automobile thefts increasing.

Interviewees provided some commentary on the way in which property crimes information is passed to patrol officers in their respective bureaus. If a property crimes investigator wants specific information relayed to patrol, they will send it to an intelligence analyst to be placed in the dib (daily information brief), which is located on the MPD homepage. Supervisors typically go through the dib each day and brief their officers in roll call if something is relevant to the precinct. This information is also accessible via the citywide homepage.

Finally, MPD personnel discussed some of the benefits of a decentralized property crimes unit. Namely, investigators housed in the patrol bureaus have the advantage of knowing their area and community. If an uptick in a property crime type, such as burglaries, occurred, the investigators in that precinct would benefit from knowing the “key players” in that area. Decentralization allows sergeants to become specialists in their communities, whereas a centralized property crimes unit may not afford the same benefits.

## Recommendations

**Recommendation 14: Based on personnel input, the current practice of decentralizing property crimes investigations at the precinct level seems to operate well and have no noted drawbacks. These personnel, as with others at the MPD, are currently challenged by workloads and understaffing. Because the assessment team was unable to conduct a formal staffing analysis for this role, we cannot recommend a specific staffing level quantitatively, but we recommend increasing staffing and continuing to gather feedback from personnel in this role.**

## Enterprise service usage

### Findings from personnel interviews

During our personnel interviews, we inquired about information technology enterprise systems used within the MPD. These included specialized systems used almost exclusively by the MPD and MECC (such as CAD/records management systems) as well as general software deployed on computers and mobile devices. Interviewees shared that they did not struggle with an overlap in existing enterprise systems. An individual shared one example of redundancy (driver’s license information can be extracted from multiple systems) but could not identify others. The assessment team learned that the MPD technology support department has a favorable view of the information technology department within the City of Minneapolis and believes that they work effectively together.

**Recommendation 15: At this time, it does not appear that changes are required regarding enterprise systems used by the MPD. We recommend continuing with current operations and developing a regular cadence for internal reviews of enterprise system use in the future.**

## One- versus two-person patrol car use

### Findings from the field and research

Police department staffing has become a particularly complex challenge in recent years. A shrinking applicant pool, public sentiment toward the police, increasing law enforcement responsibilities, and retention issues have all contributed to this challenge. In addition, departments have struggled to identify the number of officers needed to serve their community and how those officers should be deployed (i.e., one- versus two-officer patrol units). Although staffing analyses can assist agencies with these important questions, many agencies do not have the funds or resources to hire external organizations to conduct them (Wilson & Weiss, 2012). In addition, multiple methods exist for determining department staffing. In the United States, law enforcement traditionally determines staffing models by one of four methods: a per capita approach, minimum-manning levels, authorized or budgeted levels, and workload-based models (McCabe, 2013; Wilson & Weiss, 2012). Per capita models are relatively simple to calculate, and the data are readily available; however, agencies using this method risk a biased determination of department and community needs. The minimum-manning approach requires the department to estimate a sufficient number of patrol officers to maintain officer safety and protect the public, but there are no objective standards for doing so, which could result in underdeployment of officers when workload is high or overdeployment when workload is low. An authorized level approach relies on budget allocations to identify a set number of patrol officers who can be deployed and is typically driven by resource availability. This method reflects a budgeting process rather than objective criteria related to policing operations. Finally, the workload-based approach is more comprehensive in determining staffing models because it relies on demand for service indicators, estimates of future staffing needs, and current levels of activity. Workload-based models can be conducted at every level of the police department and for all functions; however, no universally accepted standard exists for these types of assessments (Wilson & Weiss, 2012).

The debate over whether one- or two-officer patrol units are most beneficial has been a core concern of staffing strategies in policing (Long, 2014). Factors typically considered in this decision include officer safety, community and citizen safety, crime rates, efficiency, cost, and available resources. Studies on patrol staffing are dated; have typically focused on response times, officer perceptions, and staffing models; and have often produced inconsistent results. Carmen and Guevara (2003) examined officer perceptions of the effectiveness of one- versus two-officer patrol units. They found that officers felt that two-officer units should be used at night and in locations where levels of police mistrust are high but that two-officer units do not accomplish twice as much as one-officer units. Officers also expressed that two-officer patrol units are more likely to be injured because of potential distractions and did not agree that one-officer units would result in less backup. Perceived benefits

of two-person units included better on-scene observations and quicker response times. Officers also expressed that two-officer patrols offer greater visibility, are an effective deterrent to crime and disorder, increase police visibility to the community, and provide training opportunities for new officers (Carmen & Guevara, 2003). Additional cited benefits of two-officer cars included the cost-effectiveness of having half as many patrol vehicles and better quality service (Kaplan, 1979).

One-officer units have their own benefits and challenges. In a dated United States Department of Justice study, Kaplan (1979) determined that one-officer units decrease response time significantly because more units are available. Chelst (1981) examined response times between one- and two-officer units and found that one-officer units took 30 percent less time to respond to Type 1 calls and 40 percent less time to respond to Type 2 calls.<sup>10</sup> Kaplan (1979) also found that in San Diego, the risk of injury to an officer was equal between the two patrol types. Regarding cost savings, the study concluded that switching from two- to one-officer units would cost an additional \$2.51 per hour per unit, and the author suggested that maximum use of one-officer units is the favored approach (Kaplan, 1979). Green and Kolesar (1984) conducted a study to estimate the number of one-officer cars required to achieve the same level of performance as two-officer vehicles. Although dated, the study demonstrated that the one-officer program requires 35 percent more patrol vehicles, resulting in 32 percent fewer police officers in patrol vehicles (Green & Kolesar, 1984, p. 977), arguably resulting in cost savings by requiring fewer officers (although the study did not include a formal cost analysis). Law enforcement agencies typically make intuitive deployment decisions, rather than basing deployment decisions on the specific evidence-based pros and cons of one- vs. two-person patrols (Wilson & Weiss, 2012).

## Findings from personnel interviews

The MPD does not have a formal policy mandating one- or two-officer patrol units. Shift supervisors determine patrol car assignments on any given shift. An average shift has at least one two-officer unit on patrol, but the department typically gravitates toward two-officer cars for the night shifts. The department also deploys a two-officer response car that is primarily responsible for responding to officer help calls and assisting other precincts as required. Because of the current staffing limitations, the department is not well positioned to implement and evaluate an overarching policy on one-versus two-officer patrol deployment. Currently, the choice to deploy one- versus two-person patrol units is understandably driven in many cases by staffing levels rather than by procedural or policy-based decision-making. For example, one interviewee discussed how decreased staffing affects his ability to deploy two-officer units. During the week (Sunday through Thursday), the staffing minimum is seven, and on the weekend (Friday and Saturday), it is eight. With four sectors in the precinct and one officer needed at the desk, it is not feasible to send out two-officer units on weekdays. During the weekend, however, the interviewee can manage to deploy 3 two-person units with one officer at the desk.

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<sup>10</sup> In this study, Type 1 calls require only one officer to respond and Type 2 calls require two officers to respond.

## Recommendations

**Recommendation 16:** The MPD should formalize policy and structure regarding the use of two-person patrol units. Committing entirely to one-person or two-person patrols is not a typical practice; instead, the MPD should weigh various factors to develop a policy for when two-person patrols will be used. Specific factors that should be considered are time of day, day of week, and time of year (and related volume and types of responses); location (and related volume and types of responses); community engagement priorities and strategies; officer safety; and special circumstances (such as preplanned events, disasters, and other crisis situations). Such a policy will allow for more predictable staffing requirements and ensure that supervisors and officers understand when they will and will not be assigned in two-person units.

**Recommendation 17:** Based on the determined policy, the MPD should review the staffing analysis and revise the required staffing if needed to adjust for the predicted rates of two-person patrol units. The MPD should ensure sufficient sworn positions are filled to adhere to policy.

## Proactive time proportion

An agency's ability to maintain sufficient staffing levels is critical to its ability to promote public safety. Over the years, agencies have taken different approaches to identify staffing levels, and a critical part of that determination is understanding how officers' time is allocated. Many agencies refer to the time that officers are not using to respond to calls for service as "uncommitted" or "discretionary" time. This time is used for other important activities in law enforcement agencies' missions, most importantly informal nonenforcement interactions with the community that the officers serve. During this time, officers can meet community members, engage with business owners, and learn more about the neighborhoods in which they work. Officers can also use this time to engage in collaborative problem-solving with community members, a model called problem-oriented policing that is central to community engagement according to the COPS Office (2014). Officers also frequently use this time to complete paperwork, review internal memos and communications, and stay apprised of analysis about crime trends and other critical information. Research has found a wide range in the amount of uncommitted time an officer has on their shift by agency and by role. Literature from researchers and practitioners provides data to estimate the appropriate uncommitted time allocation for law enforcement officers.

## Findings from the field and research

Researchers and law enforcement practitioners gather information about how much of officers' time is uncommitted to understand how much time officers have to conduct proactive activities. Research methods to examine the questions of how much time is uncommitted and how much should be uncommitted include examining police CAD data, observing officers, and reviewing police

operational procedures (Lum et al., 2020; McCabe, 2013). Studies have evaluated staff workload, officer deployment, and response times to calls for service.

Proactive policing activities include conducting traffic stops, patrolling high-crime areas, conducting radar checkpoints, and issuing parking violations (Koper et al., 2020; Lum et al., 2020). Note that many agencies define proactive activity differently, which can make it difficult for researchers to properly analyze. For example, some agencies define proactive time as time spent conducting self-initiated activities, and others define it as uncommitted time used to conduct administrative work or meet with other officers (Cordner, 1981; Wilson & Weiss, 2012).

The National Academies of Sciences Committee on Proactive Policing has also developed a definition for *proactivity*, defining it as “strategies that have as one of their goals the prevention or reduction of crime and disorder and that are not reactive in terms of focusing primarily on uncovering ongoing crime or on investigating or responding to crimes once they have occurred” (Weisburd et al., 2019). Researchers have found that many agencies have different guidance for officers on how they should be spending their proactive time, whereas other agencies provide no guidance at all (Koper et al., 2020).

Overall, a significant portion of officers’ shifts is spent on activities other than responding to calls for service or doing administrative tasks. Research has shown that on average, officers spend about 20 percent of their total shift time responding to calls for service (Famega et al., 2005; Koper et al., 2020). One study found that about 74 percent of an officer’s patrol shift is spent on activities other than responding to calls for service (Famega et al., 2005). Another study found that about 54 percent of officers’ patrol shifts did not involve responding to calls for service (Cordner, 1981).

Although studies find a wide range in the amount of officers’ uncommitted time during patrol, they do offer guidance as to how much of an officer’s time should be uncommitted. The ICMA published a report on police department staffing suggesting that no more than 60 percent of available patrol officer time be spent responding to calls for service, which includes the time responding to the call as well as associated activities (driving time, necessary paperwork), referred to as the Rule of 60.<sup>11</sup> We use this same definition in our staffing analysis, to the degree possible (if some officers make a practice of closing the call before completing paperwork, we are not able to discern that in the data). The report adds that the remaining 40 percent of the time should be discretionary time for officers to be available to address community problems and respond to major emergencies.

Other reports on officer staffing have suggested that about one-third of officers’ time be uncommitted time for proactive patrol activities (Koper et al., 2020; Wilson & Weiss, 2012). Another one-third of time would be obligated to administrative tasks, with the remainder available for responding to calls for service.

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<sup>11</sup> ICMA’s analysis actually proposes two interrelated “Rules of 60”; the assertion that 60 percent of an officer’s time should be uncommitted is the one typically referred to in common parlance. The other suggests that 60 percent of department personnel should be assigned to patrol duties.

Having agencies, researchers, and practitioners understand the appropriate time allocation for officers will help organizations properly staff law enforcement personnel. During a time when many agencies struggle with staffing challenges, understanding the necessary time allocation is more critical than ever. Research has shown that officers often have a large amount of time that is uncommitted to responding to calls for service. Through interviews, and as we have noted throughout this report, officers reported having very little proactive time available currently, and we see this trend reflected in decreasing levels of self-initiated activity (see Section 3).

## Recommendations

**Recommendation 18:** The MPD should determine an appropriate level of discretionary time, and ensure staffing levels sufficient to support patrol officers in having that level of discretionary time on most or all shifts. It may be the most appropriate to allow a relatively higher level of discretionary time for shifts covering late afternoon and early evening (when most community engagement activities take place) as opposed to overnight and early in the morning. In addition, the MPD may wish to prioritize additional discretionary time availability in the near term as the agency focuses on reprioritizing community engagement and relationship building.

**Recommendation 19:** As the MPD is able to return to higher levels of discretionary time and, in turn, increased levels of proactive officer activity, it is critical to document and assess the use of discretionary time. To that end, the MPD and MECC should collaboratively develop processes and procedures to assign a priority code to these activities and create protocols for dispositions, metrics for effectiveness, and protocols for supervisory oversight. These are necessary to verify that these activities occur and have the desired effects.



## Section 3: Problem Nature Code Analysis

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In this section, we present analysis and findings related to calls for service (including 9-1-1 calls), with specific attention to the use of PNCs to categorize calls for service. Using five years of calls-for-service data from 2016 through 2020, we used an exploratory descriptive approach to understand responses to incidents, MECC coding of PNCs, and the relationship between such variables of interest as response times, priority levels, incident lengths, and other incident characteristics. An exploratory descriptive approach explores summary and cross-tabulation data to uncover trends and associations that have practical and policy relevance, letting the data drive the analysis. Exploratory descriptive approaches are commonly used in situations in which describing complex data is of primary importance and comparative statistical analysis is not appropriate. They are also used to answer questions that are broader and more open ended than other quantitative research questions. They are also appropriate when the analysis will likely uncover more questions during the process of exploring the data. This in comparison to quantitative statistical analysis where an analysis plan is developed in advance and applied.

To complete the analysis, our assessment team performed several data cleaning tasks on the five years of data. Note that each individual incident could have multiple lines of data in the original dataset—we distinguish between “incidents” and “incident lines” to reflect these two different ideas. In the PNC analysis, we are interested in incidents because each incident has a single PNC that is subsequently duplicated across incident lines. Thus, retaining all incident lines would misrepresent the actual distribution of PNCs. Therefore, the numbers presented in this section largely do not align with those from the staffing analysis, in which incident lines were important to account for multiple officers arriving on scene in multiple vehicles. The following is a summary of the cleaning tasks performed on the initial 1,794,408 lines of data:

- We removed 915,146 incident lines in which the response was noted to be a secondary vehicle responding (because we are primarily interested in the first arriving patrol unit in our analyses) or for which no vehicle responded to the incident. In other words, we retained only one line per incident, the line including information about the first car to respond to the scene, and we did not retain lines in which no car ever responded.
- We removed an additional 1,733 incident lines that shared the same incident number with another line, retaining whichever line contained the first unit on scene based on the arrival time.
- We removed 18 incident lines that had no incident number identifier.
- We appended vehicle data (which contains on-scene arrival time and call cleared times) to the calls-for-service data; we note that 129,731 calls-for-service incidents do not have associated vehicle data. This lack of vehicle data may reflect data quality issues, including the possibility of misentered incident numbers (because that is the field we used to merge



these datasets). We were still able to analyze these lines in nearly all the below sections because the only major variable we use from the vehicle dataset is the call cleared time.

- We calculated variables to measure the time from initial incident identification (e.g., 9-1-1 call taken) until a unit arrived on scene and the time from a unit arriving on scene until the call was cleared. After performing these calculations, we replaced any negative calculated time with a missing value; there were 946 and 20,461 instances of negative calculated time, respectively. In our experience, these typically represent data entry errors.

Taken together, the rate of missing values and removed data because of inappropriate values (like negative times) is very low compared to the overall number of calls for service documented during the five-year period—less than 5 percent for each type of data irregularity except the vehicle data gaps (which, as noted above, do not affect all analyses). We have no reason to believe that the incidents completely removed from the dataset vary systematically from those included (the probability of a typo while entering an incident time seems unlikely to vary by PNC, for example). We have high confidence that the analysis on the cleaned data is accurate and representative of MECC incident data collection and response.

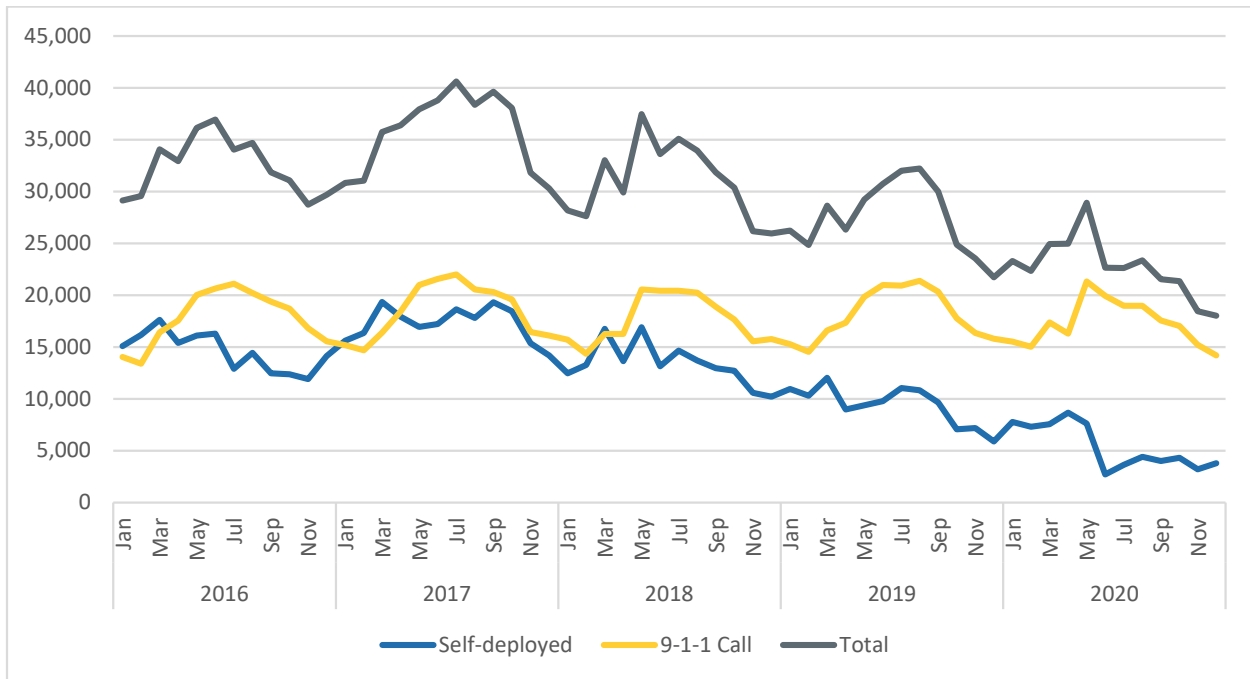
## Basic characteristics and trends

Over the five-year period analyzed, the MECC cataloged information for approximately 1.79 million incidents.<sup>12</sup> Figure 12 shows the distribution of calls for service over time, broken out by those prompted by 9-1-1 calls and those that represent self-deployments. The trend in 9-1-1 calls shows the typical seasonal trend with higher call rates in the summer months, at steady average annual rates over the five-year period. Self-deployments trend downward over the five-year period, particularly from mid-2018 onward, and this trend is also reflected in the total calls-for-service trend. Over the entire period, 60 percent of calls for service were produced by 9-1-1 calls.

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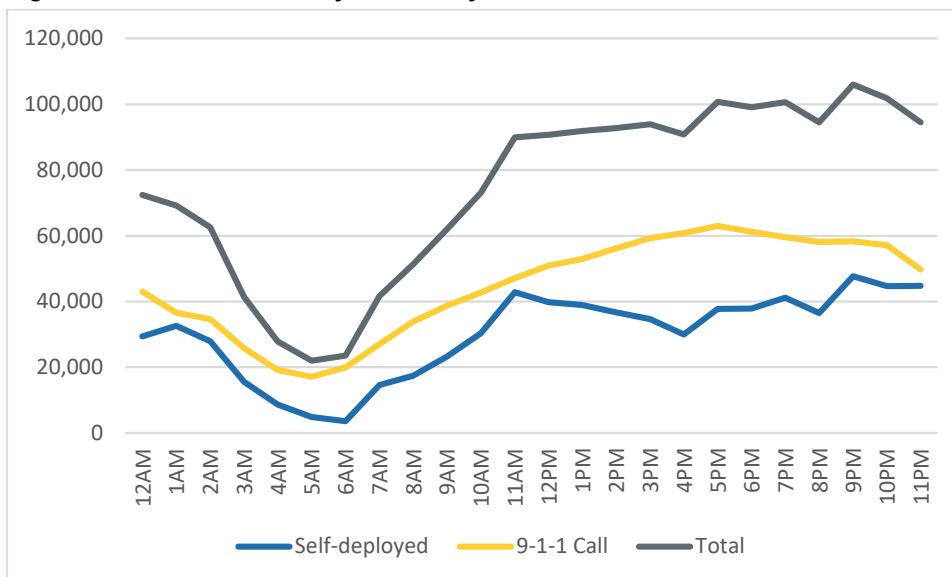
<sup>12</sup> We provide an approximate figure here because our data cleaning procedures to remove incidents with multiple lines of data (produced, for example, when multiple patrol units are dispatched to an incident) may have introduced minor errors in the complete count of incidents. These are so small in number that they do not affect the overall analysis and findings.

**Figure 12. Calls for service over time**



In Figure 13, we present calls for service by time of day, also broken out by call type. As in most agencies, calls for service are lowest in the early morning hours and peak in the late afternoon into the evening. (Note that this figure re-presents information from Figure 2 in a different format, broken out by type of call for service.)

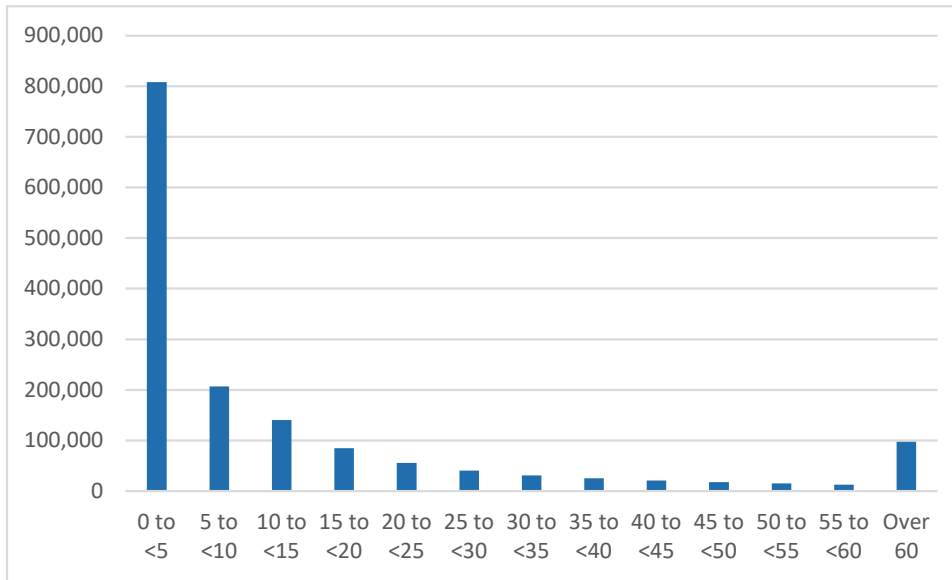
**Figure 13. Calls for service by time of day**



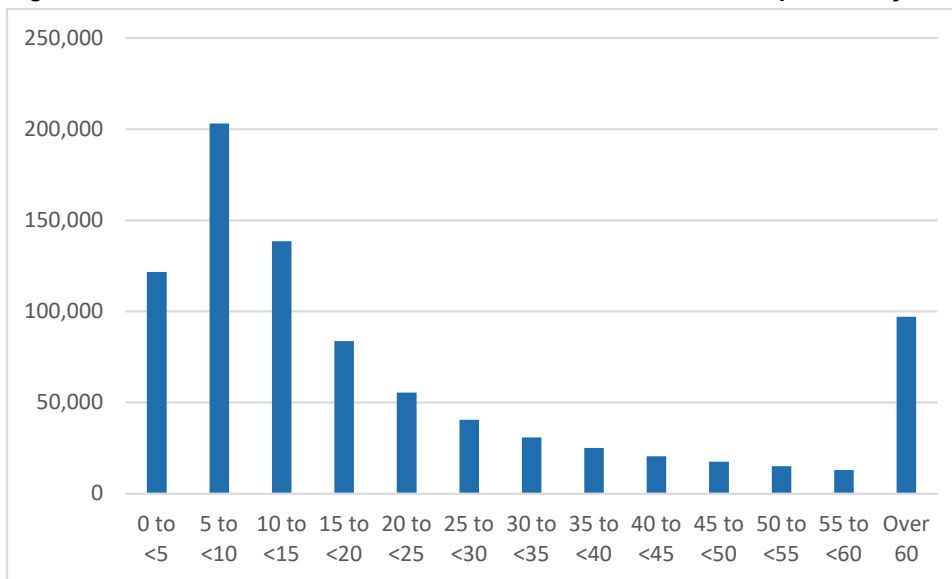
For incidents in which a unit did arrive on scene (87 percent of incidents), the average (mean) time from the initial call intake until a unit arrived on scene is 15 and a half minutes; this time is 27.8 minutes for calls that originate from 9-1-1 calls. Figure 14 presents the breakout of response times for all calls, whereas Figure 15 displays average response times for calls originating from 9-1-1 only.

As expected, when considering all calls, the most common response time is less than 5 minutes, whereas when considering 9-1-1 calls only, the most common response time is between 5 and 10 minutes. The assessment team notes that some incidents have extremely long response times (ranging into months), and these outliers do influence the mean. Unfortunately, it is impossible to discern from the data whether these calls reflect data entry errors or legitimately lengthy response times, and we cannot determine an appropriate cutoff point beyond which to discard these data.

**Figure 14. Time from intake to arrival on scene in minutes, all calls**

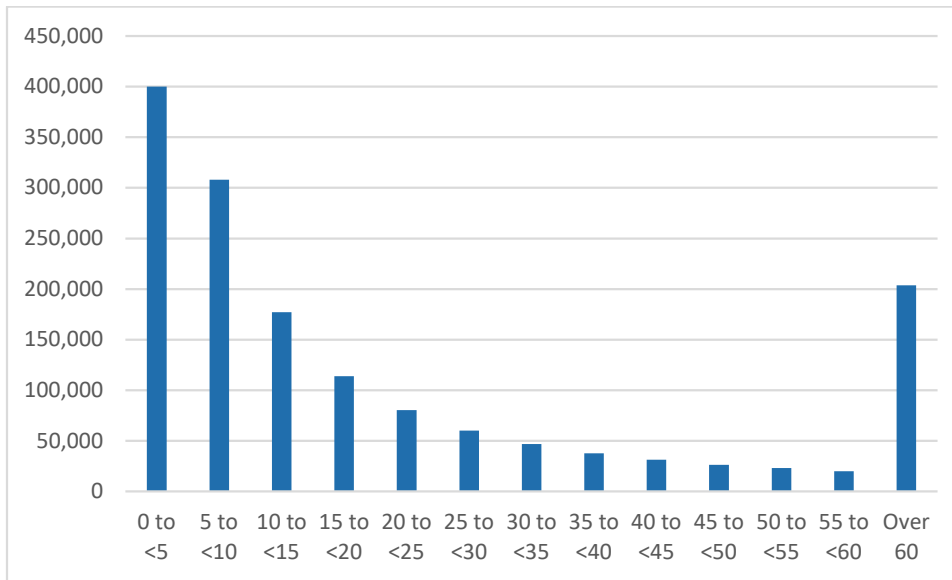


**Figure 15. Time from intake to arrival on scene in minutes, 9-1-1 response only**



For incidents in which a unit did arrive on scene, the average time from arrival until the call was cleared is 30.9 minutes. Figure 16 presents the breakout of time to clear a call from arrival.

**Figure 16. Time from arrival on scene until call cleared in minutes**



Taken together, the analyses above present a compelling pattern, in that many calls are both arrived to and cleared relatively quickly but a substantial number require more than an hour for response time or clearing. This pattern suggests the need to disaggregate the data to understand which types of calls are driving the two ends of the data, which we proceed to next.

## Problem nature codes

During the analyzed time period, the MECC used 167 PNCs as the final code associated with a call. In this section, we use both the initial codes and the final codes at different points (unlike the staffing analysis, which relies solely on initial codes). We are primarily interested in final codes because these reflect the most accurate assessment of the incident type (e.g., the assessment by officers after arriving at and assessing the scene). However, we also include analysis comparing initial to final codes.

By their nature, PNCs are extremely specific. This specificity is important because these codes help prepare officers for the situation they are responding to and help Minneapolis first responders understand what types of calls for service they encounter. Some codes are used quite rarely (e.g., Aircraft Crash in City) but are still important to classify separately. In addition, certain closely related PNCs, such as Stabbing and Stabbing Report Only, are important to categorize separately because they entail different response deployments—police only versus police and emergency medical services.

## Least frequently used codes

Our assessment team reviewed the PNCs currently in use and did not identify any obvious duplication in codes. We did identify some low-use codes (50 or fewer uses in five years) that should be considered for elimination, summarized in Table 7. Not all low-use codes should be considered for

elimination; codes that are used for particularly severe or specific incidents should be retained, as we note in the table. We also acknowledge that we do not have intensive working knowledge of City operations, and there may be reasons to retain these codes despite their low overall use in incidents. The ultimate determination to remove codes should be made by City staff with this working knowledge.

**Table 7. Low-use problem nature codes**

Problem Nature Code <sup>a</sup>	Times Used	Suggested Action	Reasoning
Barge(s) Loose (PF)	1	Retain	Severity of incident
Shortness of Breath (FE)	1	Remove	Lack of use suggests these incidents are typically coded under another code
Aircraft Alert - Standby (PFE)	2	Retain	Part of a code series
Bicycle Violation (UM)	2	Combine	Several codes for university response are similar in nature and could be combined into fewer categories in MECC's data system
Aircraft Crash in City (PFE)	3	Retain	Severity of incident
Aircraft Alert - Notify (PFE)	4	Retain	Part of a code series
BDS Alert (Main PO) (PFE)	4	Retain	Severity of incident
ESP Activation (P)	4	Retain	Severity of incident
No Tag (UM)	4	Combine	Several codes for university response are similar in nature and could be combined into fewer categories in MECC's data system
Pedestrian Contact	5	Remove	Lack of use suggests these incidents are typically coded under another code
Skateboarder Violation (UM)	6	Combine	Several codes for university response are similar in nature and could be combined into fewer categories in MECC's data system
Explosion - Vehicle (PFE)	7	Retain	Severity of incident
Wires Down (F)	8	Retain	Severity of incident
Rescue - Bldg Collapse (PFE)	9	Retain	Severity of incident
Drowning (PFE)	10	Retain	Severity of incident and custom response requirements
Alcohol Violation (UM)	11	Combine	Several codes for university response are similar in nature

Problem Nature Code <sup>a</sup>	Times Used	Suggested Action	Reasoning
			and could be combined into fewer categories in MECC's data system
Explosion - Structure (PFE)	11	Retain	Severity of incident
Driving While Intoxicated (UM)	27	Combine	Several codes for university response are similar in nature and could be combined into fewer categories in MECC's data system
Overdose - Accidental (PE)	35	Retain	This code differentiates from overdoses requiring police response
Animal Fight (P)	39	Retain	Custom response requirements
Harassment (UM)	46	Combine	Several codes for university response are similar in nature and could be combined into fewer categories in MECC's data system
Robbery of Biz - Report (P)	46	Remove	Lack of use suggests these incidents are typically coded under another code
Non-Vehicular Accident (UM)	50	Combine	Several codes for university response are similar in nature and could be combined into fewer categories in MECC's data system
SAFE (P)	50	N/A	This code has already been removed

<sup>a</sup> The abbreviations following each PNC refer to the default first responders for the PNC: P represents police, F represents fire, E represents emergency medical services, and UM references university response.

## Most frequently used codes

Another consideration when implementing coding structures is whether some codes are used too frequently or lack sufficient specificity. Table 8 presents the most frequently used codes, those with more than 25,000 uses in the five-year analysis period. Most of these codes are at an appropriate level of specificity—they represent call types commonly used in many law enforcement agencies. We do suggest revising the Emotionally Disturbed Person code to reflect emerging preferred language. Although this term was once common parlance in law enforcement agencies, an increasing number are adjusting to use terms such as “individual in mental health crisis” instead. A working group

including MPD, Minneapolis Fire Department, EMS, and MECC personnel is currently working to address this issue.

**Table 8. Frequently used problem nature codes**

Problem Nature Code	Times Used
Directed Patrol (P)	229,511
Business Check (P)	125,032
Traffic Law Enforcement (P)	107,452
Disturbance (P)	77,314
Suspicious Person (P)	69,478
Check the Welfare (P)	69,384
Unwanted Person (P)	60,729
Suspicious Vehicle (P)	55,547
Foot Beat (P)	48,096
Miscellaneous (P)	47,569
Domestic (P)	45,139
Unknown Wireless/Cell Phone(P)	44,827
Property Damage Accident (P)	42,280
Unknown Trouble (P)	39,171
Theft - Report Only (P)	36,037
Audible Business Alarm (P)	29,695
Emotionally Disturb Person (P)	28,443
Down Outside-One (PE)	26,771
Property Damage/Hit & Run (P)	26,765
Assist EMS Personnel (P)	25,985

## Use of the “Miscellaneous” code

We also note that the Miscellaneous PNC is used very frequently in the current coding structure. Although this frequent use is typical in many agencies, it hinders complete analysis of calls-for-service data. To better understand the use of this code, we cross-tabulated it against other characteristics of the incidents. Table 9 summarizes these tabulations. Of particular note is that most uses of the Miscellaneous PNC are for non-9-1-1 call incidents and that nearly a quarter of Miscellaneous PNC calls result in a call disposition of “Report,” with an additional 17 percent resulting in a call disposition of “Information.” We suggest that the City determine a method to capture, at a minimum, these two categories of responses into a separate problem nature code or codes to more accurately reflect the incident characteristics.

**Table 9. Characteristics of the Miscellaneous problem nature code’s use**

Characteristic	Percentage
Related to a 9-1-1 call	19%

Characteristic	Percentage
Unit arrived on scene	80%
Call cancelled	12%
Call disposition: Report	25%
Call disposition: Information	17%
Call disposition: All OK	14%
No call disposition	11%

In reviewing the frequency of code use, our main takeaway is that overall, the PNC list seems to be well crafted to capture incident characteristics, although we also understand that dispatchers find the number of different codes somewhat burdensome (see Section 4 for more information on this issue). For data quality reasons, we always encourage agencies to reduce use of “other” and “miscellaneous” categories, and we do here as well. This analysis informs several of our recommendations below.

## Problem nature codes and other characteristics

The MECC codes both an initial PNC and a final PNC for each incident. The initial PNC and final PNC are the same 88 percent of the time. We consider here the 12 percent of incidents in which the PNC does change.

Of those incidents with a change in PNC, 70 percent are 9-1-1 call responses. This is somewhat higher than the overall ratio of 9-1-1 call incidents, which makes sense contextually. Officers are likely able to classify incidents more accurately on first sight than community members.

First, we consider which PNCs, when coded initially, are the most commonly changed.<sup>13</sup> Nine PNCs are changed 50 percent of the time or more frequently, as shown in Table 10. Many of these codes are also infrequently used, with the exception being the code for Possible Personal Injury Accident. This code is deliberately included in the system for accidents in which the call taker cannot discern whether emergency medical response is required and a police unit is dispatched to make that determination. The code is then changed if necessary. The other most frequently used and changed code is Referral; this code is now deprecated (i.e., no longer in active use but retained in the CAD system for historical data). Although these codes are often changed, we do not recommend changes to the codes beyond those already noted above because the more commonly used are being used appropriately as temporary placeholders and the others are infrequently used.

<sup>13</sup> There are 263 administrative use PNCs used only for initial coding that are changed 100 percent of the time to the more general form of that code. Here we omit those codes from analysis. We also omit the On Site PNC, which is a placeholder during initial police response for self-deployed calls and is updated once the officer discerns the nature of the situation.



**Table 10. Frequently changed initial problem nature codes**

Initial Problem Nature Code	Times Used	Percent Changed
Aircraft Crash in City (PFE)	10	80%
Driving While Intoxicated (UM)	10	80%
Alcohol Violation (UM)	20	75%
No Tag (UM)	13	69%
Drowning (PFE)	28	68%
Aircraft Alert - Standby (PFE)	5	60%
Poss Personal Injury Acc (P)	8,695	59%
Referral (P)	995	56%
Pedestrian Contact	10	50%

Next, we consider the most common combinations of initial and final PNCs. (A complete cross-tabulation is available upon request; here we feature just the most common combinations for the sake of space and readability.) In this analysis, we again omit the codes noted in footnote 13 as well as those in Table 10 because we have already explored these.

Table 11 summarizes the most common pairs among changed PNCs. Several notable patterns stand out in this table. First, the Miscellaneous code again appears frequently, with the final code being Directed Patrol. We suggest that the MECC and MPD review communication protocols associated with officers going on directed patrol to reduce or eliminate initial coding of that activity into the Miscellaneous PNC. Similarly, Foot Beat is commonly reclassified to Directed Patrol, suggesting the need for similar clarification.

The Domestic Abuse-In Progress code is often recoded to other PNCs in the final assessment. Most commonly it is recoded to Domestic, which presumably reflects that the incident is no longer in progress, and in other cases it is recoded to Unwanted Person or Disturbance. Similarly, Unknown Trouble is frequently recoded to Domestic, likely because the initial 9-1-1 caller is uncertain of the nature of a disturbance they are reporting and officers are able to clarify upon arrival.

Another frequently recoded code is Emotionally Disturbed Person being revised to Check the Welfare. The assessment team imagines that this change again reflects an initial report from a community member in which the situation is ultimately determined not to involve a mental health crisis by responding officers, who then recode the incident to the broader welfare check category.

Lastly, two incident types are commonly recoded to Disturbance: Assault in Progress and Fight. This finding seems to represent a problem being reclassified to a broader category from a more specific one, which is the reverse of what is typically expected. We encourage the MECC and MPD to ensure that these recodings are not resulting in loss of specificity because Disturbance is defined in the PNC index as for use when another more specific code is not available.

**Table 11. Comparison of initial and final problem nature codes for most frequent combinations**

Initial Problem Nature Code	Final Problem Nature Code	Count
Domestic Abuse-In Progress (P)	Domestic (P)	9,899
Assault in Progress (P)	Disturbance (P)	2,695
Miscellaneous (P)	Directed Patrol (P)	2,234
Property Damage Accident (P)	Property Damage/Hit & Run (P)	2,193
Domestic Abuse-In Progress (P)	Unwanted Person (P)	1,743
Domestic Abuse-In Progress (P)	Disturbance (P)	1,564
Unknown Trouble (P)	Domestic (P)	1,523
Emotionally Disturb Person (P)	Check the Welfare (P)	1,448
Foot Beat (P)	Directed Patrol (P)	1,284
Fight (P)	Disturbance (P)	1,261

## Priority levels analysis

We also consider the priority levels assigned to calls. Each PNC has an associated priority level, documented in MECC policy. Priority 0 calls are the most urgent, and priority 3 calls are the least. A priority designation of 9 is used as a placeholder. We restrict this analysis to calls in which (1) the incident was initiated by a 9-1-1 call (because response times for self-initiated calls are substantively different), (2) a unit arrived on scene in response to the incident, and (3) the initial priority code was between 0 and 3. Here we define response time as the number of minutes from the initial call being received until a unit arrived on scene.

As expected, most responses are for priority levels 1 and 2, and the response time is slower for lower priority calls (Table 12).

**Table 12. Priority level frequency and response times**

Initial Priority Level	Count <sup>a</sup>	Average Response Time (minutes)
0	1,294	6
1	384,825	12
2	376,432	38
3	88,368	49

<sup>a</sup> Note that counts in this section differ from other analyses because of the data restrictions listed above.

## Response time analysis

We next consider whether there are particular PNCs for which response times are considerably greater or less than would be anticipated based on their priority level. For this analysis, we further limit our sample to PNCs that were used at least 1,000 times over the five-year period because it would be difficult to disentangle patterns when reviewing every PNC. We also limit to incidents in

which the PNC was the same in the initial and final designation because these incidents offer the simplest interpretation of any observed differences in response times.

After comparing averages by PNC to the overall average for the designated priority level that the PNC falls within, we found 13 PNCs with unusually shorter or longer response times, defined as response times that are either less than 50 percent or more than 150 percent of the average for their priority level. For example, our analysis captured PNCs designated as priority level 1 that had a unit on scene in less than 6 minutes or more than 18 minutes.

As seen in Table 13, most of the PNCs with substantively different response times have an initial priority level of 1. Most of these reflect shorter response times than the average, which is not concerning, particularly for level 1 calls. However, the Domestic PNC has an average response time that is more than twice the average for a priority level 1 call. We suggest that the MPD review this discrepancy, identify the underlying cause, and address it to ensure that these calls are responded to efficiently.

Among the other calls, the Burglary Business – Report PNC is noted as priority level 2 but typically takes more than an hour to respond to, considerably longer than the average response time of 38 minutes for priority level 2 calls. Based on the PNC description, this code is used to collect information about a burglary at a business that has already taken place. This PNC might be better aligned with priority level 3, given it is not a crime in progress and could be handled on a longer time frame.

**Table 13. Problem nature codes with response times notably above or below the average for their assigned priority level**

Initial Priority	Problem Nature Code	Average Response Time (minutes)	Count	Average Time for Priority Level	Difference	Direction
1	Assist EMS Personnel (P)	6.7	14,970	12	-5.3	Shorter
1	Assist Fire Personnel (P)	7.1	2,082	12	-4.9	Shorter
1	Domestic (P)	26.8	1,114	12	+14.8	Longer
1	Down Outside-One (PE)	7.5	15,640	12	-4.5	Shorter
1	Down Outside-One w/Fire (PFE)	7.2	4,229	12	-4.8	Shorter
1	Holdup Alarm (P)	5.9	1,906	12	-6.1	Shorter
1	Overdose-Accidental (E)	5.9	3,308	12	-6.1	Shorter
1	ShotSpotter Activation (P)	7.6	4,818	12	-4.4	Shorter
1	Slumper w/Fire (PFE)	7.7	1,174	12	-4.3	Shorter
2	Burglary Business - Report (P)	79.4	1,541	38	+41.4	Longer

Initial Priority	Problem Nature Code	Average Response Time (minutes)	Count	Average Time for Priority Level	Difference	Direction
2	Suspected Prostitute (P)	25.1	1,217	38	-12.9	Shorter
3	Drunk/Intoxicated Person (P)	29.8	2,128	49	-19.2	Shorter
3	Miscellaneous (P)	29.3	2,991	49	-19.7	Shorter

## Call length analysis

Another topic of interest when considering PNCs is the time typically associated with clearing a call for different codes. Understanding this time can help agencies understand staffing requirements and identify call types that could most affect staffing needs. For this analysis, we consider the final PNC and restrict the analysis to those incidents in which a unit did arrive on scene and clear the call. We analyzed the time from arrival on scene until the call was cleared in minutes, on average, by PNC.<sup>14</sup> As noted above, the average call clearance time is 30.9 minutes. When considering the time by PNC, the PNC with the longest average time to clear—1,020 minutes—is for structure explosions, of which only five occurred in the five-year period. The shortest average time to clear for a PNC that is not procedural or a university code is for firecrackers, averaging 9 minutes to clear the call across 1,256 incidents.

Table 14 summarizes the PNCs associated with the longest times to clear the call. We include the 17 PNCs that last more than two hours on average.

Calls for mental health response are of particular interest in terms of time spent on the call. Based on these data, the MPD spends, on average, 40 and a half minutes on calls under the Emotionally Disturbed Person PNC, which is longer than the average call length by about 10 minutes. Although this is not a dramatic difference from the average call, the MPD responded to more than 25,000 of these calls in the five-year period, representing more than 3,000 hours of officer time. We encourage the City to continue considering alternate response models, as described in Section 2, that could reduce officer time spent dispatched on these calls.

**Table 14. Longest problem nature code times to clear call**

Problem Nature Code	Average Time to Clear Call (minutes)	Count
Explosion-Structure (PFE)	1,020	5
Personal Injury w/ Trap (PFE)	308	100
Shooting (PFE)	280	1,196

<sup>14</sup> Note that this time is definitionally different from the time spent on a call used in the staffing analysis, which also considered the time the officer spends in transit. Here we are concerned not with officer time spent in total but with the time spent actually responding to the call and not in transit to the call.

Problem Nature Code	Average Time to Clear Call (minutes)	Count
Police Event (P)	230	383
Motor Vehicle Chase (P)	195	670
Driving While Intoxicated (UM)	188	25
Dead Person (P)	169	2,532
Officer Needs Help (P)	146	700
Stabbing (PE)	135	1,019
Chase on Foot (P)	135	623
Crim Sex Conduct/Report (P)	134	2,266
Shooting Report Only (P)	132	483
Crim Sex Conduct (P)	132	859
High Risk Warrant Entry (P)	129	1,401
Robbery Dwell in Progress (P)	123	133
Stabbing Report Only (P)	123	259
Robbery of Biz in Progress (P)	122	549

## Recommendations

**Recommendation 20:** The MECC should revise the Emotionally Disturbed Person PNC title and description to reflect recent changes in preferred language for describing these situations (e.g., “Individual Experiencing Mental Health Crisis”). These changes should be reflected throughout policy and practice in both MECC and MPD documents. A working group including MPD, Minneapolis Fire Department, EMS, and MECC personnel is currently working to address this issue.

**Recommendation 21:** The City should work to better classify incidents currently captured in the Miscellaneous PNC, particularly those incidents with dispositions of “Report” or “Information.” This practice would considerably reduce the use of the Miscellaneous code.

**Recommendation 22:** The MECC and MPD should review communication protocols associated with officers going on directed patrol to reduce or eliminate initial coding of that activity into the Miscellaneous PNC.

**Recommendation 23:** The MPD should review its response process for Domestic PNC calls, identify the underlying cause for the lengthy response time for these calls, and address it to ensure that these calls are responded to efficiently.

**Recommendation 24:** The City should consider recoding the Burglary Business – Report PNC to priority level 3.

**Recommendation 25:** Community members are generally satisfied, in nonemergencies, with a predictable response rather than a rapid response. Whenever possible, the MECC should

have protocol and a script to provide callers with an estimate of the response time given call prioritization. This practice can also work well in parallel with alternative response models (such as self-reporting of minor vehicle accidents and property crimes).

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# Section 4: Business Process Analysis

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## Introduction

The success of the MPD Patrol Bureau relies on efficient and effective administrative and operational policies, especially when operating with a persistent reduction in staffing levels. These policies include the processes for responding to calls for service, assigning patrol officers across police precincts, using specialty units, and initiating investigations and gathering evidence at crime scenes. It is important to understand the context and workload of these administrative and operational policies. Understanding these processes, including “pain points” within them that lead to frustration or inefficiencies, is foundational to developing actionable and practical recommendations and improving the MPD’s effectiveness.

## Approach

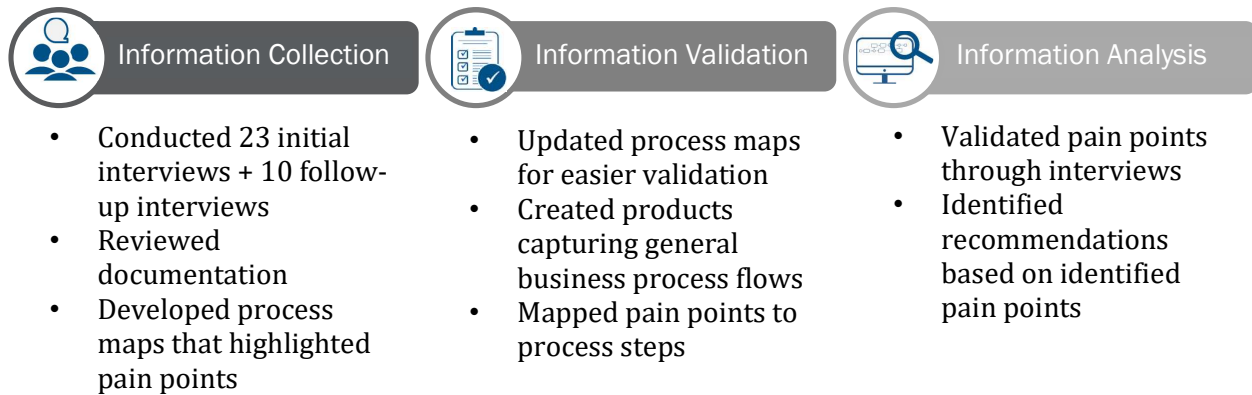
As described in Section 2, the assessment team conducted 23 semi-structured interviews in August 2021 with representatives from the MPD and MECC to develop an understanding of formal police and dispatch policies and practices. These interviewees included individuals at all levels, from the Deputy Chief to line officers, as well as MECC managers and dispatchers. We also conducted 10 follow-up semi-structured interviews in December 2021 with a similar range of staff. The follow-up interviews were specifically focused on business processes and pain points, supplementing the information procured during the original round of interviews. As noted above, the ongoing COVID-19 pandemic forced the assessment team to conduct all original and follow-up interviews virtually, in accordance with national public safety guidelines. We used both Microsoft Teams and Zoom for the interviews.

CNA used qualitative thematic analysis principles to review the interview notes and identify themes specific to business processes and pain points. These themes coalesced around four primary groups of processes and pain points: MECC/dispatch, patrol, specialty units, and investigative functions. The pain points we identified make delivering services more challenging for MPD and MECC personnel. Some of the identified pain points also highlight the emotionally challenging aspects of their work.

CNA used a repeated approach to collect, validate, and analyze the processes used by MPD staff. We reviewed the documents provided by the MECC and MPD to create an initial business process diagram. We supplemented and augmented this diagram using information on these processes obtained from the interviews with those directly engaged in them. The resulting business process highlights the general flow of activities and information from an initial call through the completion and closeout of investigative functions, with the pain points identified at the applicable steps along the process. Figure 17 provides an overview of the steps involved in our approach.



**Figure 17. Business process analysis approach**



## Findings

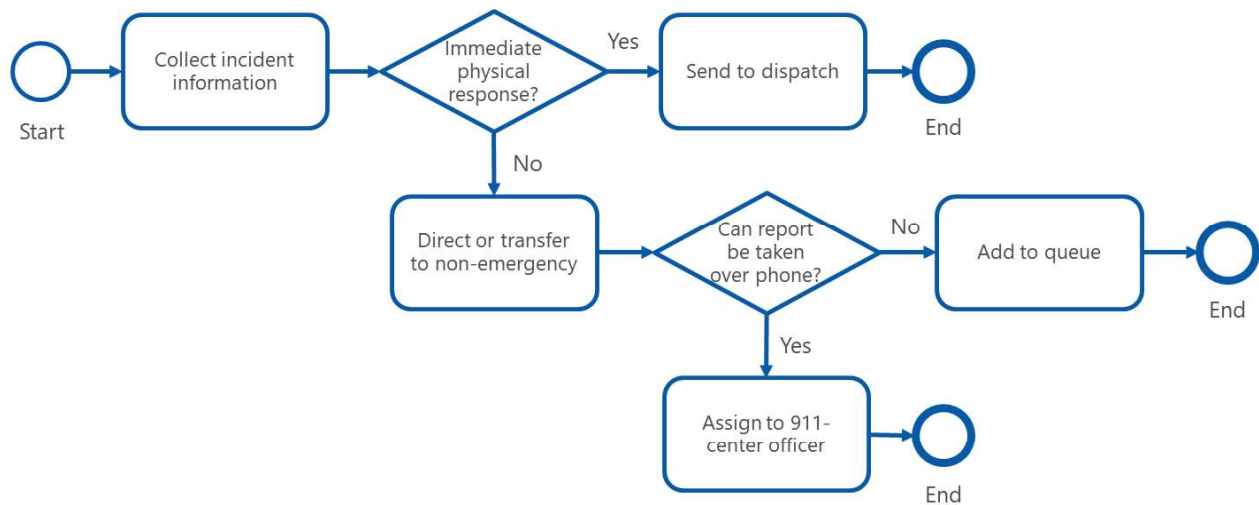
The pain points are aligned to where in the business process analysis they were originally identified. For each section, we present a high-level business process and the pain points identified from the interviews. It is worth emphasizing that staffing shortages were identified as an issue across the board. Every MECC and MPD interviewee noted the low levels of staff they are experiencing and explained that this understaffing is significantly affecting their ability to perform efficiently and effectively. However, CNA also identified other pain points from these interviews, which are described in the following sections.

### MECC

#### Call taker

The role of call taker is relatively new in the MECC; this role used to be part of the general dispatcher duties. Figure 18 provides the high-level business process reviewed for call takers.

**Figure 18. Business process flow for call takers**



### Summary of pain points

**Collecting incident information from calls for service.** As expected, the process for responding to calls can vary substantially based on the nature of the call and the needs of the caller. There are some specific challenges related to collecting incident information. As a result, individual call takers must make a lot of inferences to get the information necessary for assessing priority levels and transferring calls to dispatch. For example, call takers must determine whether the call requires a uniformed police response, while also addressing the caller's stated preferences for or against such a response. Also, call takers have perceived an increase in instances in which the caller includes nonfactual details to ensure a quicker response time (e.g., exaggerating elements of danger that would ensure a more rapid response). In addition, call takers are responsible for answering both emergency and nonemergency lines and determining what type of service or response is needed.

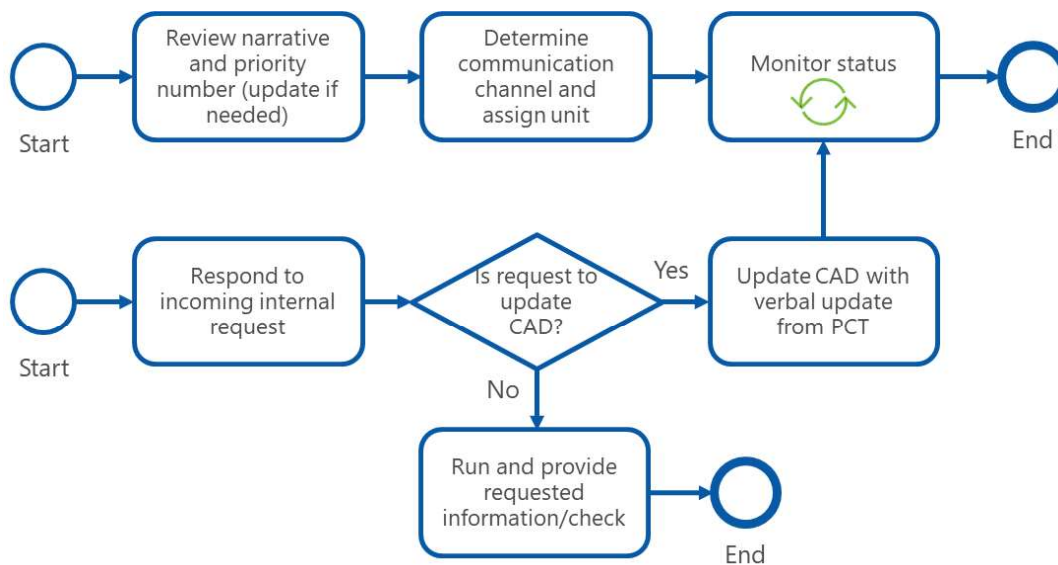
**Number of PNCs during initial assessment.** The relatively higher number of PNCs for police-related calls presents challenges to call takers during the initial information collection phase. A MECC dispatcher highlighted the disproportionate number of PNCs for fire (4) versus police (34) as well as the need for dispatchers to update PNCs based on the documented narratives as specific challenges related to the assignment of PNCs during call intake. However, the interviewee also acknowledged that a recent review of these PNCs indicated that these numbers make sense from a categorization perspective based on the types of calls.

**Challenging and high-stress work environment.** The emotionally challenging work environment presents challenges in retention of skills. Before the call taker role was separated from dispatch, interviewees noted that moving people from phone to dispatch was an additional source of stress. Furthermore, the MECC did not have permanent leadership at the time of CNA's interviews, which could serve as an additional source of strain among department personnel.

## Dispatch

The dispatch role is particularly challenging because it requires continuous monitoring and tracking of information (both visual and audio) across multiple systems. Figure 19 provides the high-level business process reviewed for dispatch.

**Figure 19. Business process flow for dispatch**



## Summary of pain points

**Interpreting the narrative.** The caller's desire, or lack thereof, to see an officer often affects the accuracy of the narrative. Dispatch relies heavily on the details contained in the narrative when assessing priority and assigning resources.

**Continuous monitoring using multiple systems.** Dispatchers need to keep track of a wide range of information and activities as part of their continuous monitoring and dissemination activities. This process involves tracking information across multiple systems, leading to challenges and inefficiencies in how information is presented. Having access to consolidated information presented in an easily digestible format would improve the ability to continuously monitor status.

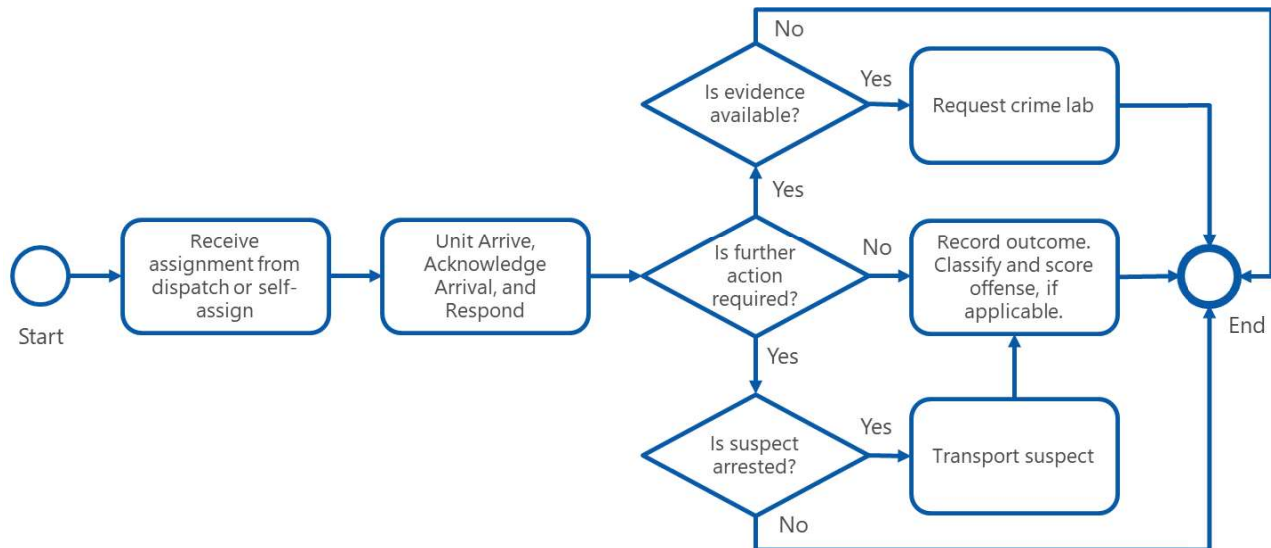
**Deactivating calls for service.** A call can be deactivated when it is no longer relevant or when too much time has elapsed. However, no formal guidelines for deactivating a call currently exist, except the directive to not deactivate calls without approval from a sergeant in the field, which leads to inconsistencies in the process.

## Patrol

Nearly every interviewee highlighted the amount of time spent on mental health-related calls and non-patrol-related activities. In late 2021, the City began a partnership with Canopy Mental Health and Consulting to deploy behavioral health response teams. These teams are dispatched to some of

the behavioral health PNCs in lieu of MPD officers. CNA was able to garner initial impressions about these teams during the follow-up interviews conducted in December 2021. Interviewees across the board had positive thoughts about this pilot program and noted its potential for taking some of the more time-consuming calls (see Section 1, task three) away from patrol officers. Still, this program has not fully alleviated the time commitment from patrol, and several main issues persist. Figure 20 provides the high-level business process reviewed for patrol.

**Figure 20. Business process flow for patrol**



### Summary of pain points

**Staffing priorities.** All positions are understaffed, and there is general misalignment of guidance and the associated priorities. For example, interviewees noted that property crimes require more evidence and resources from the MPD to prosecute than they have in the past, resulting in fewer convictions for a relatively high amount of effort and attention. Another example from the interviews is the level of effort required from patrol officers to detain suspects, particularly juveniles, who are immediately released.

**Time-consuming responses.** The time spent on mental health-related calls is perceived as being very high compared to other call types. The behavioral health response teams specializing in mental health have been positively viewed after the initial rollout. However, interviewees voiced concerns that the behavioral health response teams cost more than patrols, which may affect their utilization. In addition, officers are still required to respond to EDP and mental health-related calls that are deemed too dangerous for civilians. These calls involve specific processes, such as waiting for an ambulance, that contribute to increased time spent. Similarly, the civilian unit will not transport an individual deemed violent or aggressive, which can tie up sworn personnel.

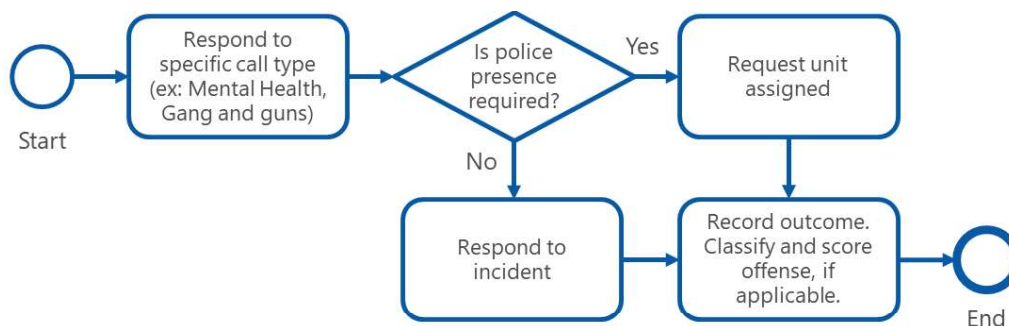
**Non-patrol-related commitments.** The time spent on non-patrol-related items, such as training, takes away from time spent in the community. One solution suggested during the interviews was to expand the use of role-playing by actors instead of uniformed officers during training.

**Communicating with the public.** The MPD has opportunities to develop general guidance and standards for communicating with the public. For example, explaining a situation when arriving on scene is often more effective than telling bystanders to mind their own business. MPD officers have also had to communicate staffing challenges to the public when explaining delays in responding to calls, and would benefit from specific language to use consistently in these circumstances.

## Specialty units

The specialty units were not a primary focus of the interviews, but CNA was able to identify some specific pain points associated with a few of these functions, including strategic operations and crime analysis, “gangs and guns” investigations, mental health response teams, and auto theft specialists. Figure 21 provides the high-level business process reviewed for specialty units and functions.

**Figure 21. Business process flow for specialty units**



## Summary of pain points

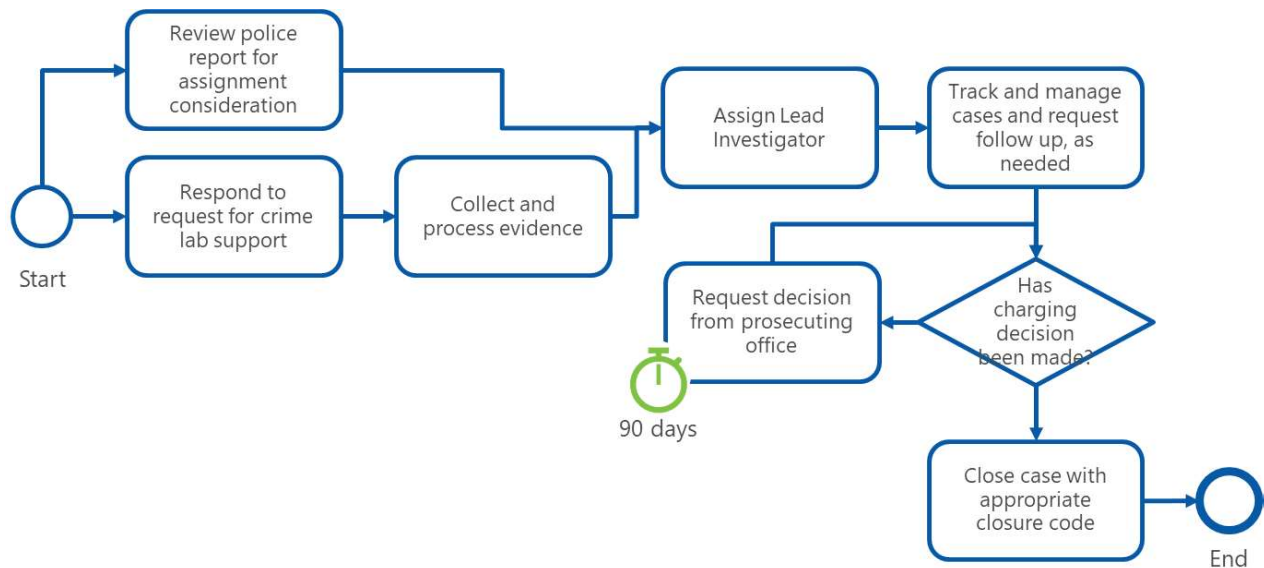
**Lack of unified command.** There is a lot of opportunity for using real-time data and analysis to support patrol and improve collaboration across teams. However, the lack of a unified command makes information sharing and collaboration more difficult. For example, it is unclear how the Strategic Information Center supports intelligence separate from the analysis performed in Operations Analysis.

**Inability to leverage some units during high demand.** Some units are available to help with patrol presence but not available to help respond to calls, which can add to challenges in keeping up with call volumes.

## Investigative functions

The investigative functions are fairly well documented and tracked in MPD systems. Figure 22 provides the high-level business process reviewed for investigative functions.

**Figure 22. Business process flow for assigning and managing investigative cases**



### Summary of pain points

**Staffing shortages creating a backlog.** Multiple instances of staffing shortages have created issues in the MPD’s investigative functions. For example, there are not enough forensic staff to process evidence in a timely manner, with impounded cars often taking two to eight weeks to process and DNA taking as long as six to eight weeks.

**Lack of standard process for processing crimes.** The standards for prosecuting property crimes have been raised by the district attorney, leading to a general need to standardize the process for investigating these crimes. Additionally, no monetary value is set for burglaries, which has been a challenge for prioritizing investigative work because there is no set standard.

### Other pain points

**Precinct structure and associated resources.** The 3rd precinct does not have a “home” from which it can manage its operations. The precinct is currently renting space in another building. Lack of dedicated space was cited as a general challenge for morale and ability to respond to calls for service. There may be an opportunity to combine precincts to combine resources.

**Community relationships are strained.** Relationships with the community are strained, leading to a decrease in trust on both sides. For example, callers are increasingly providing incorrect information during a call to accelerate police response, and police are no longer able to proactively engage with communities.

## Recommendations

**Recommendation 26:** The MECC and MPD should review whether some of the automation processes used by Fire can be modified and applied to police calls for service. In the absence of automation, development of a decision tree outlining various scenarios could increase standardization.

**Recommendation 27:** The MECC should consider streamlining processes for emergency and nonemergency lines because the same people are answering both.

**Recommendation 28:** The MECC and MPD should define or develop standard processes or criteria for the deactivation of a call to ensure standardization across the unit.

**Recommendation 29:** The MECC should look for opportunities to simplify and consolidate information presented to dispatchers. This practice will help reduce the number of systems that need to be used and streamline the overall process.

**Recommendation 30:** Health and wellness are acute concerns in the dispatcher community. Dispatching is a sedentary yet highly stressful occupation, particularly during times of severe staffing shortages. Mental and physical health are key factors in retaining personnel. Accordingly, steps should be taken to address these issues. The MECC should consider offering time for short walks (outside or on a treadmill) and providing snacks with healthy options. The MECC should also make stress-related counseling regularly accessible to personnel. Given the lack of natural light in the current location, thought should be given to investing in lighting more conducive to a healthy environment.

**Recommendation 31:** The MPD, and particularly precinct leads, should clearly define response priority based on the staffing level available. This priority needs to be clearly defined and communicated both internally to the MPD and externally to callers and City leadership because general frustration is felt across the board.

**Recommendation 32:** The MECC should identify permanent leadership. At the time of CNA's interviews, the MECC did not have permanent leadership. Identifying permanent leadership positions can help create stability in the agency and serve as a basis for implementing additional improvements.

**Recommendation 33:** MECC and Command Center personnel have developed effective mechanisms for coordinating during regular operations as well as emergencies and crisis response, despite being located in different physical locations. These practices should be continued and regularly reviewed in case adjustments are necessary to continue to effectively operate collaboratively and under a unified command structure.



## Conclusion

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Many aspects of the MPD and MECC's policies, processes, and procedures are supportive of a community-oriented response model that produces efficient outcomes for the agency and the community it serves. At the same time, both entities could take steps that would bring them into closer alignment with 21st century policing practices and ideals. Some of these changes are relatively simple to implement, such as revising the use of particular language in datasets and policies. Other changes, such as implementation of alternate response models and restaffing units such as the Community Outreach Bureau to appropriate levels, will require additional investment of resources and personnel.

Although our patrol staffing analysis suggests that the MPD currently enlists sufficient patrol officers to respond to calls for service at a 50 percent performance objective rate (i.e., 50 percent of officer time spent on community-initiated calls for service), our analysis of calls for service suggests that officers are currently responding primarily to 9-1-1 calls and not engaging in self-initiated activity. This trend has developed over time, with steadily decreasing levels of self-initiated activity during the period analyzed and a particularly low level in 2020. If the MPD wishes officers to spend more time on self-initiated activity, it will need to address this through policy and practice, and potentially a higher staffing level than our analysis would initially suggest.

In addition, although our analysis could not provide estimates for other units in the MPD, we know at a minimum the Community Outreach Bureau is unstaffed. Restaffing this unit must be a priority to ensure that the MPD is able to successfully serve the community. We also heard consistently from individuals operating in specialized units that they struggle with the current workload and have reduced staffing numbers that affect efficiency. Some of these units would potentially benefit from increased use of civilian personnel to replace or supplement sworn personnel.

In all these efforts, the City should continue to explore alternate response models as appropriate to reduce the use of police response in scenarios not requiring law enforcement actions. In particular, we commend Minneapolis for enacting mental health crisis response teams in partnership with a community organization. As that effort continues to roll out and is evaluated, the City should prepare to adjust program parameters and implementation as needed for effectiveness. We also encourage the City to continue its exploration of reducing or eliminating patrol response to nonviolent property crimes, instead making these crimes self-reportable. Such changes will, however, also have implications for the patrol division investigative staff, who handle these crimes after the initial response.

PNCs in the MECC and in coordination with the MPD are largely functioning efficiently. The codes themselves are largely appropriate, although there is some room for improvement to reduce the use of the Miscellaneous code and potentially eliminate some underused codes that could be combined with other categories. Our analysis of recoding, response times, and priority levels suggests that calls are being handled appropriately in these regards.



Staffing shortages were identified as the single biggest challenge to business processes at the MPD, impacting both operations and the ability to repair relationships with the community. The staffing resources available are not sufficient to police the way that is as responsive as the interviewees would like. However, of positive note, interviewees were aware of investments in staff well-being as well as implemented organizational changes and were hopeful that these changes would improve day-to-day operations. There are opportunities to reevaluate priorities and overall organization to best support the MECC, MPD, and the community. CNA has provided recommendations to implement as a first step in improving overall business processes and reducing some of the challenges faced by staff.

It is our hope that this analysis will prove helpful to the City of Minneapolis, MPD, and MECC as they continue through the process of organizational change and evolution to embrace 21st century approaches to public safety.

## Appendix A: Acronyms

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Acronym	Definition
BTU	Business Technology Unit
CAD	computer-aided dispatch
CIT	crisis intervention team
COPE	Community Outreach for Psychiatric Emergencies
COPS Office	Office for Community Oriented Policing Services
CSO	community service officer
EDP	emotionally disturbed persons
ICMA	International City/County Management Association
MCT	mobile crisis team
MECC	Minneapolis Emergency Communications Center
MPD	Minneapolis Police Department
PNC	problem nature code

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# Appendix B: References

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# Appendix C: PNC Subgroups Definitions

In this appendix, we list the specific PNCs associated with each of the subgroups analyzed in the staffing analysis.

## Police Officer Statute PNCs

- Abandoned Child (P)
- Audible Alarm (P)
- Audible Business Alarm (P)
- Audible Residential Alarm (P)
- Holdup Alarm (P)
- Silent Alarm (P)
- Panic Alarm (P)
- Assist Other Agency (P)
- Assault in Progress (P)
- Assist EMS Personnel (P)
- Assist Fire Personnel (P)
- Assist an Officer (P)
- Attempt Pick-Up (P)
- Attempted Suicide (PE)
- Auto Theft (P)
- Auto Theft in Progress (P)
- Bait Vehicle Auto Theft (P)
- Business Check (P)
- Bomb Threat (P)
- Burglary Biz - In Progress (P)
- Burglary Business - Report (P)
- Burglary Dwling In Progress (P)
- Chase on Foot (P)
- Curfew Violations (P)
- Customer Trouble (P)
- Domestic Abuse Report Only (P)
- Domestic Abuse-In Progress (P)
- Domestic with Weapons (P)
- Damage Property-In Progress(P)
- Drunk/Intoxicated Person (P)
- Domestic (P)
- Directed Patrol (P)
- DWI Court-Home Visit (P)
- Paramedic Needs Help (PE)
- Police Event (P)
- Explosion (P)
- Explosion-Structure (PFE)
- Explosion-Vehicle (PFE)
- Firecrackers (P)
- Found Child (P)
- Firefighter Needs Help (PF)
- Fight (P)
- Motor Vehicle Chase (P)
- Foot Beat (P)
- Forgery in Progress (P)
- Officer Needs Help (P)
- Hotrodders (P)
- Receive Information (P)
- Person Threat to Jump (PF)
- Kidnapping/Abduction (P)
- Luring (P)
- Miscellaneous (P)
- Narcotics (Drug) Activity (P)
- Notification (P)
- Property Damage/Hit & Run (P)
- Person with a Gun (P)
- Person with a Weapon (P)
- Personal Inj Acc-Report (P)
- Personal Inj/Hit and Run (PFE)
- Personal Injury Accident (PFE)
- Personal Injury w/ Trap (PFE)
- Poss Personal Injury Acc (P)
- Sex Offender Comp Check (P)
- Prowler (P)
- Rescue - Bldg Collapse (PFE)
- Rescue-Technical (PFE)
- High Risk Warrant Entry (P)
- Robbery Dwell in Progress (P)
- Robbery Dwling/Person Rpt (P)
- Robbery of Biz In Progress (P)
- Robbery of Person (P)
- Shooting (PFE)
- Shooting Report Only (P)
- Sound of Shots Fired (P)
- Slumper (PE)
- Slumper w/Fire (PFE)
- ShotSpotter Activation (P)
- Stabbing (PE)
- Stabbing Report Only (P)
- Suspected Hazard (P)
- Suspected Hazard (PE)
- Suspicious Person (P)
- Suspicious Vehicle (P)
- Theft (P)
- Theft-Hold One Cooperative (P)
- Threats (P)
- Traffic Law Enforcement (P)
- Transportation (P)
- Trespass in Boarded Dwell (P)
- Unknown Trouble (P)
- Unknown Wireless/Cell Phone(P)
- Walk Through a Building (P)



- Crim Sex Conduct (P)
- Homeland-Terrorism Act (P)
- Robbery of Biz - Report (P)
- Water Emergency (PFE)

### **Behavioral Health PNCs**

- Check the Welfare (P)
- Emotionally Disturb Person (P)

### **Theft Reporting PNCs**

- Damage Property-Rpt Only (P)
- Forgery Report (P)
- Burglary Dwlng - Report (P)
- Mysterious Disappearance (P)
- Property Damage Accident (P)
- Theft - Report Only (P)

### **Other Alternative Response PNCs**

- Lock-In-Police (P)
- Parking Problem (P)
- Road Hazard (P)
- Music-Loud (P)
- Disturbance (P)
- Check Hazard (P)
- Animal Bite (P)
- Animal Call (P)
- Animal Check The Welfare
- Animal Fight (P)
- Aggressive Dog (P)

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3003 Washington Blvd., Arlington Virginia 22201

**National Institute for Criminal Justice Reform  
Oakland Police Department  
Calls for Service Analysis  
2018-2020**

# Oakland Police Department Calls for Service Analysis 2018-2020

## Introduction and Summary

The National Institute for Criminal Justice Reform (NICJR) conducted an analysis of Calls for Service (CFS) received by the Oakland Police Department over the three years spanning 2018-2020 in compliance with a City Council directive. For this report, NICJR defines Calls for Service as 911 Calls, officer-initiated calls/activity, and calls to the OPD non-emergency line. OPD provided NICJR three years of data from its CAD (Computer Aided Dispatch) system in order to conduct this study.

The City Council directed OPD “to provide a detailed analysis and recommendations for operationalizing the removal of low-level, non-violent calls for service from the Police Department’s responsibilities and options for an alternative response. Low-level, non-violent calls for service include what the Police Department classifies as “Administrative, Animal-related, Homeless, Mental Health, Noise-related, Ambulance Requested, and Other.”

Over the three-year study period, OPD received nearly 1.3 million CFS. Of those calls, one or more officers responded to 56.7% (722,815). After discussion with OPD command staff it was determined another 96,900 CFS should be removed from the analysis due to having a disposition code of Cancel, Administrative, or Duplicate. The subsequent analysis is based on a review of the remaining 49.1% of CFS (625,915). One of the main objectives of this study was to determine which types of CFS could safely and responsibly be responded to by non-police alternatives, like community-based responders. Therefore, NICJR focused its assessment on those CFS where one or more officers arrived on scene.

Based on the California Penal Code and our own analysis, NICJR categorizes CFS in four different types:

- 1) Non-Criminal (calls for incidents or issues that are not a violation of the penal code, like noise complaints, but may be a violation of a local ordinance)
- 2) Misdemeanor (or Low Level, like a stolen bicycle)
- 3) Non-Violent Felony (like car theft)
- 4) Serious and violent felony (like an armed robbery)

NICJR assessed the type of calls for service, the time it took officers to respond to a call, the amount of time officers spent on a call, and how calls were initiated. The following report includes findings from the assessment with recommendations on how OPD could more effectively and efficiently use its limited resources given alternative response models. NICJR’s call categorization themselves are not recommendations for alternatives responses, for instance there are some call types in the non-criminal category that will still require an officer to respond.

The assessment of Calls for Service conducted by NICJR is based on data from OPD’s CAD system.

As noted in the report, the CAD system is archaic and is in need of improvements and upgrades. Due to the data limitations, some of the findings in the report need to be verified by reviewing the notes made by responding officers in association with calls for service. Due to the extremely large volume of calls, NICJR will review notes from a sample number of calls from each call category in OPD's Records Management System (RMS). This extended review will take another eight to twelve weeks to complete once initiated. Until then, the findings of this report should be considered preliminary.

OPD's Motorola Legacy system that serves as its CAD, does not contain some fields that other police agencies capture, and it is difficult to search for certain data in the system. This may have some impacts on this analysis. OPD is in the process of replacing CAD and its accompanying records management system; these improved systems may help with more accurate CFS assessments in the future.

## Findings

A review of 625,915 CFS that had an on-scene arrival time, covering the period 2018-2020, found that nearly 60% of OPD calls were for Non-Criminal events. Approximately 18% of calls were associated with felonies of any kind, and 9% of calls over the three year period were for serious and violent felonies. Although serious and violent felonies comprised less than 10% of calls, the total number of such incidents was still extremely large for a city the size of Oakland. During the three-year period there were nearly 60,000 such incidents that officers responded to, an average of nearly 54 serious violent calls for service each day.

Officers may also self-initiate a CFS. For example, a self-initiated call can include an instance when a patrol officer notices something that requires a response, such as a crime in progress. These calls are very generally categorized in the CAD data as "On-View"<sup>1</sup> incidents. On-view incidents accounted for 9.9% of CFS over the review period. Details about what types of incidents make up the On-View CFS require an assessment of call details that NICJR will conduct when it receives additional information from the RMS. There are other officer initiated CFS that are detailed in CAD and categorized by the type of call.

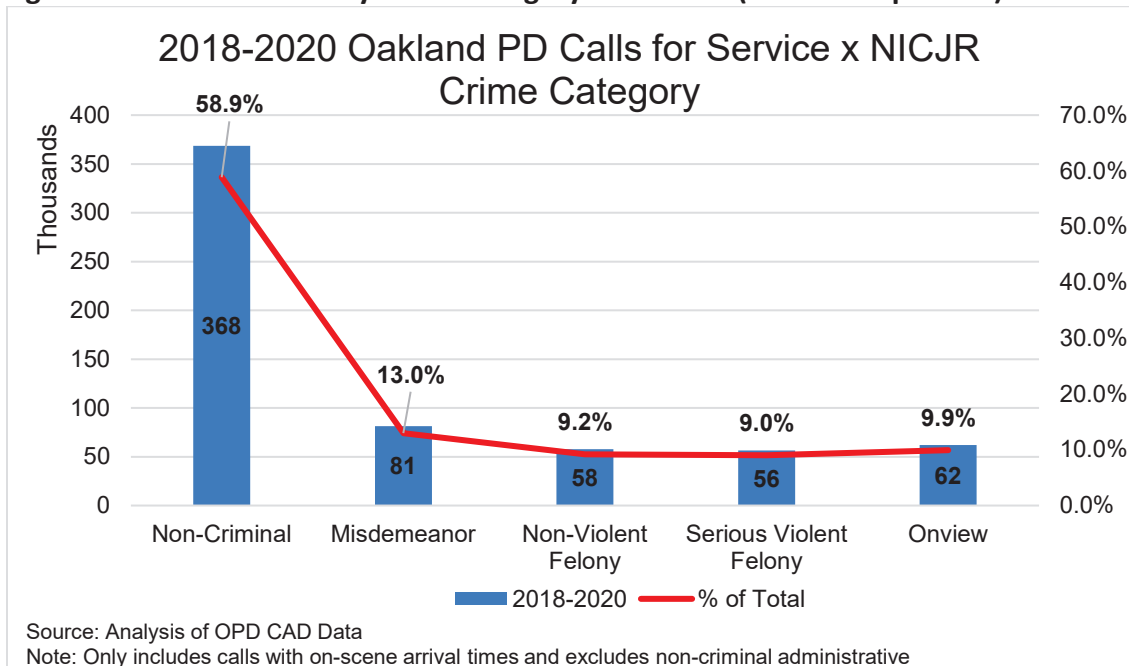
For Serious Violent events, officers took an average of 1 hour and 5 minutes to respond and spent 2 hours and 15 minutes on-scene. But for Priority 1, Serious Violent Felony CFS which require an expedited response, over the three-year study period, OPD officers took an average of 18 minutes and 57 seconds to respond from the time of the call to an officer arriving on scene. Priority 1 Calls are usually crimes in progress.

For Non-Criminal CFS, officers spent an average of 1 hour and 4 minutes on scene handling these calls, which may also include follow up or report writing about the incident after the initial response to the call. The CAD data does not differentiate the time spent on scene of the

<sup>1</sup> On-View is the code used in the OPD CAD data for when an officer on patrol observes something that needs to be responded to and therefore NICJR categorizes it as Officer Initiated. One of the limitations of the CAD data is that the information on the reason or the purpose of the officer stopping is not included so NICJR is not able to categorize the call by non-criminal, misdemeanor, non-violent felony, or serious and violent felony. There are other Officer Initiated calls that information for the calls are included in the CAD data.

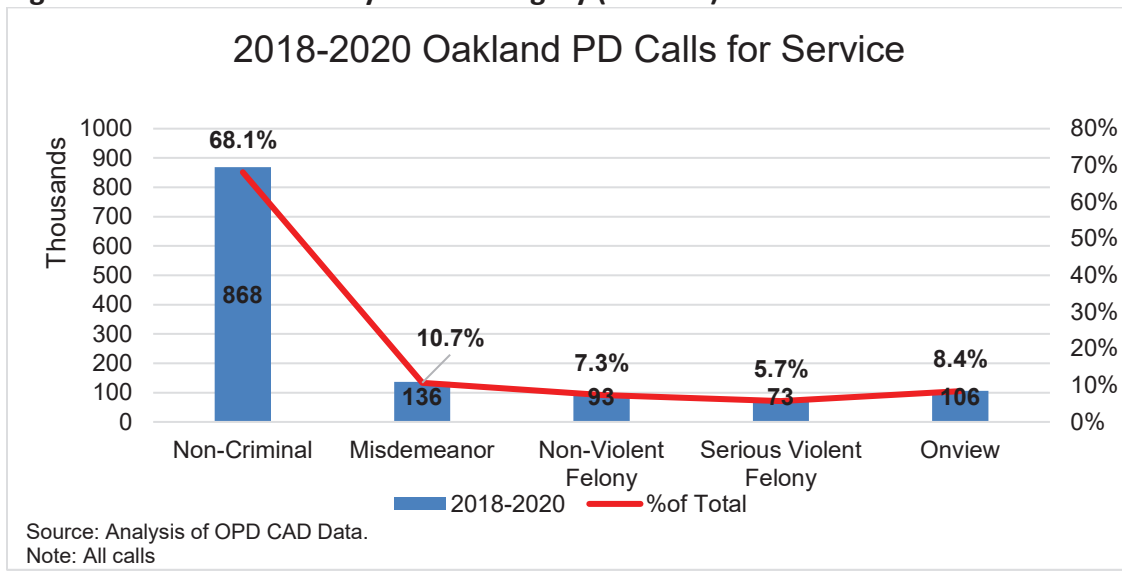
initial call and time spent following up on the call. But for non-criminal CFS, there is likely less time spent on following up on such low-level calls. Given OPD’s high call volume and attention paid to more serious calls, officers took an average of 1 hours and 39 minutes to respond to Non-Criminal events. It should be noted that according to data in CAD, some calls were not responded to for two or more days. OPD reports that this is likely inaccurate and an example of one of the data challenges in CAD. But there are some CFS that are not responded to for more than 24 hours due to the low level nature of the call. For Misdemeanor event types, officers took an average of 2 hours and 15 minutes to respond and spent an average of 1 hours and 11 minutes on-scene. For Non-Violent Felony event types, officers took an average of 2 hours and 55 minutes to respond and spent 1 hour and 30 minutes on-scene. These response times appear to be inaccurate and another illustration of the problems with the data, but these are correct calculations based on the information that is in the CAD system.

**Figure 1. Calls for Service by Crime Category 2018-2020 (Officer Responded)**



**It is worth noting, that although serious and violent felonies only account for 9% of all calls responded to by OPD, that is 56,000 calls over three years, an average of 18,666 calls per year and 51 serious and violent felony calls every single day.**

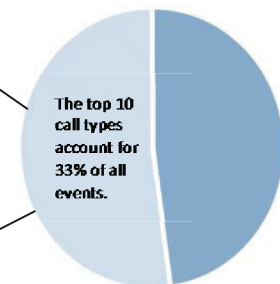
**Figure 2. Calls for Service by Crime Category (All Calls)**



**Table 1. Top 10 Call Types Overall 2018-2020**

Call Types	Total Events
ON VIEW	62,138
SECURITY CHECK	41,605
CAR STOP	21,544
STOLEN VEHICLE	19,540
ALARM-RINGER	16,533
MENTALLY ILL	12,485
911 HANG UP FROM ACC	12,275
415 UNKNOWN	10,083
DISTURBING THE PEACE	9,632
BURGLARY	7,262

Note: Only Includes Calls with On-Scene Arrival Time



Although the OPD utilized between 208 and 348 unique call types during the study period, just ten comprised more than 33% of all events.

An average of slightly more than 1 officer responded to each CFS, spending an average of 1.45 hours per event, as measured by arrival on-scene to call clearance.

**Table 2. Time Spent Responding to Events 2018-2020**



Crime Category	Total Hours Arrival to Close	Average Hours Per Event	Proportion of Total Officer Time
Non-Criminal	387,075	1.04	50.1%
Misdemeanor	96,512	1.18	12.5%
Non-Violent Felony	84,616	1.50	11.0%
Serious Violent Felony	126,294	2.26	16.4%
On View (officer initiated)	76,738	1.25	10.0%
Total	771,235	1.45	100%

Note: Only Includes Calls with On-Scene Arrival Time

NICJR has developed a tailored approach to the analysis of CAD calls for service data based on hands-on experience in multiple cities nationwide. NICJR CFS analyses use the following categorization of *call type incident description* of CAD events: Non-Criminal (NC), Misdemeanor (MISD), Non-Violent Felony (NV FEL), and Serious Violent Felony (SV FEL). NICJR crime categorization cross walked with OPD incident type descriptions can be found in [Appendix A](#). NICJR categories are aligned with state specific penal codes and their associated penalties. If a call type is not found in the penal code, it is placed into the Non-Criminal Category. NICJR uses this method of categorizing events because it affords the most linear correlation between the event and its associated criminal penalty. By categorizing events in this manner, NICJR can clearly identify the portion of CFS that are either non-criminal, low-level, non-violent, and serious violent offenses.

OPD provided NICJR with a comprehensive CFS data set for each of the three calendar years 2018-2020, representing a total of 1,274,154 unique calls for service. Each year’s dataset included the call type descriptions for the respective reporting period. There were between 208 and 348 available call type descriptions for each year. The data did not include Racial Identity and Profiling Advisory (RIPA) Board disposition codes associated with vehicle, pedestrian, and bike stops as required by Assembly Bill 953, which requires law enforcement agencies to collect “perceived demographic and other detailed data regarding pedestrian and traffic stops.” RIPA data is collected and reported through an OPD system outside of CAD.

**Table 3. NICJR Crime Categories**

Crime Category	Description
Non-Criminal (NC)	Any event not identified in the California State Penal Code
Misdemeanor (MISD)	Any event identified in the California State Penal Code as a Misdemeanor
Non-Violent Felony (NV FEL)	Any event identified in the California State Penal Code as a Non-Violent Felony
Serious Violent Felony (SV FEL)	Any event identified in the California State Penal Code as a Serious Violent Felony

Call type initiation source variables also allowed NICJR to determine CFS initiation source – officer-initiated activity or On-View, non-emergency line, 911 emergency line, or alarm.

In addition, CFS response time data was used to determine how long it takes OPD officers to respond to CFS and how much time officers spend on CFS by incident type once they arrive on-scene. There were five time variables provided in the data. To determine how long it took officers to respond to CFS, NICJR assessed the length of time between call dispatch and an officer arriving on-scene. To determine how long officers spent resolving events, NICJR analyzed the length of time between an officer arriving on-scene and clearing the call. NICJR was also able to use CAD data to determine the mean number of officers responding to each type of call by Crime Category. The time value for officers while enroute to an incident was not included.

**Table 4. Oakland CAD Data Time Variable Descriptions**

CAD Data Variable Label	CAD Translation
Transmit TimePrimaryUnit	Time call was transmitted over the radio to the primary unit
CreateTimeIncident	Time the call was created in the CAD system
DispatchTimePrimaryUnit	Time call was first dispatched to an officer
ArrivalTimePrimaryUnit	Time officer arrived on-scene
ClosedTimeIncident	Time officer is back in service to take new calls

## Characteristics of Calls

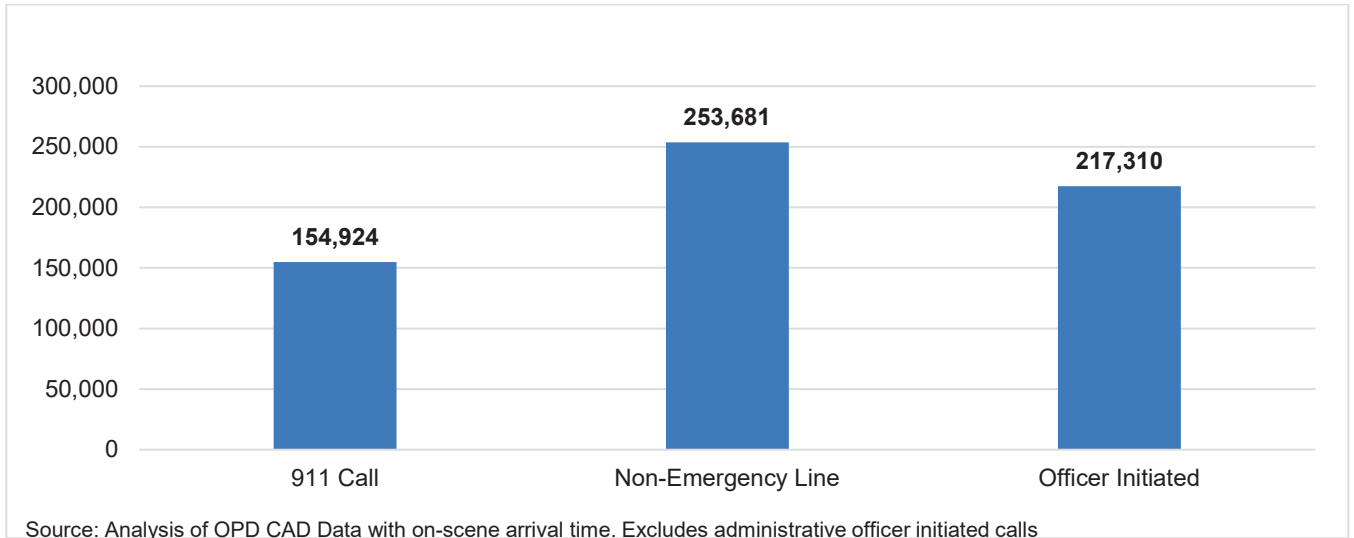
*Analysis of 625,915 events with on-scene arrival times from 2018-2020*

NICJR analyzed the CFS data set across a number of metrics including overall call type frequency, call initiation source, and call NICJR Crime Category. Figures and tables in this section draw from a sample of 625,915 unique calls for service with an on-scene arrival time covering the period 2018-2020 within the CAD files NICJR obtained from OPD.

### Event Initiation

Calls for service may be initiated in three primary ways: by calling 911, by calling the OPD non-emergency line, or by an officer initiating a call. Figure 2 shows the proportion of events by initiation source. Approximately 35% of all calls during the 2018-2020 period were initiated by an officer.

**Figure 3. Events by Initiation Source 2018-2020**



### Top Ten Events

Table 5 provides the top ten events by Initiation Source. Together, these call types comprised 46% of all OPD events over the study period. Initiation source by year can be found in [Appendix B](#).

**Table 5. Top 10 Calls by Initiation Source 2018-2020**

Officer Initiated	911 Emergency	Non-Emergency Line
ON VIEW	911 HANG UP FROM ACC	ALARM-RINGER
SECURITY CHECK	415 UNKNOWN	STOLEN VEHICLE
CAR STOP	MENTALLY ILL	AUTO BLOCKING DRIVEWAY
ABANDONED AUTOMOBILE	BATTERY	415 SHOT SPOTTER GUN
TOW REQUESTED	415 FAMILY	MENTALLY ILL
THEFT	BATTERY ON CO-HABITANT	TRESPASS
WALKING STOP	STOLEN VEHICLE	DISTURBING THE PEACE
EMERGENCY TRAFFIC ON	DISTURBING THE PEACE	RECOVERED STOLEN VEH
CHECK VEHICLE	EVALUATION	BATTERY
BURGLARY	SUSPICIOUS PERSON	SUSPICIOUS PERSON

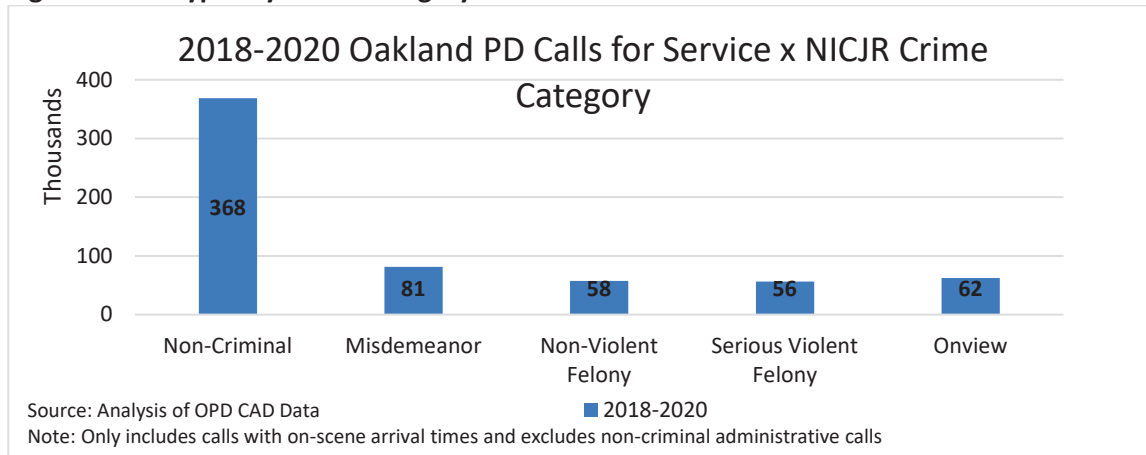
Note: Only includes call with on-scene arrival times

### Events by Crime Category

Figure 4 shows the frequency of call types by Crime Category. OPD averaged 424,719 total events and 208,638 events with an on-scene arrival time per year during the analysis period. The majority of these CFS, 68.1% for all calls and 58.9% for calls with an on-scene arrival time, are

classified as Non-Criminal; as reflected in [Appendix C](#), Non-Criminal CFS consistently comprised a majority of events during the 2018 to 2020 period.

**Figure 4. Call Types by Crime Category 2018-2020**



During the three-year period reviewed, an average of 36.1% of Officer Initiated events were Non-Criminal and an average of 20.5% of 911 calls comprised Non-Criminal events. As traditionally expected, non-emergency line calls were the most likely to be Non-Criminal.

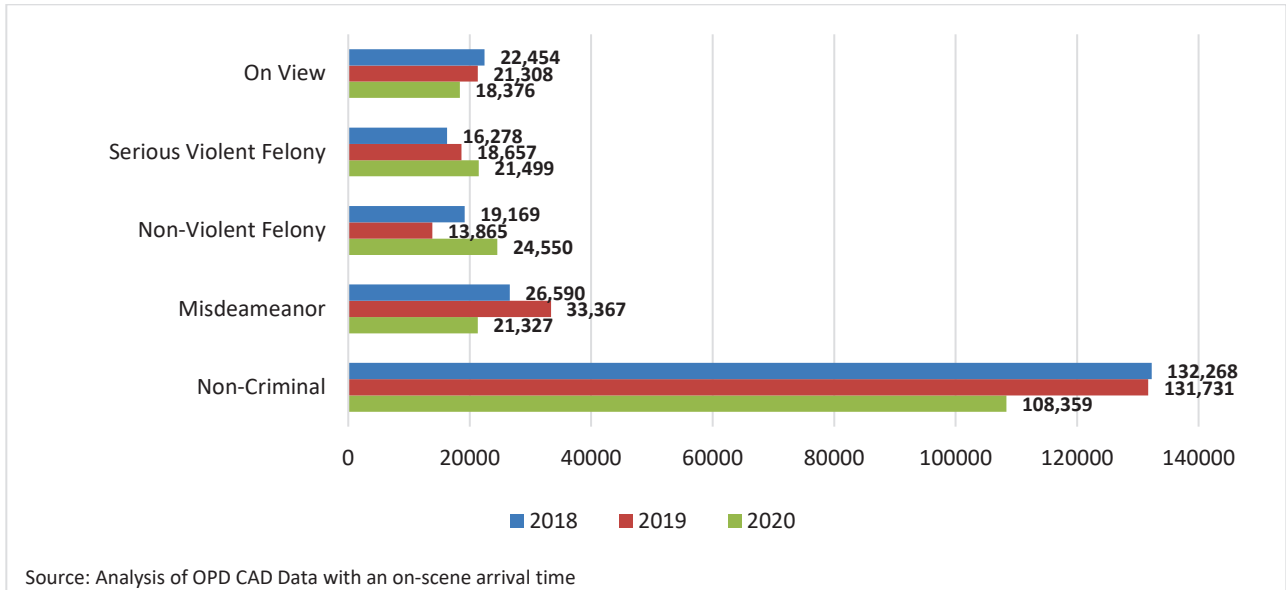
**Table 6. Percent of Non-Criminal Events by Initiation Source**

Event Initiation Source	Year		
	2018	2019	2020
911 Calls	16.2%	24.1%	21.3%
Non-Emergency Calls	39.2%	42.0%	42.0%
Officer-Initiated	37.6%	33.9%	36.7%

Note: Only Includes Calls with On-Scene Arrival Time

Figure 5 identifies the number of events by Crime Category over the review period. The total number of events in the aggregate declined between 2018 and 2020. When looking at non-violent and serious violent felonies alone, there was an observed increase of 28.1% and 32.1%.

**Figure 5. Number of Events by Crime Category 2018-2020**



## Number of Responding Personnel

The number of personnel who responded to CFS varied depending on the event type. Table 7 shows the average number of personnel who responded to a CFS by Crime Category based on the data in CAD. As expected, when dealing with a call that is more serious in nature, the average number of responding officers was higher than for a less serious event. The average number of responding personnel across all event types was 1.4. NICJR will also further assess Priority 1 calls, which will very likely find many more officers respond to Priority 1, Serious and Violent CFS. It is very possible that many more officers respond to serious violent felony CFS that is not being accurately captured in CAD as the CAD system has a limitation on the number of officers than can be counted.

**Table 7. Responding Personnel by Crime Category 2018-2020**

	Non-Criminal	Misdemeanor	Non-Violent Felony	Serious Violent Felony	On View
2018	1.3	1.3	1.3	1.4	1.3
2019	1.3	1.3	1.3	1.5	1.3
2020	1.4	1.5	1.3	1.6	1.3

Note: Only Includes Calls with On-Scene Arrival Time

## Response Time to Calls

Tables 8 through 11 note the average response time for the top five incident types from call creation to an officer arriving on-scene by crime category. More detailed information can be found by year in [Appendix D](#). It should be noted that a call describing someone with potential mental illness in need of service has an average response time more than an hour and a half. This is an example of how the use of MACRO can help improve responses to such calls.

**Table 8. Average Response Time for Non-Criminal Calls**

2018-2020: Top 5 Non-Criminal Calls			
Call Type Description	Count	Avg Time to Respond (Hrs,Mins,Sec)	% of Total
SECURITY CHECK	41,604	0:21:19	6.5%
CAR STOP	28,065	0:00:01	4.4%
ALARM-RINGER	25,788	2:43:27	4.0%
MENTALLY ILL	19,581	1:33:36	3.1%
ABANDONED AUTOMOBILE	16,912	N/A	2.7%

Note: Only Includes Calls with On-Scene Arrival Time

**Table 9. Average Response Time for Misdemeanor Calls**

2018-2020: Top 5 Misdemeanor Calls			
Call Type Description	Count	Avg Time to Respond (Hrs,Mins,Sec)	% of Total
BATTERY	15,045	1:06:13	2.4%
DISTURBING THE PEACE	9,951	1:56:27	1.6%
TRESPASS	8,270	2:52:00	1.3%
415 THREATS	7,195	4:38:47	1.1%
THEFT	3,911	2:33:57	1.0%

Note: Only Includes Calls with On-Scene Arrival Time

**Table 10. Average Response Time for Non-Violent Felony Calls**

2018-2020: Top 5 Non-Violent Felony Calls			
Call Type Description	Count	Avg Time to Respond (Hrs,Mins,Sec)	% of Total
STOLEN VEHICLE	19,439	2:55:38	3.1%
BURGLARY	9,657	2:23:02	1.5%
AUTO BURGLARY	3,943	2:46:12	1.0%
VIOLATION OF COURT ORDER	2,424	4:10:28	0.6%
HIT & RUN (PROPERTY) <sup>2</sup>	2,284	2:16:07	0.4%

Note: Only Includes Calls with On-Scene Arrival Time

**Table 11. Average Response Time for Serious Violent Felony Calls**

2018-2020: Top 5 Serious Violent Felony Calls			
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<sup>2</sup> These are wobbler cases and can be charged as felonies or misdemeanors

Call Type Description	Count	Avg Time to Respond (Hrs,Mins,Sec)	% of Total
BATTERY ON CO-HABITANT W/ SERIOUS INJURY	10,796	0:46:43	1.7%
415 SHOT SPOTTER GUN	10,032	0:57:56	1.6%
ROBBERY	7,431	1:12:25	1.2%
415 GUNSHOTS	5,869	1:15:28	0.9%
ASSAULT W/DEADLY WEA	5,723	0:44:57	0.9%

Note: Only Includes Calls with On-Scene Arrival Time

### Time Spent on Calls

Tables 12 and 13 outline the total amount of time spent on CFS by Crime Category. In determining the time spent on event response, NICJR analyzed two time periods. First, the time period beginning when an officer arrived on-scene to when the officer closed or “cleared” the call and was back “in-service” and able to take other calls and second, the period beginning when the call came in and when an officer arrived on-scene. There are a number of CFS that spanned more than two or three days. Due to the unreliability of the time values associated with these types of CFS, NICJR capped the maximum time a CFS could take was 24 hours. Using this methodology, NICJR was able to better identify how much time officers spent handling a specific call. An alternate and more comprehensive view of officer response time accounts for the time from event initiation to close.

**Table 12. Time Spent Responding to Events, On-Scene to Close 2018-2020**

Crime Category	Total Hours Arrival to Close	Average Hours Per Event	Proportion of Total Officer Time
Non-Criminal	387,075	1.04	50.1%
Misdemeanor	96,512	1.18	12.5%
Non-Violent Felony	84,616	1.50	11.0%
Serious Violent Felony	126,294	2.26	16.4%
On-View	76,738	1.25	10.0%
Grand Total	771,235	1.45	100%

Note: Excludes calls with missing on-scene arrival time values.

**Table 13. Time Spent Responding to Events, Initiation to Close 2018-2020**

Crime Category	Total Hours Initiation to Close	Average Hours Per Event	Proportion of Total Officer Time
Non-Criminal	964,481	2.9	57.8%
Misdemeanor	223,529	3.2	13.4%
Non-Violent Felony	240,412	4.2	14.4%
Serious Violent Felony	162,739	3.2	9.8%
On View	76,791	1.3	4.6%
Grand Total	1,667,952	3.0	100.0%

Note: Excludes calls with missing on-scene arrival time values.

## Recommendations

Based on our analysis, NICJR developed the following recommendations:

### 1) Improve the OPD CAD system:

- OPD should include Final Call Type in the CAD data. The final call type, which reflects an officer's assessment from the scene, may differ from the initial call classification based on information from the caller. Unless CAD data includes the final call type, it will not accurately reflect the nature of crime-related calls and other problems that are phoned into the communications center.
- Need for linkages to other Systems: Linkages to other information systems could enhance the utility of the OPD's CAD system even further.<sup>3</sup> For example, most CAD systems assign a complaint number to crimes and traffic accidents. Reports on serious incidents usually are entered into separate databases for analyzing the characteristics of these events.<sup>4</sup> However, it is rare that linkages are established between these systems and the CAD data. The technical obstacles for making these linkages are not significant. The complaint number is usually the key between them. With most database applications, it is fairly simple to merge records together using the common complaint number as a key.

### 2) Increase utilization of alternative responders

With more than half of all Calls for Service responded to by OPD patrol officers being for low level, non-criminal activity, OPD can safely and responsibly reduce its use of sworn officers responding to those incidents, once alternative responders are up and running and effectively responding to some subset of CFS. Due to the challenges of the CAD system as pointed out several times in this report, further assessment is needed before certain call categories can be responsibly assigned to community based alternative response. Therefore, NICJR has the following recommendations on alternative calls for service:

- Include the following type of calls MARCO responds to:
  - Abandoned Automobile: Over the three-year study period, there were more than 13,000 such calls, of which a sworn officer responded to 2,000.
  - Loud Music: Over the three-year study period, there were just under 1,600 such calls, of which a sworn officer responded to more than 1,000.
- Increase use of OPD civilian crime technicians to respond to calls for service that are not crimes in progress, like burglaries that occurred several hours or even days earlier.

### 3) After a successful alternative response program is up and running and well staffed, OPD can re-examine deployment strategies to increase focus on serious crime and violence.

With the expansion of community responders, which may free time of patrol officers, OPD can examine priorities for patrol officers and increase the focus of every section of the

<sup>3</sup> [Improving Information-Sharing Across Law Enforcement: Why Can't We Know? | RAND](#)

<sup>4</sup> [Integrating Computer-Aided Dispatch Data with Traffic Management Centers - Chapter 4 - FHWA Operations \(dot.gov\)](#)