



Final Report on the Staffing and Utilization Study

PITTSBURGH, PENNSYLVANIA

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matrix 
consulting group

Table of Contents

<u>Introduction and Executive Summary</u>	1
.....	
<u>Patrol Zones</u>	8
.....	
<u>Special Deployment Division</u>	59
.....	
<u>Investigations Branch</u>	88
.....	
<u>Administration</u>	118
.....	
<u>Chief of Staff</u>	134
.....	
<u>OSAR</u>	145
.....	
<u>Appendix: Results of the Employee Survey</u>	153
.....	

1. Introduction and Executive Summary

(1) Study Process

Matrix Consulting Group was retained by the City of Pittsburgh to conduct the Staffing and Utilization Study for the Bureau of Police. The project was tasked with the following:

- Assess current workload and performance against service expectations.
- Identify opportunities to implement alternative response.
- Evaluate the organizational structure, including spans of control and alignment of functions.
- Develop strategies for reallocation in order to optimize the use of existing resources.
- Identify staffing needs throughout the Bureau.

The project began in March 2022 with a process of extensive input from both internal and external stakeholders, including:

- Meetings with Bureau leadership and command staff to understand the goals of the organization and the context of the study.
- Interviews with personnel at all level of the organization to learn about the organization and unique service environment factors.
- Extensive data collection in every functional area of the Bureau to understand workload, service levels, and to provide the basis for the staffing analysis.

The study was a collaborative process that began with the development of our factual understanding of the Bureau as part of a descriptive profile document.

In order facilitate the timeliness of findings related to field operations, the study process was developed into two parallel tracks: Operations functions (the six patrol zones and Special Deployment Division) and non-operations functions (all other areas within the Bureau).

This foundation was then used to develop a preliminary analysis of resource needs, which was completed separately for both operations and non-operations tracks. The issues identified in this analysis were expanded upon into this final report, which contains an

array of recommendations to address the issues and improve service levels and organizational capabilities

(2) Key Findings

Major themes and leading findings made from the analysis include the following:

- Response time performance is exceptional, with even low-priority calls for service displaying a median response time of under 16 minutes. This is a significant outlier for a large metropolitan police department.
- Proactive time is a measure of staffing capacity and service levels, and is calculated by deducting patrol workload from its availability (on-duty staffing hours) to handle it. As a benchmark, agencies should generally target for at least 40% proactive time on an overall level.
- PBP patrol has an overall proactive time level of 71% – indicating exceptionally high level of service.
 - Proactive time is consistently available regardless of time of day or the day of the week, which indicates no issues with current deployment schedules.
 - No disparities exist in proactive capabilities by zone.
- As proactive time increases, there are diminishing returns to its usefulness. Beyond 50% proactive time, other uses of staff resources are advantageous compared to increasing patrol staffing.
- At 71% proactive time, it can be concluded the PBP patrol staffing is *excessively high – far beyond the point at which there is appreciable value gained from additional coverage.*
- Given these considerations, personnel should be reallocated from patrol to other needed functions, such as community engagement without sacrificing the level of service.
 - To target a 50% proactive time level, which still represents a very high level of service – 188 fewer budgeted officer positions are needed in patrol.
 - 45 of these officer positions can be reallocated to an expanded Community Resource Officer program that assigns one officer per sector to conduct community engagement and problem-solving at the local level.
- As a result of high caseloads, staffing for many investigative units, such as the Violent Crimes Unit) should be increased.

- Several opportunities exist in Administration to civilianize positions that do not require sworn officers, such as the Abandoned Vehicle Unit.
- With current patrol staffing, supervisory spans of control for many shift teams are too high.
- 12-15% of calls for service can be diverted to a new civilian alternative response program.

The patrol findings are particularly stark, which demonstrate excessively high staffing levels relative to need and risk, and that resources can be shifted to other pressing needs without sacrificing the level of service provided to the community. PBP has a rare, if not unique, opportunity to achieve a community-centric level of service that other police agencies do not have the resources to accomplish.

Furthermore, within the context of using overtime in patrol to backfill positions, these findings underscore the need to realign patrol services as a whole – not only in terms of staffing, but additionally to revise minimum staffing levels, increase the staffing of community policing specialists, and redraw deployment boundaries to facilitate accountability for community policing at the local level.

(3) List of Recommendations Made in the Report

The following table provides all recommendations made throughout the report, organized by chapter:

Patrol Zones

The **Patrol** analysis demonstrates that patrol staffing is far above what is needed to provide a high level of service, and is overstaffed at such a level that adding positions would have no appreciable impact on service. Staffing levels must be realigned with community need.

Based on achieving a proactive time target of 50%, which represents an exceptional level of service – reduce **Patrol** zone staffing by 188 (authorized) officer positions, resulting in a new total of 263 positions allocated. 26 of the 188 closed FTEs are currently vacant.

Create new minimum staffing levels that can be consistently achieved at the new resource level that provide for officer safety and response capabilities to be maintained.

Upon implementation of the patrol staffing recommendation, reallocate 45 of the officer positions to serve as **CROs**, with one officer covering each sector.

To supervise the additional **CROs**, one additional sergeant position is needed per zone, for a total of six additional sergeant positions across all six zones.

Following implementation of the [patrol](#) staffing recommendation, reallocate patrol officer positions as follows to equalize proactive time levels at 50% in each zone:

Zone 1: 42 officers

Zone 2: 46 officers

Zone 3: 49 officers

Zone 4: 44 officers

Zone 5: 48 officers

Zone 6: 34 officers

Periodically rebalance [patrol](#) staffing by zone proportionally to the community-generated workload that each zone handles.

Contingent upon implementing recommendation that reduces patrol officer staffing, decrease [Patrol](#) sergeant staffing by 9 to achieve span of control ratios of under 1:8 on every shift, for a total of 41 positions across the six zones.

If the [Patrol](#) officer staffing recommendation is *not* implemented, *increase* patrol sergeant staffing by 14 to address span of control issues, for a total of 64 positions across the six zones.

Redesign sector boundaries to equalize call for service workloads and provide for more consistent capabilities by area of the city.

Establish a civilian Community Service Officer ([CSO](#)) call responder classification to respond to non-emergency calls for service in the field that do not require a sworn officer to respond.

Establish a civilian [CSO](#) Supervisor classification to supervise the newly created CSO responder positions.

Add 11 [CSO](#) call responder positions to implement the civilian call diversion program.

Add 2 [CSO](#) Supervisor positions to supervise the CSOs in support of the implementation of call diversion.

Special Deployment Division

Evenly distribute management collateral duty assignments among all [Special Deployment Division Lieutenants](#).

Evaluate potential employee adverse health-related effects associated with current maximum workday and workweek hours as defined in [secondary employment](#) policy.

Add three non-sworn Law Enforcement Planner positions to the [Public Safety Planning Unit](#).

Add one non-sworn Manager position to the [Public Safety Planning Unit](#).

Within the [Public Safety Planning Unit](#), transfer the Lieutenant, Sergeant, and three Officer positions to where full police powers are needed.

In the [Bomb Squad](#), transfer K9 supervisory responsibilities to full-time K9 sergeants.

Add 1 authorized full-time Sergeant position to the [River Rescue Unit](#).

Add 1 authorized full-time Sergeant to the [Mounted Unit](#).

Improve CAD utilization in order to improve analysis of the [Mounted Unit](#) for future resource allocation.

Ensure current [SWAT](#) training standards meet the minimum National Tactical Officers Association (NOLA) recommendations at a minimum.

Improve utilization of CAD to enable better analysis of [SWAT](#) for future resource allocation.

Modify the [K9 Unit](#)'s current deployment and scheduling methodology in order to meet current best practices and ensure alignment with IACP model policy.

Add 2 full-time authorized Sergeant positions to supervise the [K9 Unit](#).

Reduce the current authorized staffing level of 2 Lieutenant to 1 in the [Motors Unit](#).

Reduce the current authorized staffing level of 4 Sergeants to 3 Sergeants in the [Motors Unit](#).

Maintain current authorized staffing level of 18 Officers in the [Motors Unit](#).

Evaluate the need to assign [Motors](#) Officers as primary investigative unit at traffic crashes.

Fill current vacancies in the [Impaired Driving Unit](#).

Train and certify all Pittsburgh Police Bureau Officers to perform evaluation and testing of impaired drivers in order to reduce overtime hours.

Develop a robust drug and alcohol evaluation program through the National Highway Traffic Safety Administration (NHTSA).

Ensure [Commercial Motor Vehicle Enforcement Unit](#) utilizes the CAD system in order to analyze workload and future resource allocation.

In the [Traffic Collision Investigation Unit](#), increase the total number of authorized full-time Detectives by 1, for a total of 2 full-time Detectives assigned.

Assign to a Lieutenant the management oversight of the [Traffic Collision Investigation Unit](#).

Assign to a Sergeant the supervisory oversight of the [Traffic Collision Investigation Unit](#) as a collateral duty assignment.

Civilianize the [Abandoned Vehicle Unit](#), resulting in an increase of two Administrative Assistant positions and a reduction of two Officer positions.

Investigations Branch

Increase authorized staffing in the [Violent Crimes Unit](#) by 5 detectives to work homicides, resulting in a total of 27 detectives.

Increase sergeant staffing in the [Violent Crimes Unit](#) by two sergeants, for a total of 3 sergeants assigned.

Increase staffing of the [Computer Crimes Unit](#) by 2 detectives, for a total of 9 detectives assigned.

Create dedicated AFIS and ten print comparison unit of dedicated staff from 3 current personnel.

In the [Crime Scene Unit](#), increase sergeant staffing by 1 sergeant, for a total of 3 sergeants assigned.

In the [Crime Scene Unit](#), increase staffing by 3 detectives, for a total of 20 detectives assigned.

Over the long term, transition crime scene processing to civilian staff.

Reduce staffing in the [Special Victims and Domestic Violence Unit](#) by 1 detective for a total of 16 authorized detectives, 3 sergeants, 1 analyst and 1 administrative specialist.

In the [Fire Investigations Squad](#), increase staffing by 1 detective, for a total of 4 detectives assigned.

In [Auto Squad](#), increase staffing by 1 detective, for a total of 5 detectives.

Add 1 sergeant over the [Auto Squad](#), [Burglary/Pawn](#), and [Fire Investigations](#), for a total of 2 sergeants assigned.

Increase staffing by 2 detectives in [Narcotics and Vice – PM Shift](#), for a total of 1 sergeants and 9 detectives assigned.

Maintain annual performance measures for the [Graffiti](#) detective.

Administration

Move the three K9 Instructors within the oversight of the [Training Academy](#) as planned.

Review all PBP [Training Academy](#) policies and protocols in comparison to the newly released PERF Training Protocol recommendations. Make adjustments as deemed fit.

Increase the staffing of sergeants assigned to the [Training Academy](#) by 1 position, for a total of 4 FTEs. The new sergeant position should oversee all firearms-related training and certifications.

Civilianize 2 of the 5 officer positions within the [Property Room](#) through attrition.

Fill the vacant detective position in the citywide [OMI](#) office immediately through hiring or reassignment.

In the [Warrant Office](#), reallocate officer staffing across shifts to better match workloads. Two of the officers assigned to the AM shift currently should be reassigned to the PM and Night shifts (one each).

Assign light-duty sworn officers to detail in support of the [Telephone Reporting Unit](#) when possible.

Develop a call-filtering system dedicated to the utilization of the [Telephone Reporting Unit](#) for calls for service that do not necessitate an immediate or emergency police response.

Within the [Computer Operations Unit](#), transition 2 of the 4 officer positions to civilian administrative specialist classifications.

Increase the current staffing of the [Wellness Unit](#) by 1 sergeant, 1 officer, and 2 administrative specialists, in addition to the 1 officer that currently comprises the unit.

Chief of Staff

Increase the current staffing of the [Wellness Unit](#) by 1 sergeant, 1 officer, and 2 administrative specialists, in addition to the 1 officer that currently comprises the unit.

Add 1 Sergeant to the [Criminal Intelligence Unit](#).

Increase staffing in the [Real Time Crime Center](#) by 3 officers (1 on each shift) in order to better meet minimum staffing requirements, resulting in a total of 12 officers across all shifts.

Create a communication plan on behalf of the [Crime Analysis Unit](#) to encourage communication and engagement with zone patrol officers.

Provide access to SharePoint or other intranet solution as an access portal for increased engagement and communication between patrol and [Crime Analysis Unit](#).

OSAR

Transition RMS implementation to the [Central Records and Report Unit](#).

Transition InTime payroll system to the [Computer Operations Section](#).

Review and update the Vehicle Use Policy.

Develop a formal take home vehicle policy.

Establish a vehicle replacement plan utilizing a life cycle cost analysis specific to Bureau fleet replacement needs and fleet industry replacement standards.

2. Patrol Zones

1. Patrol Workload Analysis

The following sections provide analysis of patrol workload and other issues relating to the effectiveness of field services.

(1) CAD Analysis Methodology

Our project team has calculated the community-generated workload of the Bureau by analyzing incident records in the computer-aided dispatch (CAD) database, covering the entirety of the calendar year 2021.

For incidents to be identified as community-generated calls for service and included in our analysis of patrol, each of the following conditions must be met:

- The incident must have been unique.
- The incident must have been first created in the calendar year 2021.
- The incident must have involved at least one officer assigned to patrol, as identified by the individual unit codes of each response to the call.
- The incident type of the event must have sufficiently corresponded to a community-generated event. Call types that could be identified with a high level of certainty as being either self-initiated (e.g., traffic stops) or other kinds of activity generated by the Bureau (e.g., directed patrol) are not counted as community-generated calls for service.
- There must have been no major irregularities or issues with the data recorded for the incident that would prevent sufficient analysis, such as having no unit code or lack of any time stamps.

After filtering through the data using the methodology outlined above, the remaining incidents represent the community-generated calls for service handled by PBP patrol units.

(2) Calls for Service by Hour and Weekday

The following table displays the total number of calls for service handled by patrol units by each hour and day of the week:

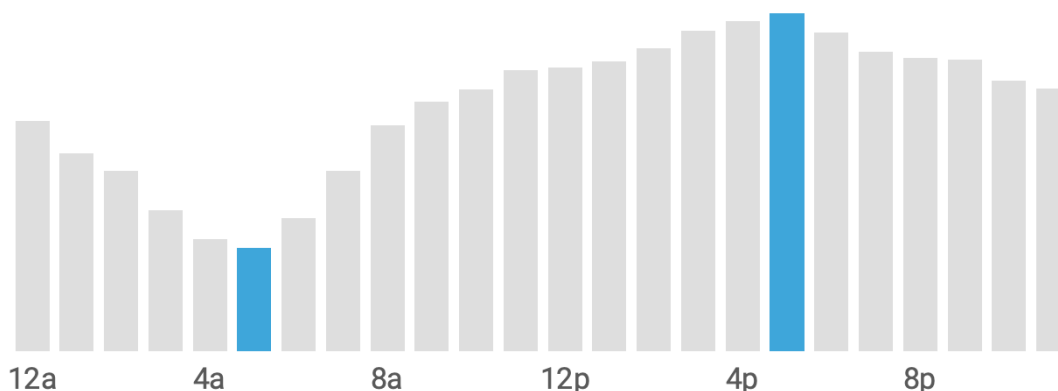
Calls for Service by Hour and Weekday

Hour	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Total
12a	995	605	584	664	590	680	904	5,022
1am	885	521	471	513	534	589	792	4,305
2am	906	480	396	451	464	493	747	3,937
3am	699	351	337	323	338	424	602	3,074
4am	506	291	269	307	308	332	418	2,431
5am	363	325	314	274	315	317	335	2,243
6am	368	391	423	439	453	450	378	2,902
7am	399	588	636	599	633	613	469	3,937
8am	512	796	753	746	813	750	554	4,924
9am	628	828	799	766	784	887	738	5,430
10am	764	802	797	804	867	870	804	5,708
11am	774	887	934	925	874	895	843	6,132
12pm	834	874	920	843	870	910	927	6,178
1pm	845	837	924	890	977	934	911	6,318
2pm	844	908	982	971	943	995	970	6,613
3pm	883	1,003	1,016	1,085	1,039	1,023	943	6,992
4pm	921	995	1,009	1,091	1,088	1,072	1,018	7,194
5pm	955	1,027	1,125	1,154	1,002	1,086	1,023	7,372
6pm	986	947	1,040	1,038	946	1,023	972	6,952
7pm	965	829	972	887	933	956	986	6,528
8pm	922	873	903	864	940	923	967	6,392
9pm	929	886	822	897	847	977	991	6,349
10pm	848	855	813	783	752	899	945	5,895
11pm	762	723	727	758	750	1,001	1,008	5,729
Tot al	18,493	17,622	17,966	18,072	18,060	19,099	19,245	128,557

Call activity gradually rises and falls, reaching a peak from around 3:00PM until 7:00PM, tapering off over a longer period on Friday and Saturday nights.

The following chart aggregates all weekdays together into a chart showing activity level fluctuations:

Call for Service Activity by Hour



Call activity rises and falls steadily, reaching a period of higher activity levels from around 11:00AM through 10:00PM. These fluctuations are important for determining the efficiency of the shift schedule in allocating resources to when they are most needed.

(3) Calls for Service by Month

The following table displays calls for service totals by month, showing seasonal variation as a percentage difference from the quarterly average:

Calls for Service by Month

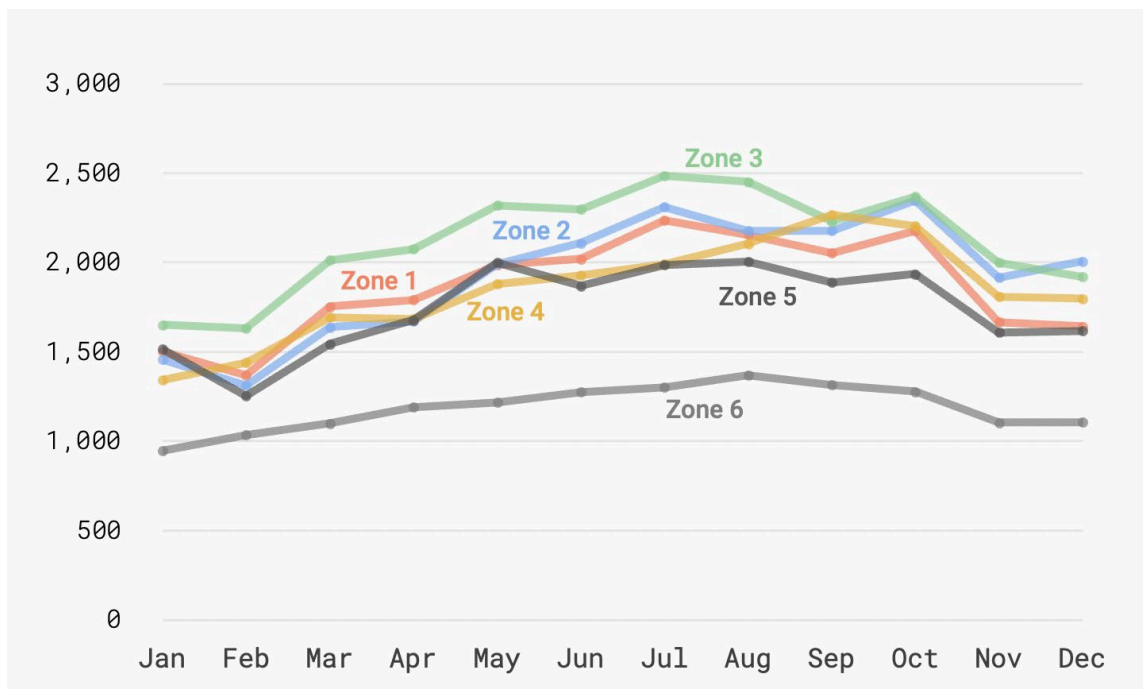
Month	# of CFS	Seasonal +/-
Jan	8,436	
Feb	8,059	- 18.3%
Mar	9,769	
Apr	10,113	
May	11,428	+2.9%
Jun	11,543	
Jul	12,339	
Aug	12,295	+13.9%
Sep	11,973	
Oct	12,354	
Nov	10,127	+1.4%
Dec	10,121	
Total	128,557	

Pittsburgh displays extraordinary seasonal differences in call activity, with the winter months falling to more than -18% below the average. Monthly call workloads are about

50% more on the most active month compared to the least active, which is an unusually wide spread between months. This is a critical consideration for staffing needs, as more significantly resources are needed in the summer months.

There are also some slight differences in how this variation takes place by Zone, as demonstrated by the following chart:

Monthly Call Variation by Zone



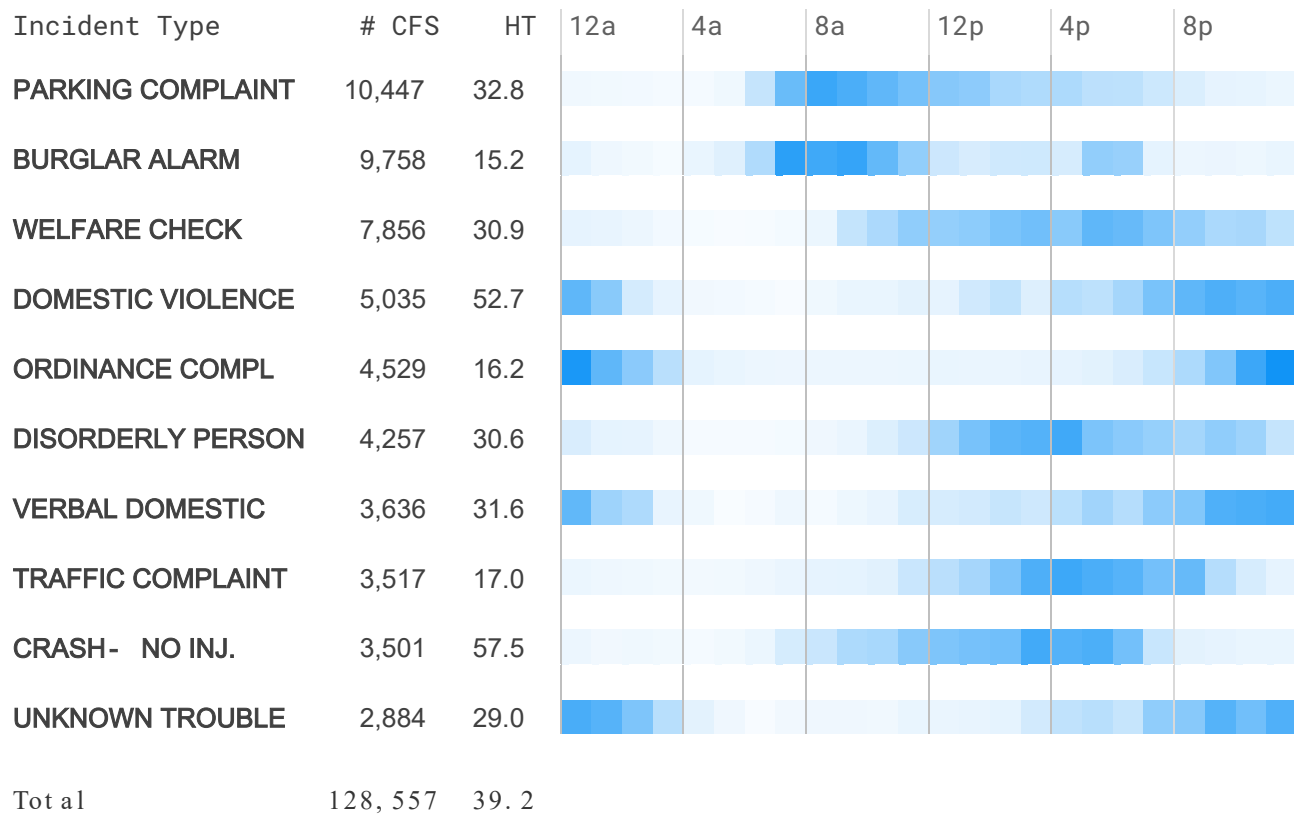
Zone 6, for instance, has a relatively flat activity level compared to Zone 3, which experiences a roughly 56% jump in calls for service between the least active to most active month.

(4) Most Common Types of Calls for Service

The following table provides the ten most common incident categories of calls for service handled by patrol units over the last year, as well as the average call handling time (HT)¹ for each:

¹ Handling time is defined as the total time in which a patrol unit was assigned to an incident. It is calculated as the difference between the recorded time stamps the unit being dispatched and cleared from the incident.

Most Common Call for Service Categories



Parking complaints edge out burglar alarms as the most common incident type, representing about 8% of all community-generated calls for service handled by the Bureau. Other lower-priority call types, such as non-injury crashes, also occupy a significant percentage of call types.

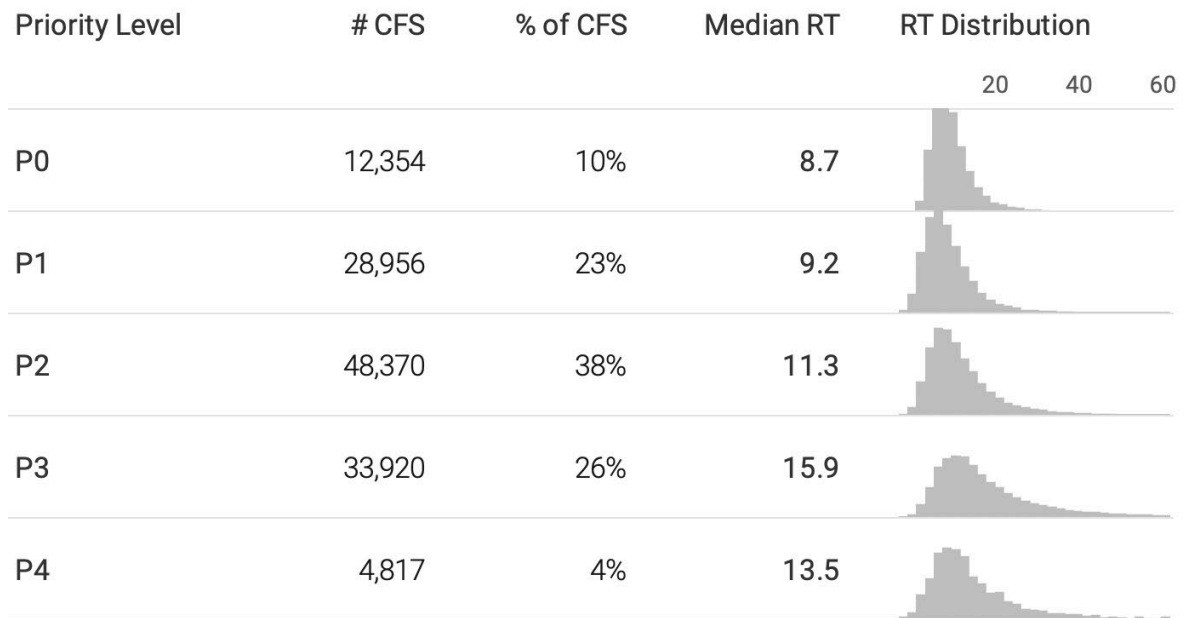
The call types have relatively concentrated periods for where they are most common to occur, and are each staggered – few of the categories occur most commonly at exactly the same hours.

(5) Call for Service Response Time by Priority Level

The following table displays call for service statistics priority level, showing the distribution of calls by response time for each category, with the median (middle value) response time² indicated as a semitransparent blue line:

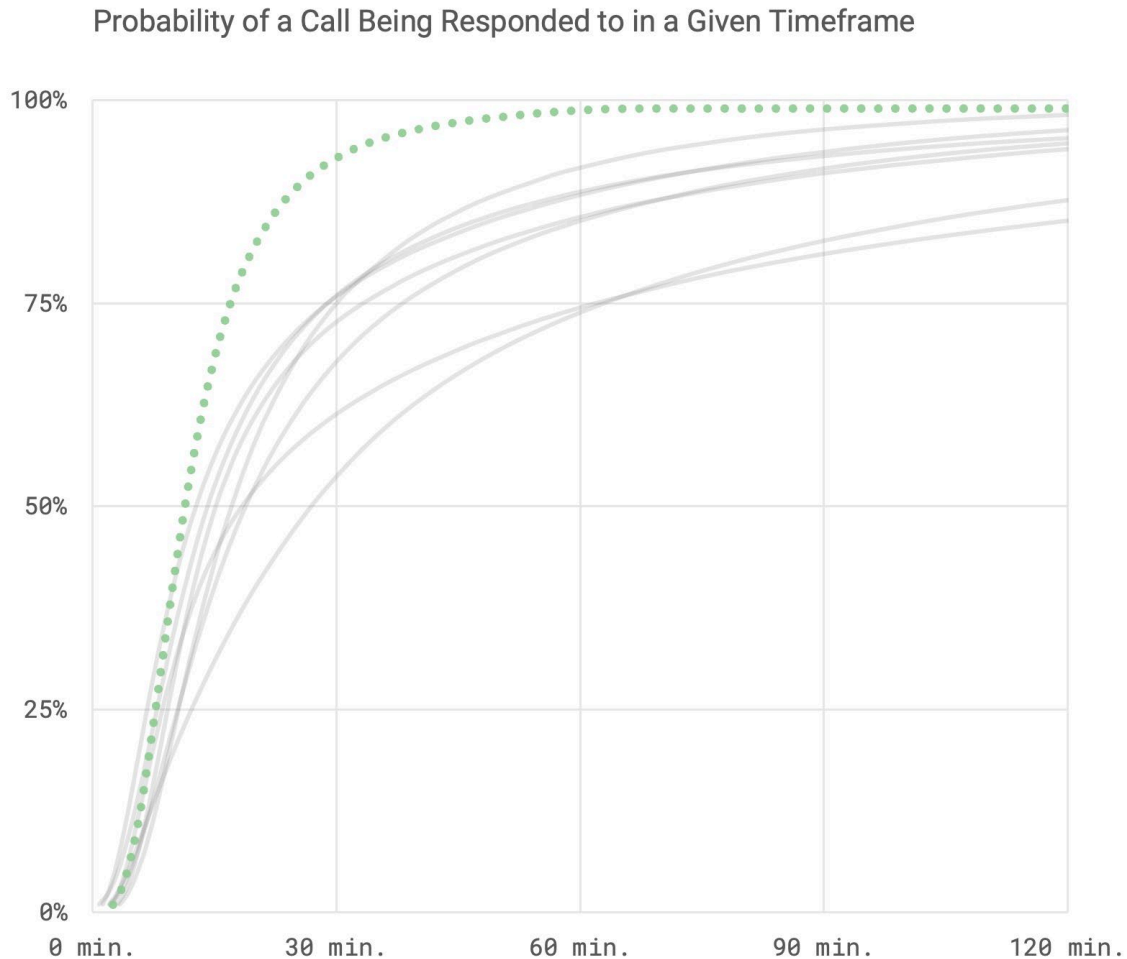
² Response time is defined in this report as the duration between the call creation timestamp and the arrival time stamp for the first patrol officer on the scene.

Call for Service Response Time by Priority Level



Response times to both emergency and non-emergency calls for service are extraordinarily low, indicating a high level of patrol service. In particular, median response times of under 16 minutes for all types of lower-priority calls for service are an extreme statistical outlier among large metropolitan police agencies.

The following chart shows this by depicting the probability that a call is responded to in a given timeframe, comparing **Pittsburgh (dotted line)** against **other agencies of similar size (faint gray lines)**:



- The further the curve is to the *top left*, more likely that responses are made quickly.
- The further the curve is to the *bottom right*, the more likely it is for response times to be higher.

The latter scenario is typically indicative of inadequate resources, as response times are extended due to no units being available to handle the call.

No other agency used in the comparison³ is remotely near Pittsburgh in terms of response time performance. For instance, in Pittsburgh, a call for service is responded to within an hour 99% of the time. In the other metropolitan police agencies included in the comparison, the probability, the probability ranges from approximately 74-92%.

This is underscored by the following comparison from the same data but in table form, showing the likelihood of a call response being made within certain timeframes:

Probability of Call Being Responded to in Given Timeframe

% Chance Call Responded to in...	Pittsburgh	Avg. of Other Metro PDs
15 min.	68%	45%
30 min.	93%	69%
1 hour	99%	84%
2 hours	100%	93%
3 hours	100%	96%

Again, it is essential to note that **all** priority levels are included. Emergency calls that warrant a code (i.e., lights and sirens) response are a relatively small percentage of the total.

This finding also does not on its own prove whether or not resources are sufficient. Nonetheless, it is a strong indicator that staffing can provide for rapid response times, with only a negligible likelihood of calls queueing at busy times.

(6) Calls for Service by Patrol Area

The following table provides basic statistics regarding total calls for service, average handling time (HT), and backup unit rate by zone:

³ The comparative agencies include agencies over 800 sworn, including San Francisco, Fort Worth, Columbus, and Portland, among others. All response time performance data was calculated using the same methodology.

Calls for Service by Patrol Zone

	# Calls for Service	Avg. HT	Backup Rate
Zone 1	22,376	34.4	1.21
Zone 2	23,114	38.2	1.28
Zone 3	25,575	36.9	1.20
Zone 4	22,130	41.1	1.11
Zone 5	21,074	44.4	1.32
Zone 6	14,142	42.2	1.70
Other/Unkn.	146	6.9	0.24

Slight to moderate variation exists in workload per call, with average handling times ranging from 34.4 to 44.4 minutes, and backup rates from 1.11 in Zone 4 to as high as 1.70 in Zone 6.

Workloads by zone will be examined more closely later in this analysis, particularly how they relate to the capacity of staffing levels to provide for proactive time to be consistently available.

2. Analysis of Patrol Resource Needs

Analysis of the community-generated workload handled by patrol units is at the core of analyzing field staffing needs. Developing an understanding of where, when, and what types of calls are received provides a detailed account of the service needs of the community, and by measuring the time used in responding and handling these calls, the staffing requirements for meeting the community's service needs can then be determined.

To provide a high level of service, it is not enough for patrol units to function as call responders. Instead, officers must have sufficient time outside of community-driven workload to proactively address public safety issues, conduct problem-oriented policing, and perform other self-directed engagement activities within the service environment. As a result, patrol staffing needs are calculated not only from a standpoint of the capacity of current resources to handle workloads, but also their ability to provide a certain level of service beyond responding to calls.

With this focus in mind, the following sections examine process used by the project team to determine the patrol resource needs of the Pittsburgh Bureau of Police based on current workloads, staff availability, and service level objectives.

(1) Overview of the Resource Needs Analysis

An objective and accurate assessment of patrol staffing requires analysis of the following three factors:

- i. The number of community-generated workload hours handled by patrol.
- ii. The total number of hours that patrol is on-duty and able to handle those workloads, based on current staffing numbers and net availability factors (e.g., leave, administrative time, etc.).
- iii. The remaining amount of time that patrol has to be proactive, which can also be referred to as “uncommitted” time.

This study defines the result of this process as, **patrol proactivity**, or the percentage of patrol officers’ time in which they are *available and on-duty* that is *not* spent responding to community-generated calls for service. This calculation can also be expressed visually as an equation:

$$\frac{\text{Total Net Available Hours} - \text{Total CFS Workload Hours}}{\text{Total Net Available Hours}} = \% \text{ Proactivity}$$

The result of this equation is the overall level of proactivity in patrol, which in turn provides a model for the ability of patrol units to be proactive given current resources and community-generated workloads. There are some qualifications to this, which include the following:

- Optimal proactivity levels are a generalized target, and a single percentage should be applied to every agency. The actual needs of an individual Bureau vary based on a number of factors, including:
 - Other resources the Bureau has to proactively engage with the community and address issues, such as a dedicated proactive unit.
 - Community expectations and ability to support a certain level of service.
 - Whether fluctuations in the workload levels throughout the day require additional or fewer resources to be staffed to provide adequate coverage.
- Sufficient proactivity at an overall level does not guarantee, based on workload patterns, and deployment schedules, that resources are sufficient throughout all times of the day and week.

Overall, given that there are also specialized proactive units to support patrol operations, PBP should generally target an overall proactivity level of at least 35-40% as an effective benchmark of patrol coverage.

Any community engagement, proactive policing, and downtime in between calls would take place within the target range of 35-40% proactive time. Should proactive time be less than those levels, however, it would come at the expense of each of these activities.

(2) Patrol Shift Schedule

The Pittsburgh Bureau of Police follows a 10-hour shift configuration that assigns personnel to one of three, with officers working staggered workdays. The following table outlines this schedule, showing the number of positions that are assigned to each shift team (including those on long-term and injury leave):

Patrol Officers Assigned by Zone and Shift⁴

Zone	Shift	Actual	Auth.	Start	End
Zone 1	AM	20	20	0600	1600
	PM	24	24	1400	0000
	Night	18	18	2200	0800
Zone 2	AM	29	37	0600	1600
	PM	30	35	1400	0000
	Night	22	22	2200	0800
Zone 3	AM	24	24	0600	1600
	PM	26	30	1400	0000
	Night	29	29	2200	0800
Zone 4	AM	23	23	0600	1600
	PM	20	20	1400	0000
	Night	19	19	2200	0800
Zone 5	AM	25	36	0600	1600
	PM	25	25	1400	0000
	Night	20	20	2200	0800
Zone 6	AM	26	26	0600	1600
	PM	22	22	1400	0000

⁴ Figures displayed in the table also include those in injury and long-term leave, but exclude permanent vacancies in which the position slot is actually open.

Zone	Shift	Actual	Auth.	Start	End
	Night	23	23	2200	0800

In total, 425 officer positions are filled ('Actual' column) in patrol roles, out of 463 budgeted (authorized) positions. The actual figures do not take into account officers on leave, including long-term injury or military leave.

(3) Adjusting for Two-Officer Cars

The deployment patrol units (i.e., cars) with two officers is an important factor in this analysis. In contrast with many large metropolitan departments that staff patrol cars, with one officer unless a trainee is riding with an FTO (field training officer), PBP deploys a mix of one and two-officer cars. Some departments, such as the San Francisco Police Department and Los Angeles Police Department, deploy all patrol cars as two-officer units.

Others, such as the St. Louis Metropolitan Police Department and the Kansas City Police Department (MO), deploy a mix of one and two-officer cars – similar to Pittsburgh. Compared to these agencies, Pittsburgh deploys a relatively minor percentage of its units as two-officer cars.

At its core, this analysis focuses on the availability and workload of patrol units. **Whether one or two officers staff a patrol car, they function as a single patrol unit in the field** in response to events. As the unit is dispatched to a call, *both* officers are committed to the call. In determining whether sufficient officers are staffed to handle the number of calls for service that occur at a certain time, it is critical to use the number of patrol *units* that are on duty, rather than the number of patrol *officers*.

Because of this distinction, it is critical to develop assumptions in order to accurately model how officers are deployed. In particular, estimates must be developed for the proportion of patrol cars that are staffed with one officer as opposed to two.

The project team analyzed CAD data to determine the percentage of responses to calls for service that involved two-officer units versus one-officer units in 2021, which yielded the following proportions:

Proportion of Call Responses by One and Two-Officer Cars

Zone	% of Responses by 1-Officer Units	% of Responses by 2-Officer Units
Zone 1	81%	19%
Zone 2	87%	13%
Zone 3	93%	7%
Zone 4	96%	4%
Zone 5	85%	15%
Zone 6	92%	8%

These percentages can then be used to determine the percentage of officers that are deployed as one and two-officer units. Given that two-officer units contain two officers, the proportions can be derived using each zone's staffing levels. Finally, these are then translated into the number of two-officer cars that would then be deployed, as well as the number of one-officer cars. Any remainders in the count of two-officer units (i.e., a value with the decimal of .5) would then be counted as one-officer units.

The following table shows the results of this analysis, completing the process of modeling how the number of patrol officers equates to the number of patrol units (cars) in the field:

Estimated Conversion of Patrol Officers to Patrol Units

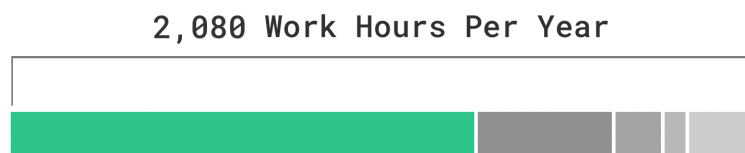
Zone	Patrol + K9 FTEs	# of One-Officer Cars	# of Two-Officer Cars	Total Patrol Units
Zone 1	59	41	9	50
Zone 2	84	66	9	75
Zone 3	81	71	5	76
Zone 4	60	56	2	58
Zone 5	72	54	9	63
Zone 6	69	59	5	64
Total	425	347	39	386

The resulting number of patrol units, 386, forms the basis of the analysis of the capacity of patrol units to respond to community-generated calls for service in the field. All statistics regarding unit availability, backup responses, and handling time refer to the that of patrol units as a whole.

(4) Patrol Unit Net Availability

Out of the 2,080 hours per year that each officer is scheduled to work in a year (excluding overtime), a large percentage is not actually spent on-duty and available in the field.

As a result, it is critical to understand the amount of time that officers are on leave – including vacation, sick, injury, military, or any other type of leave – as well as any hours dedicated to on-duty court or training time, and all time spent on administrative tasks such as attending shift briefings. The impact of each of these factors is determined through a combination of calculations made from PBP data and estimates based on the experience of the project team, which are then subtracted from the base number of annual work hours per position. The result represents the total **net available hours** of patrol officers, or the time in which they are on-duty and available to complete workloads and other activities in the field:



The table below outlines the calculation process in detail, outlining how each contributing factor is calculated:

Factors Used to Calculate Patrol Net Availability

Work Hours Per Year

The total number of scheduled work hours for patrol officers, without factoring in leave, training, or anything else that takes officers away from normal on-duty work. This factor forms the base number from which other availability factors are subtracted from.

Base number: **2,080 scheduled work hours per year**

Total Leave Hours (subtracted from total work hours per year)

Includes all types of leave, as well as injuries and military leave – anything that would cause officers that are normally scheduled to work on a specific day to instead not be on duty. As a result, this category excludes on-duty training, administrative time, and on-duty court time.

*Calculated from PBP data: **324 hours of leave per year***

On-Duty Court Time (subtracted from total work hours per year)

The total number of hours that each officer spends per year attending court while on duty, including transit time. Court attendance while on overtime is not included in the figure.

Without any data recording on-duty court time specifically for patrol officers, the number of hours is estimated based on the experience of the project team.

*Estimated: **20 hours of on-duty court time per year***

On-Duty Training Time (subtracted from total work hours per year)

The total number of hours spent per year in training that are completed while on-duty and not on overtime.

Consequently, this average does not include any training conducted on overtime, and should not be taken as a reflection of the total training that officers receive in a year.

*Estimated: **34 hours of on-duty training time per year***

Administrative Time (subtracted from total work hours per year)

The total number of hours per year spent completing administrative tasks while on-duty, including briefing, meal breaks, and various other activities.

The number is calculated as an estimate by multiplying 90 minutes of time per shift times the number of shifts actually worked by officers in a year after factoring out the shifts that are not worked as a result of leave being taken.

*Estimated: **263 hours of administrative time per year***

Total Net Available Hours

After subtracting the previous factors from the total work hours per year, the remaining hours comprise the total *net available hours* for officers – the time in which they are available to work after accounting for all leave, on-duty training, court, and administrative time. Net availability can also be expressed as a percentage of the base number of work hours per year.

Calculated by subtracting the previously listed factors from the base number:

1,439 net available hours per officer

The following table summarizes this calculation process, displaying how each net availability factor contributes to the overall net availability of patrol officers:

Calculation of Patrol Unit Net Availability

Base Annual Work Hours		2,080
Total Leave Hours	-	324
On-Duty Training Hours	-	34
On-Duty Court Time Hours	-	20
Administrative Hours	-	263
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Net Available Hours Per Unit	=	1,439

Overall, each patrol unit contributes an average of 1,439 net available hours, or about 69.2% of their scheduled work hours. This does not include any time spent while on overtime.



With 386 patrol units (after converting the 425 filled officer positions into deployed one and two-officer cars), this equates to a total of 555,278 net available hours per year, representing the capacity of patrol units to respond to community-generated calls for service and be proactive in the field.

(3) Overview of Call for Service Workload Factors

The previous chapter of the report examined various trends in patrol workload, including variations by time of day and of week, common incident types, as well as a number of other methods. This section advances this analysis, detailing the full extent of the resource demands that these incidents create for responding patrol personnel.

Each call for service represents a certain amount of workload, much of which is not captured within the handling time of the primary unit. Some of these factors can be calculated directly from data provided by the Bureau, while others must be estimated due to limitations in their measurability.

The following table outlines the factors that must be considered in order to capture the full scope of community-generated workload, and provides an explanation of the process used to calculate each factor:

Factors Used to Calculate Total Patrol Workload

Number of Community-Generated Calls for Service

Data obtained from an export of CAD data covering a period of an entire year that has been analyzed and filtered in order to determine the number and characteristics of all community-generated activity handled by patrol officers.

The calculation process used to develop this number has been summarized in previous sections.

*Calculated from PBP data: **128,557 community-generated calls for service***

Primary Unit Handling Time

The time used by the primary unit to handle a community-generated call for service, including time spent traveling to the scene of the incident and the duration of on-scene time. For each incident, this number is calculated as the difference between 'call cleared' time stamp and the 'unit dispatched' time stamp.

In the experience of the project team, the average handling time for large metropolitan police agencies is typically between 35 and 50 minutes, particularly when time spent writing reports and transporting/booking prisoners is *not* included within the recorded CAD data time stamps. At 39.2 minutes on average, Pittsburgh is toward the lower end of that range.

*Calculated from PBP data: **39.2 minutes of handling time per call for service***

Number of Backup Unit Responses

The total number of backup unit responses to community-generated calls for service. This number often varies based on the severity of the call, as well as the geographical density of the area being served.

This number can also be expressed as the *rate* of backup unit responses to calls for service, and is inclusive of any additional backup units beyond the first.

*Calculated from PBP data: **1.27 backup units per call for service***

Backup Unit Handling Time (multiplied by the rate)

The handling time for backup units responding to calls for service is calculated using the same process that was used for primary units, representing the time from the unit being dispatched to the unit clearing the call.

*Calculated from PBP data: **21.1 minutes of handling time per backup unit***

Number of Reports Written

The total number of reports and other assignments relating to calls for service that have been completed by patrol units, estimated at one report written for every three calls for service. This includes any supporting work completed by backup units.

In this case, the number has been calculated from PBP data, using CAD/RMS to determine the rate of calls for service with a disposition code for “REPORT” or “ARREST”.

*Estimated/calculated from PBP data: **0.20 reports written per call for service***

Report Writing Time (multiplied by the report writing rate)

The average amount of time it takes to complete a report or other assignment in relation to a call for service. Without any data detailing this specifically, report writing time must be estimated based on the experience of the project team. It is assumed that 45 minutes are spent per written report, including the time spent by backup units on supporting work assignments.

*Estimated: **45 minutes per report***

Total Workload Per Call for Service

The total time involved in handling a community-generated call for service, including the factors calculated for primary and backup unit handling time, reporting writing time, and jail transport/booking time.

The product of multiplying this value by the calls for service total at each hour and day of the week is the number of hours of community-generated workload handled by patrol units – equating to approximately 160,501 total hours in 2021.

*Calculated from previously listed factors: **74.9 total minutes of workload per call for service***

Each of the factors summarized in this section contribute to the overall picture of patrol workload – the total number of hours required for patrol units to handle community-generated calls for service, including primary and backup unit handling times, report writing time, and jail transport time.

These factors are summarized in the following table:

Summary of CFS Workload Factors

Total Calls for Service	128,557] 52%
Avg. Primary Unit Handling Time	39.2 min.	
Backup Units Per CFS	1.27] 36%
Avg. Backup Unit Handling Time	21.1 min.	
Reports Witten Per CFS	0.20] 12%
Time Per Report	45.0 min.	
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Avg. Workload Per Call	74.9 min.	
Total Workload	160,501 hrs.	

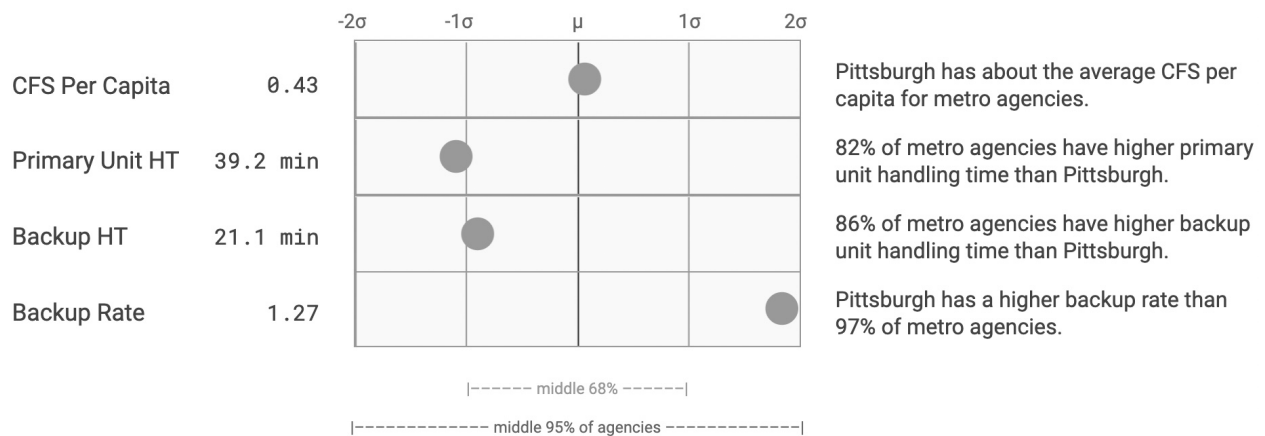
Overall, each call represents an average workload of 74.9 minutes, including all time spent by the primary unit handling the call, the time spent by any backup units attached to the call, as well as any reports or other assignments completed in relation to the incident.

When interpreting the results of a patrol workload analysis, it is helpful to view them within the context of similarly sized agencies. An agency could be an outlier in having a very high average handling time, for instance, but have relatively few calls for service per capita. Comparative data can also help flag extreme outliers, especially when they could be as a result of an issue with the data or a methodological step.

Matrix has worked with numerous large metropolitan police departments over the past five years using the exact same methodology to conduct the CAD analysis. The project team compared the results to this analysis from all 17 agencies, which together have an average sworn staffing level of 1,925, to view how individual workload factors compare to Pittsburgh.

The following table shows this for four different workload variables, showing the degree to which Pittsburgh varies from the average, expressed in standard deviations:

Is Pittsburgh an Outlier? Comparing the Results to Other Large Metropolitan Agencies



In terms of calls for service per capita, Pittsburgh is at the midpoint of the typical range. Even with a higher backup, the primary and backup handling times are lower than most of the other agencies – although not to an extreme degree. Of these agencies, the median total workload per call for service is 87.9 minutes, which is moderately higher than Pittsburgh’s average workload of 74.9 minutes per call.

The findings do not raise red flags in terms of service levels or data accuracy, nor do they provide any indication of whether staffing needs are adequate. To determine that, the workload handled by patrol must be compared against its capacity.

(4) Calculation of Overall Patrol Proactivity

Using the results of the analysis of both patrol workloads and staff availability, it is now possible to determine the remaining time in which patrol units can function proactively. The result can then function as a barometer from which to gauge the capacity of current resources to handle call workload demands, given objectives for meeting a certain service level.

The following table shows the calculation process used by the project team to determine overall proactivity levels, representing the percentage of time that patrol officers have available outside of handling community-generated workloads:

Calculation of Overall Patrol Proactivity

Total Patrol Net Available Hours		555,278
Total Patrol Workload Hours	-	160,501
<hr/>		
Resulting # of Uncommitted Hours	=	394,777
Divided by Total Net Available Hours	÷	555,278
<hr/>		
Overall Proactive Time Level	=	71.1%

At 71% on an overall basis, PBP has an extraordinary level of proactive time available. This is indicative of an extremely high service level, and demonstrates that patrol staffing levels are far above what is sufficient to handle incoming workload.

The following chart shows this analysis at a more detailed level, providing proactivity levels in four-hour blocks throughout the week:

Proactivity by Hour and Weekday

	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Overall
2am-6am	65%	81%	82%	83%	80%	77%	69%	77%
6am-10am	82%	77%	77%	76%	77%	77%	80%	81%
10am-2pm	65%	63%	61%	62%	62%	60%	64%	62%
2pm-6pm	69%	65%	64%	62%	65%	66%	68%	70%
6pm-10pm	58%	59%	57%	60%	58%	58%	58%	58%
10pm-2am	65%	74%	74%	75%	74%	69%	64%	74%
Overall	71%	72%	72%	72%	72%	70%	70%	71%

Proactive time is consistently available at all hours and days of the week, never dropping below 57%. This again demonstrates an extraordinarily high level of service, and indicates that patrol has significant capacity to handle workloads while remaining proactive

To highlight how atypical of a result this is, a formula is used to determine each block's color, ranging from white if below 20%, to green once it reaches 40%, indicating that there is ample proactive time available at that time to engage with the community and conduct

proactive policing. It is rare for any agency, and particularly a large metropolitan police department, to have such results where every cell is shaded green – even during the daytime and early evening hours where patrol workload is highest.

Proactive Time by Zone

	# Patrol Units	Net Available Hours	Total Workload Hours	% Proactive Time
Zone 1	50	71,927	25,402	65%
Zone 2	75	107,891	28,170	74%
Zone 3	76	109,329	30,027	73%
Zone 4	59	84,874	27,128	68%
Zone 5	62	89,190	29,365	67%
Zone 6	64	92,067	20,410	78%

The results of this analysis demonstrate that patrol resources are allocated efficiently across the six zones, leaving no zones with insufficient proactive time – all are above 65% overall.

(6) Additional Conclusions Regarding Patrol Proactivity and Resource Needs

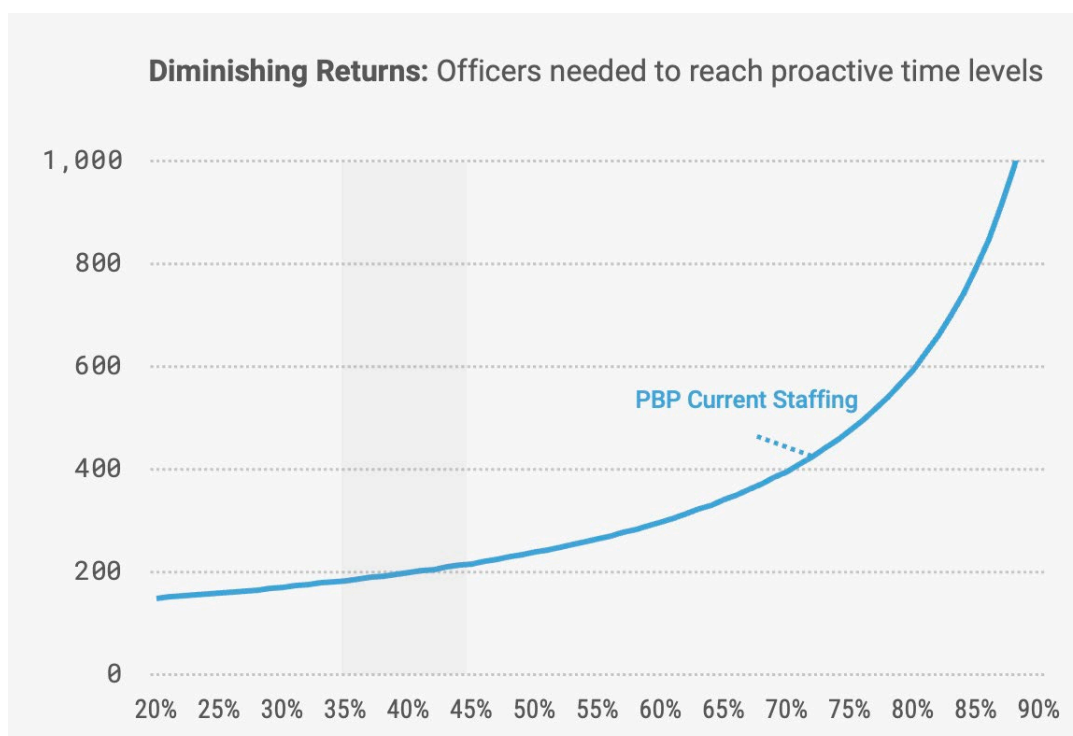
The overall patrol proactivity level should function as a barometer of potential resource capacity to handle workloads and be proactive, and different levels have varying implications for the effectiveness of an agency in being proactive at addressing public safety issues and engaging with the community. These considerations can be summarized as follows:

- As proactive time reaches severely low levels (**20% and below**), calls are frequently queueing, and response times are measurably becoming much higher, particularly for lower-priority calls for service. At these levels, proactive time is more a measure of how diminished the service level becomes, rather than one of the quality of proactive efforts.
- In agencies that are severely understaffed in patrol functions, and consequently have very little proactive time (**under 35% overall**), calls will frequently be held in queues as resources cannot handle the incoming workload. Proactivity also falls behind, as officers in such agencies would have little to no time to be proactive. When gaps do occur, the high rate of workload relative to available time can have a limiting factor on self-initiated generation, as officers avoid being tied up on a proactive activity such as a traffic stop in case priority calls for service occur.

- As proactivity increases (**around 35-45% overall**), the generation of self-initiated activity rapidly increases, as officers are able to deal with already-identified opportunities to proactively address issues in the community, some of which are prioritized and project-oriented engagements.
- Beyond those levels (**at least 45-50% overall**), depending on scheduling and deployment efficiency, the time available for proactive policing increases further, and opportunities to engage in self-initiated activity expand. However, the number of priority needs for self-initiated activity (e.g., addressing narcotics activity) also decrease. Despite this, no limitations exist on the time that can be spent on activities such as saturation/directed patrols and community engagement activities.

The findings from this analysis are particularly notable given that as the proactivity level increases, the number of officers needed to raise it further grows exponentially. Whereas at low proactivity levels, adding several more officers would have a significant effect on overall proactivity, doing so at high proactivity levels (>60%) would have very little effect if the proactivity level was around 60 or 60%.

The following chart provides a visualization of this issue, showing the diminishing returns of adding additional officers on patrol proactivity and service levels:



At 71% overall proactive time, Pittsburgh is far beyond the target range, and is at a point in the curve where additional staffing has a negligible, if any, effect on improving service levels.

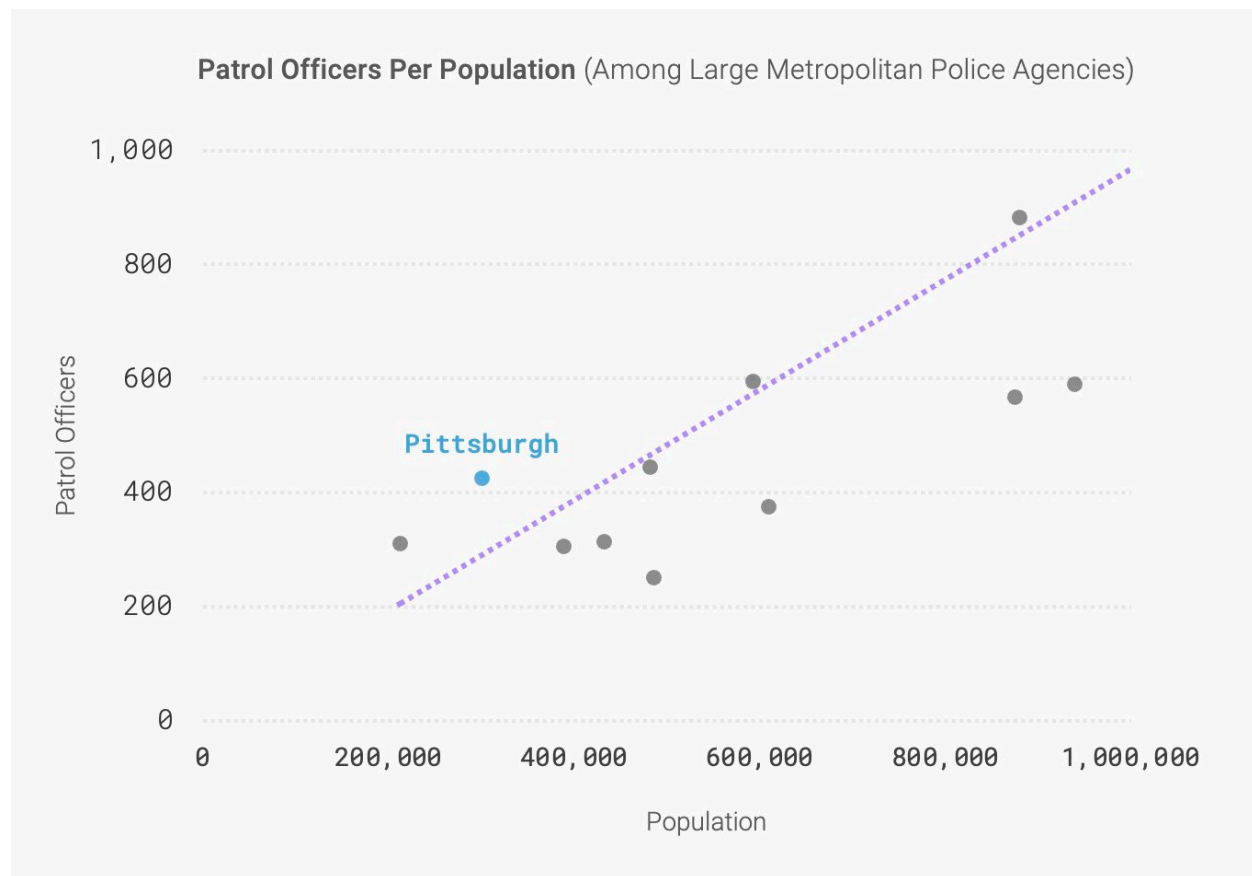
(7) Comparing Pittsburgh Patrol Staffing

The findings of this analysis are striking, with proactive time levels that are a significant outlier among large metropolitan police agencies. Earlier, this analysis compared Pittsburgh's call for service workload statistics (e.g., calls per capita, workload minutes per call) to a number of other agencies that are similar in size and found that, in terms of the actual workload it handles, Pittsburgh is not a significant outlier. Nonetheless, Pittsburgh's workload is moderately lower than other similarly sized agencies.

Therefore, to be such an extraordinary outlier in terms of proactive time – a function of comparing workload to staffing capacity (availability) – the latter must also differ from other similarly sized agencies. In other words, is not only the case that Pittsburgh's workload per call is moderately lower than other agencies, its staffing levels in patrol must also be comparably higher.

This hypothesis was tested using the same pool of comparative agencies to examine how patrol staffing compares relative to population.

The following chart provides this comparison, with the purple line indicating the trendline. The further a dot (an agency) is to the top left of the purple line, the better staffed patrol is relative to population:



All figures represent actual (filled) staffing levels, and do not include vacant positions.

Pittsburgh is the furthest to the top left of the purple trendline, which indicates that it has the highest patrol staffing level relative to its population among large metropolitan police agencies.

(8) Patrol Staffing Needs

To determine staffing needs, it is also important to consider the number of vacancies that currently exist, as well as the rate of turnover. These impacts are explored first before conclusions can be made from the patrol resource analysis, as well as the results of the staffing calculations.

(8.1) Accounting for the Impact of Turnover

An agency will never be fully staffed, as there will always be vacancies occurring as a result of retirement, termination, and other factors. When these events occur, it takes a significant amount of time to recruit a new position, complete the hiring process, run an academy, and complete the FTO program before the individual becomes an on-duty

officer. Given this consideration, agencies must always hire above the number needed to provide a targeted level of service.

The amount of 'buffer' that an agency requires should be based on the historical rate of sworn attrition. If vacancies exist throughout the organization and are not exclusively held within patrol, then the rate of turnover for the Bureau as a whole should be used in the calculation, rather than for patrol specifically, as it its effects organization-wide.

The following table provides recent historical attrition (turnover) for PBP by category:

3 YR Experienced PBP Sworn Turnover Rate

	2019	2020	2021	Avg.
Retired	24	20	46	30
Resigned	20	16	29	22
Terminated	1	3	0	1
Deceased	2	0	4	2
Total	47	39	79	55
As % of Sworn	5.5%	4.6%	9.3%	6.5%

Given these considerations, **an additional 6.5% authorized (budgeted) positions should be added on top of the actual number currently filled (actual) positions in order to account for turnover** while maintaining the ability to meet the targeted proactivity level. The resulting figure can then be rounded to the nearest whole number.

(8.2) Findings and Results of the Patrol Staffing Analysis

As stated previously, an overall proactive time level of 71% is extraordinarily high – far beyond the 40% recommended level for sufficient proactive capabilities and to maintain a high service level.

Given the exceptional nature of these findings, it is worth placing the results into context before staffing needs are calculated.

The results were also placed into two forms of context: Response time performance and comparisons to other jurisdictions.

- In terms of response time performance, Pittsburgh is an outlier among other large metropolitan police agencies, and has significantly better response times to calls, indicating that units are virtually always available to handle an incoming call for service.

- Second, compared to other large metropolitan police agencies, PBP patrol is staffed better relative to population and workload than other agencies.

These findings confirm the veracity of the findings regarding PBP's extraordinarily high level of patrol service, and firmly refute any notion that patrol is understaffed.

If overall proactive time was below 40%, or if there were certain deficiencies at certain times of the day that could not be addressed through redeployment strategies, this analysis would likely recommend new staffing allocations. At 71%, PBP is far beyond that threshold, and far beyond the point at which there is appreciable value gained from additional coverage.

It is also worth noting again that overtime is not factored into this analysis. None of the hours of coverage produced by officers on overtime contribute to the results of the proactivity analysis. This powerfully underscores the finding.

Each of these points lead to a single conclusion – PBP patrol is not only adequately staffed to provide a high level of service, it is exceptionally *overstaffed*. This finding brings with it numerous opportunities to reexamine how overtime is used, standards for covering zones, and opportunities to reallocate sworn resources to other functions.

Given these findings, PBP has a rare, if not unique, opportunity to achieve a community-centric level of service that other police agencies do not have the resources to accomplish.

For instance, the increasing rate of gun violence in the city presents a challenge for the Bureau in working to suppress violent crime. Reallocation from patrol to units aimed at reducing gun violence, for example, could be a more effective use of resources. The analysis will explore these and other opportunities in depth in the final report.

(8.3) Results of the Patrol Staffing Calculations

Typically, our staffing analysis for large metropolitan police departments involves a recommended proactive time level of 35-45%, depending on the specialized units available. In this analysis, given the significant difference between PBP's current proactive time and the recommended, a few different options are presented for various alternative staffing targets, with 50% being the recommended proactive time target.

Additionally, as outlined earlier in this chapter, in order to account for the impact of cars (patrol units) deployed with two officers rather than one, a conversion factor has been used throughout this analysis to translate patrol officer positions (FTEs) into patrol units

(cars). After the number of patrol units needed is calculated, the number must be converted back into patrol officer positions.

The following table presents the results of these calculations:

Calculation of Patrol Officer Staffing Needs

Proactive Time Target		60%	55%	50%
Total Workload Hours		160,501	160,501	160,501
<i>Staffed Hours Needed</i>	=	<i>401,252</i>	<i>356,668</i>	<i>321,002</i>
Net Available Hours Per Officer	÷	1,439	1,439	1,439
Turnover Factor	+	+ 6.5%	+ 6.5%	+ 6.5%
Two- Officer Car Factor	×	1.1x	1.1x	1.1x
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Patrol Officer FTEs Needed		328	291	263
+/- Change From Current		-123	-160	-188

PBP currently has 451 officer positions authorized (budgeted) in regular patrol roles, with 26 of those being vacant at the time of this analysis. Consequently, achieving a proactive time level of 50%— still a very high level of patrol service – requires 188 fewer positions than are currently authorized.

Such a change will require minimum staffing levels – defined as the level at which officers are called in on overtime – to be revisited, as current staffing levels do not reflect need.

There are a number of opportunities to reallocate many of these officers. Other chapters in this report outline potential reassignments.

Recommendations:

The Patrol analysis demonstrates that patrol staffing is far above what is needed to provide a high level of service, and is overstaffed at such a level that adding positions would have no appreciable impact on service. Staffing levels must be realigned with community need.

Based on achieving a proactive time target of 50%, which represents an exceptional level of service – reduce Patrol zone staffing by 188 (authorized) officer positions, resulting in a new total of 263 positions allocated. 26 of the 188 closed FTEs are currently vacant.

Create new minimum staffing levels that can be consistently achieved at the new resource level that provide for officer safety and response capabilities to be maintained.

(8.4) CRO Program

One such opportunity to redistribute resources involves the CRO/NRO program. CROs function as community policing specialists, and conduct outreach to schools. During the summer, they are assigned to public pools. CROs also address quality of life issues and conduct proactive policing focused around homelessness around parks, bridges, and other public spaces. Currently, there are only 2 per zone, for a total of 12 officers assigned across all each zones. With their many responsibilities, this staffing level does not allow for a dedicated focus on neighborhood-specific issues, or provide CROs with enough time to be problem solvers on a consistent basis. Instead, at a staffing level of 2, and with their reassignment in the summer to cover pools, essentially converts their functionality to what is classified as a school resource officer (SRO) in many departments.

PBP is divided into 45 sectors, which function as the individual areas of responsibility within patrol. Assigning a CRO to each sector could facilitate community policing strategies by allowing them to serve as the central point of contact for neighborhood groups and other community stakeholders. This enables community members to interface directly with the Bureau through their assigned CRO. As a result, they are able to gain information and develop intelligence that can be shared with patrol resources, as well to be able to serve as a knowledgebase for community-level issues.

Most large metropolitan police departments have programs such as this, where community policing specialists are assigned to individual areas of responsibility. While exact focus and scope of their activities varies from department to department, the overall principles and dedication of officers to community in specific neighborhoods is constant. Examples of such programs include Austin PD (District Representatives), Dallas (Neighborhood Police Officer), Fort Worth (Neighborhood Police Officer), San Antonio (San Antonio Fear Free Environment), San Francisco (Foot Beat officers), and Los Angeles (Senior Lead Officers).

Pittsburgh has the unique opportunity to establish such a program by reallocating existing officers to such a function, given the overstaffing issue in patrol. Of the recommended 188-officer reduction in patrol, 45 of those positions can be reallocated to serve as CROs. This would allow one CRO sector per sector in addition to the existing 2 CROs that are assigned to schools and, in the summer, public pools. Given the supervision needs that will then be required, one additional sergeant position is needed per zone.

These positions can be sourced from the sergeant staffing recommendation, which is discussed in the next section.

Recommendations:

Upon implementation of the patrol staffing recommendation, reallocate 45 of the officer positions to serve as CROs, with one officer covering each sector.

To supervise the additional CROs, one additional sergeant position is needed per zone, for a total of six additional sergeant positions across all six zones.

(9) Patrol Staffing Required by Zone

Implementation of the patrol staffing recommendation, which rebalances patrol staffing with need, will require reallocation by zone in order to ensure that service levels are maintained throughout the city.

A reduction of 188 officer positions to 263 would allow for proactive time to be reached consistently at 50% overall, even after accounting for turnover. This means that, at a fully staffed level, proactive time will actually be slightly higher, since an extra buffer of +6.5% has been applied in order to adjust for the impact of turnover.

Proactive time describes the relationship between staffing and workload. As workload is higher relative to staffing, proactive time decreases. As staffing levels increase, proactive time increases as well. Consequently, staffing each patrol zone proportionally to workload hours would also result in equalized proactive time levels by zone. For instance, two zones with the same workload and each being allocated half of the staffing resources would have the same proactive time, as staffing is proportional to workload.

The following table shows how, by staffing each patrol zone with a proportional number of officers, a 50% proactive time level is able to be maintained in all zones:

	Total Workload Hours	% of Workload	Proactive Time Target	Officers Needed
Zone 1	25,402	15.8%	50%	42
Zone 2	28,170	17.6%	50%	46
Zone 3	30,027	18.7%	50%	49
Zone 4	27,128	16.9%	50%	44
Zone 5	29,365	18.3%	50%	48

Zone 6	20,410	12.7%	50%	34
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It is critical that the same policies be maintained for commander discretion in allocating zone resources to other functions. Patrol staffing allocations must be made in isolation of regular patrol only, as diversion of these resources to other functions would diminish the patrol service level experienced by the community.

Following the initial reallocation, patrol staffing should be periodically rebalanced proportionally to workload using the same methodology in order to ensure that consistent levels of proactive time are maintained by zone.

Recommendations:

Following implementation of the patrol staffing recommendation, reallocate patrol officer positions as follows to equalize proactive time levels at 50% in each zone:

Zone 1: 42 officers

Zone 2: 46 officers

Zone 3: 49 officers

Zone 4: 44 officers

Zone 5: 48 officers

Zone 6: 34 officers

Periodically rebalance patrol staffing by zone proportionally to the community-generated workload that each zone handles.

(10) Patrol First-Line Supervision

Ensuring that patrol has adequate supervision is critical to the effectiveness of patrol operations in the field.

Staffing needs for patrol sergeants can be measured by span of control ratios, or the average number of officers assigned to sergeants. Many of the key drivers of sergeant workloads include report review, use of force and pursuit review, and performance evaluations, scale directly with the number of officers that are assigned to a sergeant. Consequently, the more officers that are assigned per sergeant, the less time that sergeants are able to be out in the field directly supervising them. In general, no sergeant should supervise more than about 8 officers.

These targets should be adjusted based on the administrative duties that sergeants are required to handle. If sergeants handle more responsibilities with significant workloads

than is typically the case, then the span of control that an agency should target for should be lower than normal, ensuring that sergeants supervise fewer officers.

The following table compares authorized sergeant staffing to officer positions in each shift. It should be noted that there are currently no sergeant vacancies, and the number of officer vacancies in each shift is not of a great enough magnitude to affect the findings:

Supervisory Spans of Control by Patrol Shift

Zone	Shift	Sergeants	Officers	Ratio
Zone 1	AM	3	20	6.7
	PM	3	24	8.0
	Night	3	18	6.0
Zone 2	AM	3	37	12.3
	PM	3	35	11.7
	Night	3	22	7.3
Zone 3	AM	3	24	8.0
	PM	2	30	15.0
	Night	2	29	14.5
Zone 4	AM	3	23	7.7
	PM	3	20	6.7
	Night	3	19	6.3
Zone 5	AM	2	36	18.0
	PM	3	25	8.3
	Night	2	20	10.0
Zone 6	AM	3	26	8.7
	PM	3	22	7.3
	Night	3	23	7.7

On 6 of 18 patrol shift teams, supervisory spans of control are far in excess of 1:8, indicating that there is inadequate supervision on those teams. Additional sergeant positions are critically needed to correct these issues and balance spans of control by zone.

The following table shows how, based upon the current span of control ratios between sergeants and officers assigned to each shift, how many sergeants would be needed to attain span of control ratios of under at least 1:8:

Patrol Sergeant Staffing Needed to Meet Span of Control Targets
(If Current Patrol Staffing Levels are Maintained)

Zone	Shift	Current Span of Control	# Sergeants Needed for 1:8	+/- From Current
Zone 1	AM	6.7	3	0
	PM	8	3	0
	Night	6	3	0
Zone 2	AM	12.3	5	+2
	PM	11.7	5	+2
	Night	7.3	3	0
Zone 3	AM	8	3	0
	PM	15	4	+2
	Night	14.5	4	+2
Zone 4	AM	7.7	3	0
	PM	6.7	3	0
	Night	6.3	3	0
Zone 5	AM	18	5	+3
	PM	8.3	4	+1
	Night	10	3	+1
Zone 6	AM	8.7	4	+1
	PM	7.3	3	0
	Night	7.7	3	0
Total			64	+14

However, as outlined in the patrol staffing analysis, patrol is greatly overstaffed relative to its needs – staffed far above the point at which there are diminishing returns in adding more resources. Unless changes are made to realign patrol resource allocations with need by decreasing patrol staffing, it is essential that more sergeants are needed on many shifts to balance spans of control. Without adequate supervision, the potential for risk

and adverse events grows. Multiple studies demonstrate a link between supervision and span of control and a higher likelihood of use of force⁵ (Lim & Lee, 2015) and particularly, deadly use of force⁶ (Lee & Vaughn, 2010).

This underscores the resource issue caused by excessive staffing in patrol – not only does it require funding additional officers at minimal benefit to public safety, it requires funding more sergeant positions, more vehicles, equipment, and so forth.

The following table provides sergeant staffing needs under the patrol staffing levels recommended in this report:

Patrol Sergeant Staffing Needed to Meet Span of Control Targets
(If Patrol Officer Staffing Recommendations Are Implemented)

Zone	Officers Rec.	Sgt. Needed
Zone 1	14	2
	16	2
	12	2
Zone 2	18	3
	17	3
	11	2
Zone 3	14	2
	18	3
	17	3
Zone 4	16	2
	14	2
	14	2
Zone 5	21	3
	15	2
	12	2
Zone 6	12	2
	11	2
	11	2
Total	263	41

⁵ Lee, Hoon, and Michael S. Vaughn. "Organizational Factors That Contribute to Police Deadly Force Liability." *Journal of Criminal Justice*, vol. 38, no. 2, 2010, pp. 193–206., <https://doi.org/10.1016/j.jcrimjus.2010.02.001>.

⁶ Lim, Hyeyoung, and Hoon Lee. "The Effects of Supervisor Education and Training on Police Use of Force." *Criminal Justice Studies*, vol. 29, no. 1, 2015, pp. 88–88., <https://doi.org/10.1080/1478601x.2015.1113643>.

Officers have been assigned proportionally each zone based on workload, resulting in a proactive time level of almost exactly 50% in each zone.

In total, the 41 sergeants needed to maintain a span of control ratio of 1:8 or under represents a decrease of 9 positions from present staffing levels. This is in stark contrast with the -188 officer reduction recommended; however, span of control levels would actually improve significantly given the difference in reductions being made.

Furthermore, this highlights that in the current state, while patrol officer staffing is extraordinarily high relative to need, patrol sergeants are actually understaffed. Implementation of both the officer and sergeant staffing recommendations would realign staffing levels for both categories with need.

Recommendations:

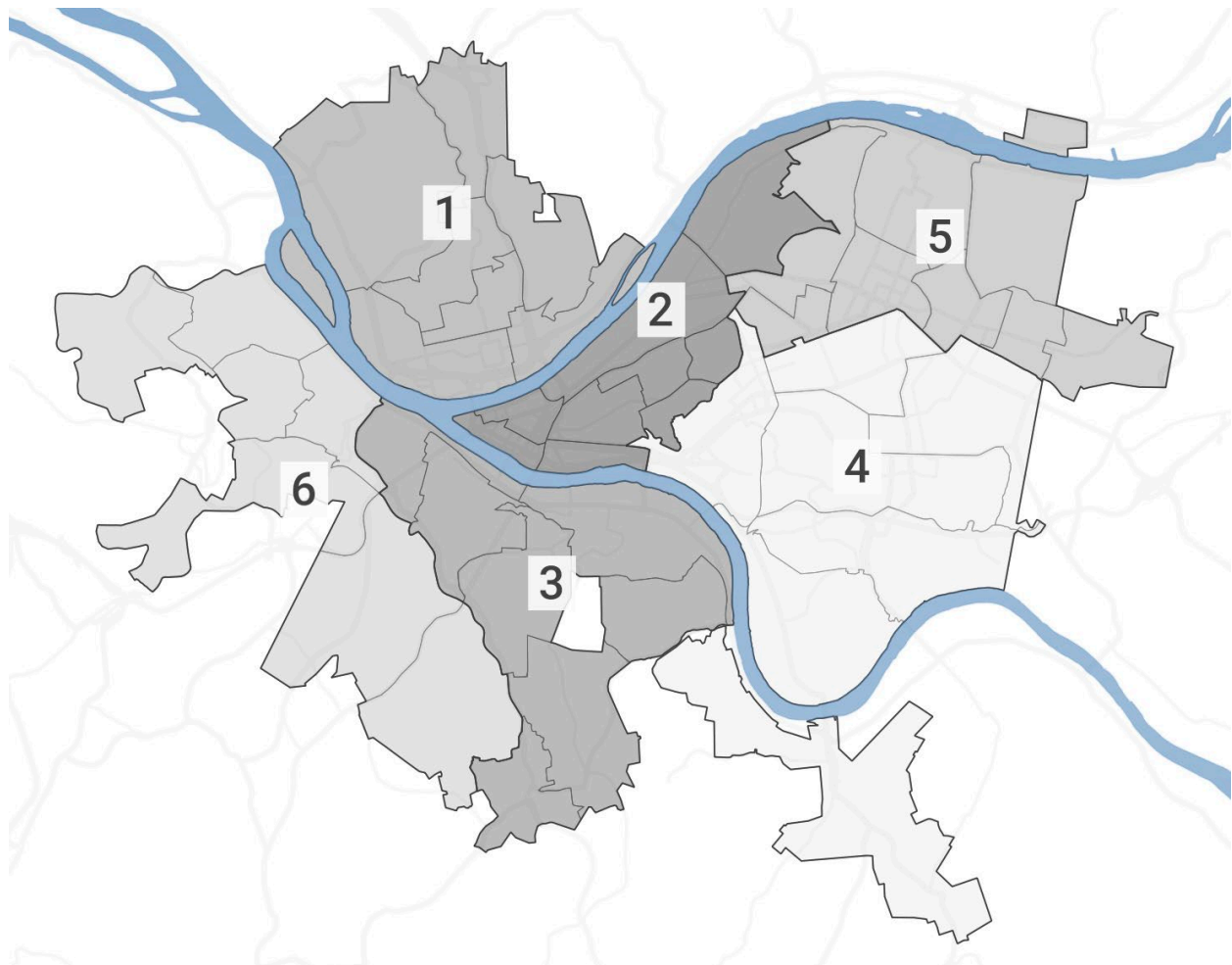
Contingent upon implementing recommendation that reduces **Patrol** officer staffing, decrease patrol sergeant staffing by 9 to achieve span of control ratios of under 1:8 on every shift, for a total of 41 positions across the six zones.

If the **Patrol** officer staffing recommendation is *not* implemented, *increase* patrol sergeant staffing by 14 to address span of control issues, for a total of 64 positions across the six zones.

(11) Analysis of Geographic Deployment

Pittsburgh deploys patrol staff to six zones, which form the area command that staff are allocated to. Each of the zones are subdivided into sectors, which are the areas that patrol officers are assigned on a daily basis. The following map shows this structure:

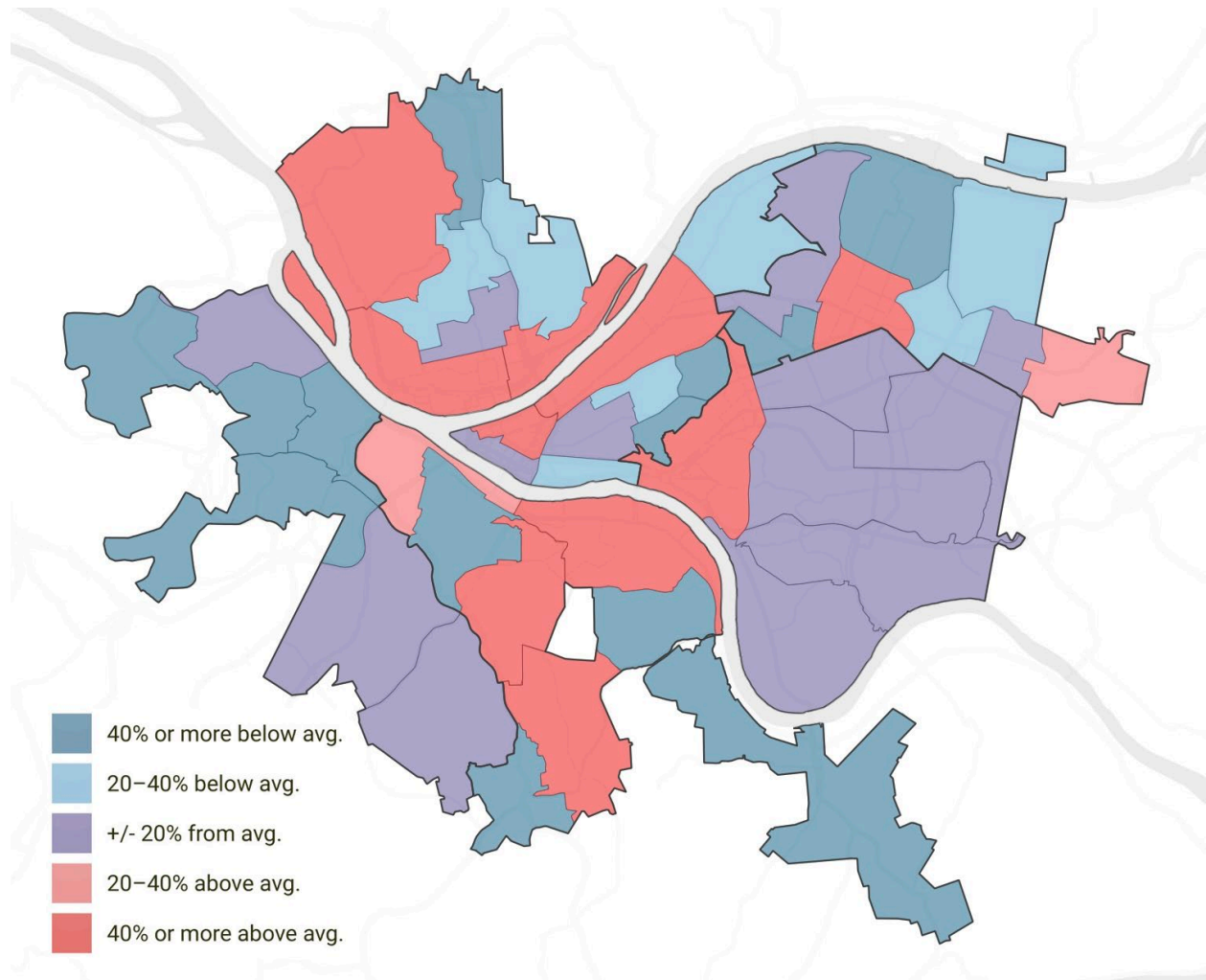
PBP Patrol Deployment Structure



The project team used GIS to map the results of the CAD analysis, which identified and isolated community-generated calls for service handled by patrol units. Using this data, the number of calls for service was measured by sector area and other levels of geography. This provided the foundation for evaluating whether call workloads are relatively equalized among the 45 sectors PBP patrols.

The following table and map present this analysis by shading each sector based on how much its call for service total differs (as a %) from the overall average:

Call for Service Inequality by Sector



32 of 45 sectors display moderate inequality, with call for service totals that are at least +/-20% from the average. As many as 23 of 45 – a majority of sectors – display extreme inequality, with call totals that are at least +/-40% from the average.

Some sectors have call totals far outside of this range, with totals as low as 615 and as high as 7,620. This is evident when viewed as a table:

Call for Service Inequality by Sector

Zone	Sector	# CFS	+-% from Avg.	Zone	Sector	# CFS	+-% from Avg.
Zone 1	1	1,171	-59%	Zone 4	1	6,115	+114%
	2	5,623	+97%		2	3,326	+16%
	3	2,267	-21%		3	3,211	+12%
	4	4,556	+59%		4	2,818	-1%
	5	2,352	-18%		5	2,413	-16%
	6	2,218	-22%		6	3,240	+13%
	7	4,204	+47%		7	1,048	-63%
Zone 2	1	3,061	+7%	Zone 5	1	3,499	+22%
	2	5,031	+76%		2	1,713	-40%
	3	5,037	+76%		3	2,819	-1%
	4	2,378	-17%		4	1,689	-41%
	5	2,008	-30%		5	4,366	+53%
	6	615	-78%		6	1,925	-33%
	7	2,019	-29%		7	2,233	-22%
	8	752	-74%		8	2,834	-1%
	9	2,216	-22%				
Zone 3	1	5,605	+96%	Zone 6	1	1,075	-62%
	2	1,309	-54%		2	3,237	+13%
	3	4,785	+68%		3	1,698	-41%
	4	1,569	-45%		4	1,207	-58%
	5	7,620	+167%		5	2,813	-2%
	6	898	-69%		6	957	-66%
	7	3,835	+34%		7	3,180	+11%

Clearly, the current sector boundaries do not balance call workloads effectively. Some sectors are significantly busier than others, while some sectors have a comparatively minimal workload. While officers can assist in handling calls for service that occur in different sectors, the primary call responder will often be the officer assigned to that sector.

This results in situations where the officers assigned to the much busier sectors have little proactive time available – even though proactive time overall for the city is extremely

high. Despite the overarching finding that staffing levels are excessively high relative to service demands, the everyday reality for officers assigned to some sectors could be vastly different given the extensive workload inequality.

Often, in police agencies where this level of inequality exists, the importance of sectors as a means of assignment is lessened, and a more regional approach is created. This inherently defeats the value of establishing sectors – creating for areas of responsibility and a focus on community policing in an officer’s assigned area. To re-establish this approach and provide for more consistent capabilities by area of the city, the sector boundaries should be redrawn to better equalize call for service workloads.

Recommendation:

Redesign sector boundaries to equalize call for service workloads and provide for more consistent capabilities by area of the city.

3. Patrol Self-Initiated Activity

The analysis to this point has focused exclusively on the reactive portion of patrol workload, consisting of community-generated calls for service and related work. In the remaining available time, which is referred to in this report as proactive time, officers are able to proactively address public safety issues through targeted enforcement, saturation patrol, community engagement, problem-oriented policing projects, and other activity. Equally critical to the question of how much proactive time is available is whether it is used in this manner.

There are some limitations on how the use of proactive time is measured, however. Not all proactive policing efforts are tracked in CAD data, such as some informal area checks, saturation patrol, miscellaneous field contacts, and other types of activity. However, many categories of officer-initiated activity are nonetheless recorded, such as traffic stops, predictive policing efforts, and follow-up investigations.

Nonetheless, CAD data does provide for a significant portion of officer-initiated activity to be analyzed in determining whether uncommitted time is utilized for proactive policing.

(1) Self-Initiated Activity by Hour and Weekday

Self-initiated activity displays different hourly trends compared to community-generated calls for service, as illustrated in the following table:

Self-Initiated Activity by Hour and Weekday

Hour	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Total
12am	431	356	444	474	519	538	476	3,238
1am	432	395	465	504	504	502	460	3,262
2am	342	340	456	489	458	440	431	2,956
3am	308	283	437	444	425	387	369	2,653
4am	247	258	416	427	426	372	292	2,438
5am	103	114	191	227	219	175	149	1,178
6am	39	68	73	81	94	84	64	503
7am	276	315	269	281	282	370	327	2,120
8am	471	400	375	335	318	414	432	2,745
9am	477	347	416	384	396	432	518	2,970
10am	450	426	460	435	465	517	482	3,235
11am	416	464	431	453	470	463	467	3,164
12pm	384	483	417	460	441	469	417	3,071
1pm	314	481	385	370	364	403	380	2,697
2pm	155	247	212	220	209	195	195	1,433
3pm	489	541	516	543	536	552	545	3,722
4pm	498	597	516	528	583	673	560	3,955
5pm	476	552	530	548	577	588	595	3,866
6pm	459	491	480	484	495	537	469	3,415
7pm	443	560	514	569	478	530	519	3,613
8pm	440	540	518	511	463	528	470	3,470
9pm	344	405	351	344	325	406	352	2,527
10pm	143	135	140	194	163	195	191	1,161
11pm	322	354	387	466	414	364	330	2,637
Total	8,459	9,152	9,399	9,771	9,624	10,134	9,490	66,029

Self-initiated activity is most prevalent during the late afternoon through the evening hours, reflecting the majority of PM (swing) shift hours. Interestingly, the hours taper off sharply at 6:00 AM, 2:00 PM, and 10:00 PM (the hours at which shifts begin. In each of these cases, however, the overlapping shift is still on duty for another two hours.

(2) Self-Initiated Activity by Category

Unlike community-generated calls for service, self-initiated activity is typically more concentrated over a few call types:

Most Common Categories of Self-Initiated Activity

Incident Type	# CFS	HT	12a	4a	8a	12p	4p	8p
NEIGHBORHOOD PATRO	23,057	14.9						
POLICE PARK & WALK	8,657	22.1						
TRAFFIC STOP	6,803	24.4						
BUSINESS CHK/WATCH	4,768	8.5						
PFA SERVICE	4,256	35.6						
MAYORS COMPLAINT	2,919	8.3						
SHOTS HRD BY SENSR	1,483	27.8						
DETAIL - POLICE	1,191	91.1						
PARKING COMPLAINT	1,041	20.6						
WARRANT SERVICE	921	83.1						
All Other Types	10,933	37.8						
Total	66,029	23.9						

Neighborhood patrols are by far the most common type of self-initiated activity conducted by PBP patrol officers, at nearly three times the next highest category – which represents another type of proactive patrol, only on foot. Traffic stops are the third most common. Before the COVID-19 pandemic, the vast majority of agencies the project team has worked with had this as the most common self-initiated activity type. However, during and immediately after the pandemic, these sharply fell to reduce direct contacts.

(3) Total Utilization

Overall, the rate at which self-initiated activity is conducted is not high relative to the amount of proactive time available. This can be shown by examining **total utilization** – the percentage of officers’ net available time that is spent handling both community-generated calls for service and self-initiated activity:

% of Available Time Utilized on Either Calls for Service or Self-Initiated Activity

	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Overall
2am–6am	39%	23%	22%	22%	25%	27%	36%	28%
6am–10am	21%	27%	27%	29%	28%	27%	24%	22%
10am–2pm	40%	45%	46%	46%	45%	47%	41%	44%
2pm–6pm	35%	41%	42%	44%	42%	41%	37%	35%
6pm–10pm	47%	47%	50%	47%	49%	49%	48%	48%
10pm–2am	22%	22%	22%	19%	21%	26%	25%	30%
Overall	33%	32%	33%	33%	33%	35%	34%	34%

Throughout most of the hours in which proactive time is most useful – the daylight and early evening hours – about 40-50% of officers' time is utilized responding to community-generated calls for service or proactively engaging in self-initiated activity. Of course, it should be noted that not all self-activity is recorded in CAD.

Again, however, it should be taken into consideration that the data used in this analysis was for 2021, which still includes the effects from the COVID-19 pandemic. This greatly affected the rate of self-initiated activity around the country, as agencies have strived to reduce the number of contacts made on a daily basis.

5. Feasibility of Implementing Alternative Response Strategies

The following sections examine opportunities to divert calls for service from sworn patrol response to other means, allowing service levels to be improved with limited resources, while also providing the potential for quicker responses to lower-priority calls for service.

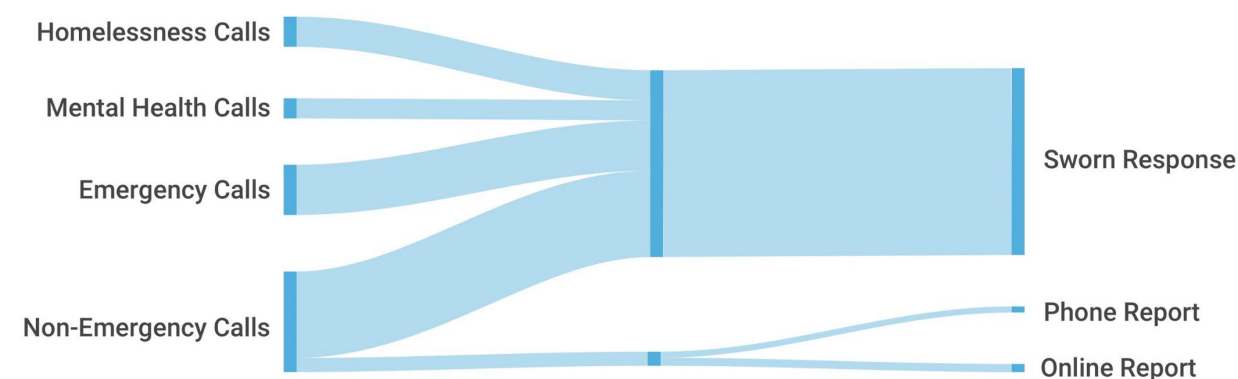
(1) Overview of the Call Diversion Framework

In recent years, more and more has been asked of officers. Police have been called to function as social services in responding to issues of homelessness and mental health issues, and serve numerous other roles beyond what was expected in the past. At the same time, service level expectations have not diminished. Perhaps more than ever, police have been asked to respond to minor, non-emergency calls such as non-injury accidents, and calls that simply do not need to be not law enforcement matters.

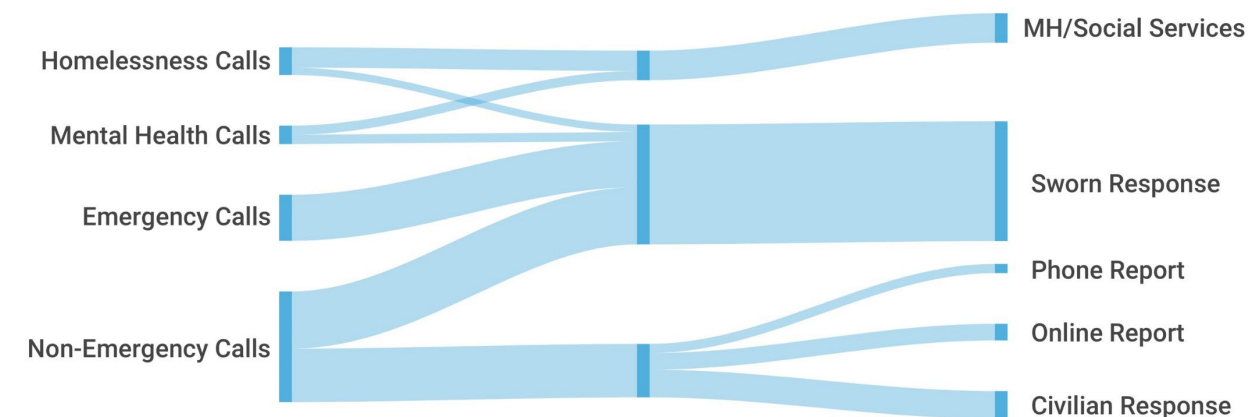
Although this analysis focuses on establishing a civilian field responder classification to handle low-priority calls for service, it is critical to stress that this is part of a greater picture of call diversion. Reducing police workload involves using not only civilian field responders, but emphasizing and expanding phone and online reporting, as well as specialized teams to handle calls revolving around homelessness and mental health issues.

The following pair of diagrams provide an illustrative model for how call diversion can reduce the involvement of police in handling certain types of workload, handling those calls through other means instead:

Before Implementing Call Diversion Approaches



After Implementing Call Diversion Approaches



Reducing patrol workload through an array of different approaches can free patrol officers' time to focus on the types of activities that benefit most from their skillsets,

such as proactive policing, responding to emergency calls for service, and engaging with the community.

This chapter examines the feasibility of implementing call diversion, particularly through the establishment of a civilian field responder that can handle lower-priority calls for service.

To determine the number of calls that could feasibly be handled by a civilian field responder, the project team examined the same CAD dataset used for the patrol, examining only incidents that have been identified as community-generated calls for service handled currently by patrol officers.

(2) Building a Call Diversion Program Based on the Experience of Other Agencies

Before the scope of such a program can be determined for PBP, it is critical to first examine what the scope would actually be comprised of – in terms of which calls could feasibly be handled by civilian responders, and how this translates to the call types used in PBP CAD data.

To better inform the call diversion analysis, the project team used comparative data from other agencies that deploy civilian CSOs (i.e., civilian call responders) to handle calls for service in the field. In each of these agencies, CAD data has been analyzed using the same methodology in order to provide for a more level analysis.

While agencies can have vastly different approaches to categorizing calls, many of the types of calls relevant to this analysis are largely congruent across datasets, with differences mainly affecting the striation of severity between call subtypes (e.g., minor and major injury accident categories).

To ensure that this is the case, agencies were selected that are in the same state, partly for their similarity in call types, since many reflect penal code numbering systems. Nonetheless, some aggregation of call types was needed in order to group calls under the same broad categories. For instance, one CAD database may have a call type for “Missing Juvenile” but not “Runaway Juvenile”, while others have distinct call types for both. On the issue of a different state being used, it should be noted that civilian responders would not require arrest or citation powers for the call types in question, thus removing some legal complexity in terms of the state they would be operating in.

The following table summarizes the results of this comparative analysis, showing percentage of calls that were diverted to CSOs in each agency by type of call:

% of Calls Handled by CSOs During Their On-Duty Hours

Type	Fremont	Rancho Cordova	Roseville	Mountain View	West Sacramento	Avg.	Max
Traffic Hazard	50%	11%		50%		37%	50%
Theft	25%	41%	39%	35%	53%	39%	53%
Accident (Non-Inj.)	20%	22%	14%	42%		25%	42%
Theft From Vehicle	65%	41%	56%	46%	66%	55%	66%
Auto Theft	66%	45%	42%	55%	62%	54%	66%
Recovered Stolen	65%	44%	35%	58%	21%	45%	65%
Lost/Found Property	70%	18%	47%	67%	50%	50%	70%
Graffiti	56%		80%		50%	62%	80%
Vandalism	15%	20%	37%	47%	49%	34%	49%
Runaway/Missing	50%	25%	40%	48%	37%	40%	50%
Burglary-Residential	60%	38%	39%	52%	50%	48%	60%
Burglary-Comm.	74%	60%	39%	60%	50%	57%	74%
Fraud		15%	33%	49%	63%	40%	63%
Parking Complaint	82%		27%	70%		60%	82%
Grand Theft		21%	31%	30%	59%	35%	59%
Accident (Min. Inj.)	16%	15%	12%	47%		23%	47%
Property Pickup		12%		93%		53%	93%
Diversion Rate	20%	11%	10%	29%	12%	16%	29%

From this analysis, it is clear that there are prevailing practices and significant precedent for a wide range of calls to be handled by civilian responders as an alternative. This includes many calls involving the report of crimes, such as burglaries (cold only/past tense), fraud, and theft incidents; as well as a number of process-oriented workloads such as events involving lost/found property or recovered stolen property.

The common traits among the selected call types principally include the following:

- Lack of on scene suspects/perpetrators; consequently, low risk involved.
- Lack of two conflicting parties (such as in a domestic incident).
- Arrests do not need to be made in responding to the call.

The maximum values are most relevant in this analysis, as they should be the upper potential for call diversion. Lower values could largely be due to insufficient numbers of CSOs on duty, rather than their eligibility to handle the call if another agency is able to divert a much higher percentage.

(3) Analysis of Call Diversion Potential

Based on the comparative analysis of other agencies that deploy CSOs to respond to lower-priority calls for service, the project team analyzed the feasibility of implementing a program with a similar scope in the Pittsburgh Bureau of Police.

PBP call types were mapped against the categories used in the comparative analysis, with percentages assigned that reflect rounded values from the upper potential (max) values of the comparative agencies. Translating the categories into the call type categorization PBP uses, the relevant calls are highly similar to those used in the comparative context. The following table categorizes them into broader groups, and lists their matching diversion percentage based on the comparative data:

Call Types Identified for Diversion

	Incident Type	# CFS
Report Call	AUTO THEFT REPORT	1,143
	RECOVERED STOLEN VEH	201
	THEFT FROM A VEHICLE	662
	THEFT REPORT	1,532
	BURGLARY REPORT	920
	FRAUD REPORT	576
	GRAFFITI-NON HATE CR.	115
	PROPERTY REPORT	1,176
Parking/Traffic	DISABLED VEHICLE	1,786
	ABANDONED VEHICLE	904
	CRASH - NO INJURIES	3,501
	CRASH - UNKN INJURIES	1,161
	ROAD HAZARD	1,522
	CHECK HAZARD	491
	PARKING COMPLAINT	10,447

Animal	NON DANG. ANIMAL	1,182
	DEAD ANIMAL	86
Missing Person	PERSON FOUND	85
	PERSON MISSING	546
	CHILD FOUND	258
	CHILD MISSING	279
	RUNAWAY JUVENILE	354
	Total	28, 927

Importantly, it is also worth considering that agencies allow many of these call types to be reported online, such as non-injury accidents, thefts, thefts from vehicles, and property damage. The effectiveness of diversion can be increased by allowing for a spectrum of different parallel approaches, rather than relying on one method.

Nonetheless, as noted earlier, these percentages represent the maximum potential for diversion, rather than what is likely to take place based off of staffing, deployment, and other factors.

Using these percentages, PBP CAD data (covering the same time period used for the patrol analysis) can be used to identify how this potential translates into workload being diverted from patrol officers. The following table presents the results of this analysis:

Estimated Potential for PBP Non-Emergency Call Diversion

	Incident Type	# CFS	% Diverted	# Diverted	Work Hours Diverted
Report Call	AUTO THEFT REPORT	1, 143	65%	743	784
	RECOVERED STOLEN VEH	201	65%	131	135
	THEFT FROM A VEHICLE	662	65%	430	481
	THEFT REPORT	1, 532	50%	766	758
	BURGLARY REPORT	920	75%	690	861
	FRAUD REPORT	576	60%	346	356
	GRAFFITI-NON HATE CR.	115	50%	58	70
	PROPERTY REPORT	1, 176	70%	823	742

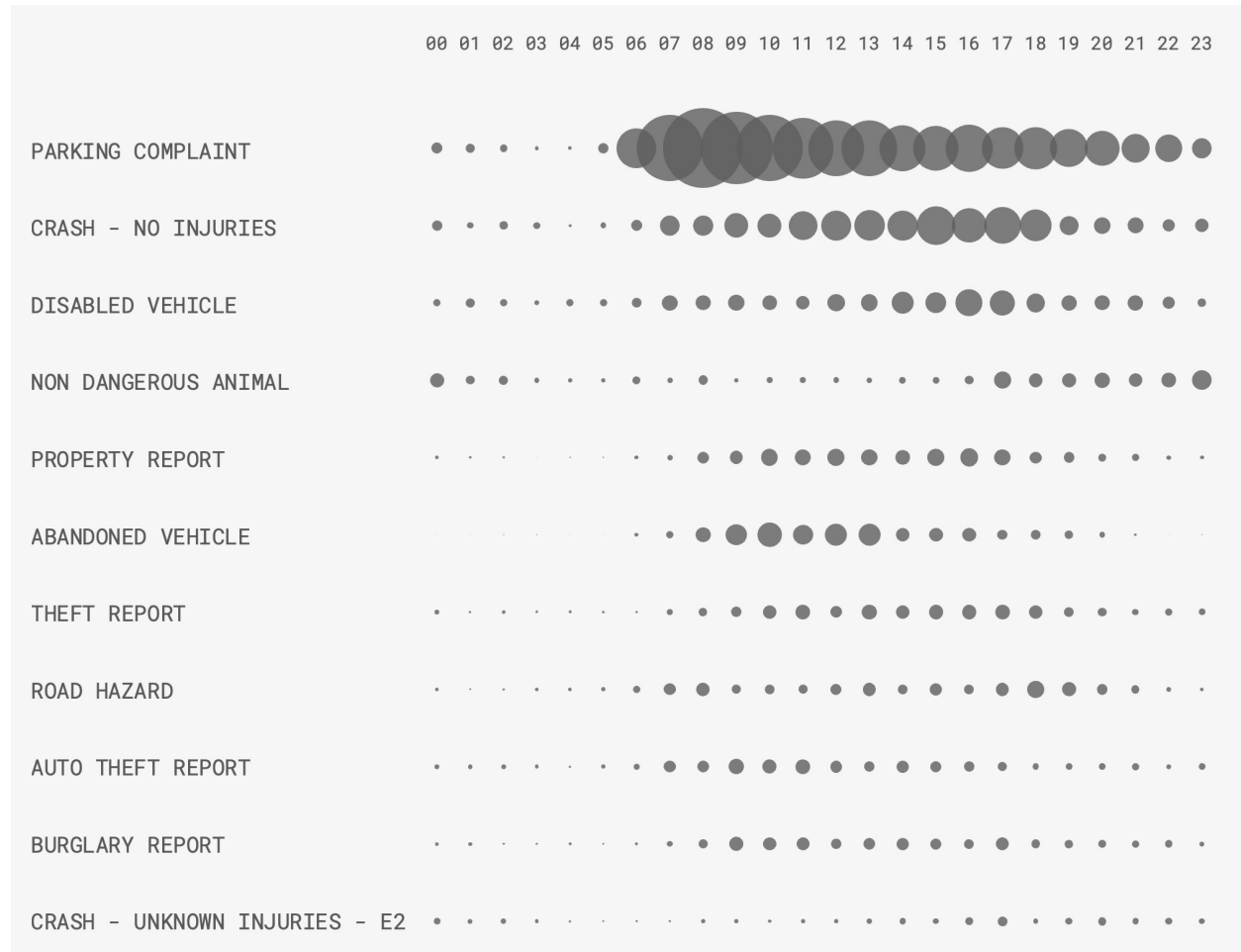
	Incident Type	# CFS	% Diverted	# Diverted	Work Hours Diverted
Parking/Traffic	DISABLED VEHICLE	1,786	70%	1,250	689
	ABANDONED VEHICLE	904	90%	814	454
	CRASH - NO INJURIES	3,501	50%	1,751	1,472
	CRASH - UNKN INJURIES	1,161	40%	464	528
	ROAD HAZARD	1,522	50%	761	339
	CHECK HAZARD	491	50%	246	117
	PARKING COMPLAINT	10,447	80%	8,358	4,510
Animal	NON DANG. ANIMAL	1,182	70%	827	361
	DEAD ANIMAL	86	80%	69	25
Missing Person	PERSON FOUND	85	50%	43	35
	PERSON MISSING	546	50%	273	285
	CHILD FOUND	258	50%	129	112
	CHILD MISSING	279	50%	140	144
	RUNAWAY JUVENILE	354	50%	177	182
	Total	28,927	-	19,289	13,439

This analysis demonstrates that, based on the experience of other agencies, up to 19,289 calls for service could be diverted to civilian response. This represents about 15% of all calls handled by the Bureau.

The identified calls represent 13,349 workload hours based on each call type's average handling time. Without considering the effect of other recommendations, such as staffing level changes, diverting 15% of all calls for service would increase patrol proactive time from 71% to 73%. The reason the difference is so marginal is due to how exceptionally high patrol is already staffed. As explored earlier, there are diminishing effects from increasing patrol staffing.

To realize the potential for call diversion, the analysis must consider how such a program would be staffing and deployed. The following chart provides a visualization of this by proportionally scaling hourly activity by call type, relative to the percentage of calls that are estimated to be divertible:

Hourly Frequency of Calls Identified for Diversion



As the chart demonstrates, the vast majority of divertible calls occur during the early daytime and evening hours. In total, 87% of all divertible calls occur within a 14-hour period from 7:00AM to 9:00PM.

As a result, a two-shift approach is likely needed. Alternatively, if civilian responder staffing were covered by a single -hour shift, 66% of calls could be covered from 8:00AM to 6:00PM.

Given the more complete coverage offered by a two-shift configuration, the following table outlines the staffing calculations for civilian call responders based on that approach, which also assumes a utilization rate of 70%:

Civilian Call Responder Staffing Calculations

# of CFS to Divert	15,308
Hours of Workload	10,625
Utilization Rate	70%
Net Available Hours Per CSO	1,459
Hours to Staff	15,179
CSO FTEs Required	11

At a staffing level of 11, it equates to each CSO handling about 6.5 calls per shift, with each shift being 8 hours long. Given that only divertible calls within the two-shift window (7:00AM to 9:00PM) are considered, this equates to approximately 11.9% of all calls handled by PBP patrol units.

In total, 11 civilian call responders would be needed to staff the program and achieve significant diversion of calls for service and improve patrol service levels. An additional two supervisor positions would also be needed, with one working each shift. The supervisors could function as lead, accommodating variability in divertible call demand by hour.

Recommendation:

Establish a civilian Community Service Officer (CSO) call responder classification to respond to non-emergency calls for service in the field that do not require a sworn officer to respond.

Establish a civilian CSO Supervisor classification to supervise the newly created CSO responder positions.

Add 11 CSO call responder positions to implement the civilian call diversion program.

Add 2 CSO Supervisor positions to supervise the CSOs in support of the implementation of call diversion.

3. Special Deployment Division

The Special Deployment Division is located within the Police Operations organizational structure and comprises support units that provide specially trained and equipped personnel supporting the Bureau's mission. The division is led by a Commander and is comprised of the following units:

- Public Safety Planning Unit
- Bomb Squad
- River Rescue Unit
- Mounted Patrol Unit
- Special Weapons and Tactics (SWAT)
- K9 Unit
- Motors Unit
- Impaired Driving Unit
- Commercial Motor Vehicle Enforcement Unit
- Collision Investigation Unit
- Abandoned Vehicle Unit

Each of these functional areas are evaluated in the following sections.

1. Public Safety Planning Unit

The Public Safety Unit's primary responsibilities include working with community groups, event organizers, and other divisions of the Department of Public Safety in order to ensure special events are adequately staffed and security measures are in place. The unit also manages the Bureau's Secondary Employment Program. Currently, the unit is staffed with one Lieutenant, one Sergeant (position is currently vacant), three Officers (one position is currently vacant), and one Administrative Clerk. The unit's work schedule is Monday through Thursday, 6am – 4pm.

The Lieutenant is also assigned management responsibilities for the Mounted Unit, Bomb Squad, K9 Unit, River Rescue Unit, and the Flood Response Team (auxiliary unit).

(1) Secondary Employment

Each year, Bureau Officers work several different City of Pittsburgh sponsored special events. These events are initially opened up for Officers to sign up for on an overtime basis. Once event sign ups have been exhausted, the remaining event staffing is through forced overtime. Each of the event's police staffing is managed by the Public Safety Planning Unit. The below chart depicts the total number of events and Police Officer hours dedicated to each event:

Special Events		
Month	Event	Officer Hours
January	–	–
February	–	–
March	–	–
April	UPMC Sports Medicine 5k and Kids Marathon	136
May	Dick's Sporting Goods Pittsburgh Marathon	979
	Susan G. Komen More Thank Pink Walk	43
June	Pittsburgh Three Rivers Arts Festival	178
	Juneteenth Kick Off	1,878
	Pittsburgh Pride Revolution	99
July	4 th of July Celebration	185
	Fleet Feet Pittsburgh Liberty Mile	128
August	Pittsburgh Three Rivers Regatta	308
	Yinzer 4.12k	124
September	Dollar Bank Junior Great Race	4
	Richard S. Caliguiri City of Pittsburgh Great Race	133
October	–	–
November	EQT 10-Miler	175
	Light Up Night	46
	YMCA Turkey Trot	103
December	Pittsburgh Cultural Trust First Night	164
Total/Year		4,682

Pittsburgh Police Bureau officers are eligible to engage in secondary employment once they have completed twelve months from hire date and are in good standing with the bureau. Good standing is defined as no record of absenteeism, no patterns of violations

of the secondary employment policy and no sustained disciplinary actions. Officers must not be on sick leave, military leave, Family Medical Leave Act (FMLA) leave, or any leave resulting from an off-duty injury or not temporarily assigned to administrative duty pending investigation.

Secondary employers include area sports teams and facilities, parking companies, supermarkets, shopping malls, and construction companies. An audit of the police bureau's secondary employment was completed by the City of Pittsburgh, Office of the City Comptroller in June of 2020. This audit focused on the various financial aspects of the Bureau's secondary employment practices during the years of 2018 and 2017. This report also analyzed secondary employment work hours for the Bureau. One Police Officer worked 1,817.25 hours; the most of any employee in 2018.

The Pittsburgh Police Bureau policy limits the number of secondary employment work hours to a reasonable number of hours per workweek, not to exceed sixteen hours per day in combination with the employee's scheduled tour of duty or the permissible number of hours per week. This total number of hours can be extended with the approval of the Commander overseeing the planning unit or a designee.

The following maximum work hours per week have been established by the Bureau:

Secondary Employment Weekly Maximum Work Hours	
Police Officer 2	21 hours per week
Police Officer 3	29 hours per week
Police Officer 4	37 hours per week

Sergeants and Lieutenants are also eligible to participate in the Secondary Employment Program. These employees are required to fill supervisor vacancies first, then allowed to select officer positions.

The below chart depicts the total number of secondary employment hours worked by Bureau Officers in 2021:

Secondary Employment - 2021

Month	Officer Hours
January	5,452
February	4,312
March	8,201
April	9,624

May	9,933
June	12,815
July	12,130
August	13,373
September	14,954
October	15,934
November	14,023
December	11,511
Total Officer Hours	132,262

On average, officers worked a total of 11,022 hours each month in secondary employment. The total number of scheduled work hours for an Officer per year is 2,080 (without factoring in leave, training, or anything else that takes officers away from normal on-duty work).

The International Association of Chiefs of Police (IACP), Law Enforcement Policy Center recently published a secondary employment model policy. The Pittsburgh Police Bureau has incorporated many of the IACP recommendations into its secondary employment policy. As depicted above, the total number of secondary work hours in 2021 was 132,262 hours. This clearly demonstrates the desire by Bureau Officers to supplement their income through secondary employment work. There are negative ramifications associated with secondary employment such as occupations which place officers at risk for a disabling injury which could prevent return to regular police duty. An evaluation of current authorized secondary employment occupations should be conducted by the bureau. While the bureau regulates secondary employment, the community has a right to expect that its Police Officers are in optimal physical and mental shape to carry out their duties. Rest in between an officer's primary duties and secondary employment must be ensured in order to ensure full alertness required by police work.

A study published by the National Institute of Justice in 2009 on the effects of Police Officer sleep deprivation estimated the yearly cost of fatigue due to health-related lost productivity at \$136 billion dollars annually among employees. More than half of all Police Officers fail to get adequate amounts of rest, in addition to possessing 44% higher incidences of sleep apnea. A Police Officer wellness study in 2008 noted that 90% of all employees working shifts received no training on how to manage individual schedules and shift work lifestyles. As noted previously, Officers cannot exceed 16 hours per day in combination with the Officer's scheduled tour of duty or the permissible number of hours per week. It is recommended that the bureau evaluate this 16 hour workday and the potential health-related negative effects it may have on Officers.

As mentioned previously, the Public Safety and Planning Unit Lieutenant is also assigned management oversight for the Mounted Unit, Bomb Squad, K9 Unit, River Rescue Unit, and the Flood Response Team (auxiliary unit).

Along with the previously mentioned management and administrative functions for the Public Safety and Planning Unit, the Lieutenant is responsible for the following tasks:

- Supervising subordinate officers in the performance of their duties.
- Maintaining inventory of equipment.
- Training subordinates.
- Disseminating information to subordinates.
- Ensuring policies and procedures are followed.
- Observing subordinates in handling calls for service and other duties.
- Reviewing and approving various reports.
- Listening to problems voiced by subordinates.
- Providing direct supervision for potential high-risk calls or situations.
- Interpreting policies and informing subordinates.

Caution should be used not to overburden the Lieutenant with the high number of management responsibilities across the Division. It is recommended that management responsibilities across the Special Deployment Division be evaluated and evenly spread across all current Lieutenants within the Division.

The tasks assigned to the Public Safety Planning Unit are administrative in nature. Many agencies use non-sworn/civilian positions for a variety of tasks such as these. These tasks do not require full police powers and can be accomplished through civilian employees. The use of civilian employees will allow police officers to answer calls for service which require full police powers elsewhere within the bureau. Civilian employees are cost effective, and at times can improve relations between the police and community. It is recommended that tasks assigned to the Public Safety Planning Unit be performed by a civilian. One such civilian position is a Law Enforcement Planner. Law Enforcement Planners perform a variety of functions in police organizations such as researching and analyzing operational needs for special event planning and secondary employment. A Law Enforcement Planner will also evaluate and allocate the proper resources for each event.

It is recommended that the three authorized sworn Police Officer positions be transferred to duties requiring full police powers and replaced by three Law Enforcement Planners. It is also recommended that a civilian management position be added to the unit in order to replace the Lieutenant and Sergeant positions. The Lieutenant and Sergeant positions should be transferred where units are staffed with sworn Police Officer positions.

When filled, the Public Safety Planning Unit sergeant position is responsible for first-line supervisor responsibilities when officers are working secondary employment jobs. Due to this position being vacant, these responsibilities fall to the Patrol sergeant working within the zone where the secondary employment is located. One of the most important tasks assigned to police first-line supervisors is the supervision of subordinate officers in the performance of their duties. Caution should be used not to overburden Patrol sergeants which take away from primary supervisory functions. It is recommended that sergeants be hired in this secondary work capacity to fulfill first-line supervisory functions to not overburden on-duty Patrol sergeants.

Recommendations:

Evenly distribute management collateral duty assignments among all Special Deployment Division Lieutenants.

Evaluate potential employee adverse health-related effects associated with current maximum workday and workweek hours as defined in secondary employment policy.

Add three non-sworn Law Enforcement Planner positions to the Public Safety Planning Unit.

Add one non-sworn Manager position to the Public Safety Planning Unit.

Within the Public Safety Planning Unit, transfer the Lieutenant, Sergeant, and three Officer positions to where full police powers are needed.

2. Bomb Squad

The Bomb Squad utilizes specialized equipment in order to approach, inspect, disarm and/or remove all types of explosive devices. The Bomb Squad is a participating member in the Pennsylvania Region 13 Task Force. The Region 13 Task Force is a combination of multiple jurisdictions, agencies, and disciplines who work together in order to strengthen its ability to prevent, protect against, mitigate, respond to, and recover from acts of terrorism and other catastrophic events. The Bomb Squad is currently authorized one Sergeant position, four full-time Police Officer positions (one position is current vacant), and nine part-time Police Officers.

The Sergeant works Monday through Thursday, two full time Officers work Wednesday through Saturday, and two full time Officers work Sunday through Wednesday. All work from 6am until 4pm. The part time Officers are assigned to various units throughout the bureau and are called upon as needed. When not on a call, the full time Officers are responsible for equipment maintenance, training, and planning special event coverage. The Bomb Squad has a rotating on call schedule; two Bomb Technicians and one Assistant Bomb Technician are on call for one week at a time. Each Officer is required to participate in twenty-four hours of training each month. The first three Wednesdays of each month are training days.

(1) Span of Control

Officer to Sergeant span of control ratios have a significant impact on the performance of first-line supervisors and their ability to fulfill the range of their duties effectively. While factors such as job functions, available technology, and the competencies of the supervisor and staff may play a role in this ratio, the recommended supervisory span of control is seven Officers to one Sergeant. The Bomb Squad Sergeant currently supervises both the Bomb Squad and the K9 Unit. The below chart depicts the supervisory span of control for both of these units:

Current Supervisor Span of Control

Current Supervisor Span of Control	
Sergeant	18:1

The K9 Unit Officers report to the on-duty Patrol Sergeant in each zone during normal patrol hours. Even so, the Bomb Squad Sergeant is responsible for all administrative supervisory duties for the K9 Unit, to include use of force reporting, equipment inspection and inventory, and training requirements. During special events, the K9 Officers report to the Bomb Squad Sergeant. During these times, the Bomb Squad Sergeant will supervise all eighteen Officers while performing Bomb Technician responsibilities. Caution should be used not to overburden the Sergeant with duties which take away from primary supervisory functions.

Nonetheless, the current supervisory span of control exceeds the recommended ratio of 7:1. Maintaining an effective span of control is particularly important during incidents where safety and accountability are a top priority. It is recommended that one additional Sergeant be added during times where the supervisory span of control exceeds the recommended 7:1 ratio.

(2) Workload and Ability to Meet Unit Objectives

The following table provides the ten most common incident categories of calls for service handled by the Bomb Squad in 2021, as well as the average call handling time (HT)⁷ for each:

CFS Most Common Incident Types– EOD

Incident Type	# CFS	HT	12a	4a	8a	12p	4p	8p
BOMB/POSS BOMB FOUND	7	63.8	█		█	█		█
SUSPICIOUS ACTIVITY	5	39.6		█	█	█	█	█
UNATTENDED BOMB	4	34.5		█	█		█	
BOMB THREAT	2	56.6			█		█	
MUTUAL AID - POLICE	2	112.0				█	█	
PARKING COMPLAINT	2	0.7		█	█	█		
UNKNOWN E2	1	0.5		█	█			
SUSPICIOUS VEHICLE	1	78.9				█	█	
GUN THREATENED OR SEEN	1	65.9						█
PERSON MISSING	1	108.1					█	█
All Other Types	4	90.4						
Total	30	57.9						

In 2021, the Bomb Squad handled a total of 30 calls for service which were entered into the Computer-Aided Dispatch (CAD) system. Bomb/Possession of Bomb Found is the most common incident type. The average handling time for each call for service is 90.4 minutes. Given the nature of the unit, the above table is not indicative of the overall workload for 2021.

The below chart depicts the Bomb Squad’s workload between the years 2017 and 2021:

⁷ Handling time is defined as the total time in which a unit was assigned to an incident. It is calculated as the difference between the recorded time stamps the unit being dispatched and cleared from the incident.

EOD Workload (2016-2017)

	2017	2018	2019	2020	2021
Sweeps/Protective Details	110	98	114	113	114
Team Training Days	38	40	41	22	41
Calls For Service	78	72	63	58	63
Demonstrations/Presentations	76	68	68	2	0
Recoveries (Devices)	15	7	13	21	11
Class 1 (Susp. Item)	59	58	46	30	25
Class 2 (Threat)	1	4	4	1	0
Explosions (Post Blast)	2	1	0	3	2
SWAT Assist	1	4	0	3	3

Recommendations:

In the Bomb Squad, transfer K9 supervisory responsibilities to full-time K9 sergeants.

3. River Rescue Unit

The River Rescue Unit is a partnership between the Pittsburgh Police Bureau and the Emergency Medical Services SCUBA search and rescue team. The primary mission of the River Rescue Unit is to prevent and to respond to waterborne emergencies in and around the City of Pittsburgh. The Emergency Medical Services has administrative oversight of the program. The unit is currently authorized three full-time Police Officer positions and nine part-time Police Officer positions.

The Paramedics assigned to the unit are certified as Public Safety Divers and are responsible for surface water rescue, and for administering ALS emergency medical care to victims unit they are transferred to the care of a land-based medical unit for additional treatment and transport.

The Police Officers assigned to the unit are responsible for piloting all river rescue vessels, enforcing laws, and patrolling the three rivers and ports. Each boat crew consists of a minimum of one Officer and two Paramedic/Divers. The unit is also responsible for providing homeland security patrols for major events, dignitary protection for motorcades, safety zone enforcement during special events, infrastructure protections and tactical waterborne support for SWAT.

All full and part-time Officers are boat certified. The first full-time Officer works Monday through Thursday, 6am – 4pm, the second full-time Officer works Wednesday through Saturday, 2pm – 12am, and the third full time Officer works Monday through Friday, 10pm – 8 am. Part-time Officers are assigned to various units throughout the Special Deployment Division and assist as needed. Each part-time Officer is required to work a minimum of two shifts each month in order to maintain the required skill level to operate the river rescue vessels. The unit has no immediate supervisor, and the Officers report to the Public Safety Planning Unit Lieutenant for administrative oversight.

First-line supervision is one of the most important responsibilities in policing. Sergeants:

- Ensure the Bureau’s vision and the leadership’s strategic priorities are carried out at the officer level.
- Supervise officers who are the critically important face of the Bureau for many citizens.
- Hold officers accountable, cares for the safety and welfare of officers, and plays a key role in the culture of a police organization.
- Handle a wide range of administrative duties such as scheduling shifts, writing reports, and handling minor disciplinary matters.

It is critically important every police officer have a first-line supervisor assigned. As mentioned previously, Officers assigned to the River Rescue do not have a Sergeant assigned to supervise them. While the unit is currently authorized only three full-time police officer positions, there are also nine part-time police officer positions. It is recommended that a full time Sergeant be assigned to the unit.

In 2021, the River Rescue Unit responded to a total of 320 calls for service. The below chart depicts the unit’s top calls in 2021:

River Rescue Events

Type of Call	# of Incidents
Disabled boat	38
Person in the water	8
Suicidal jumper	68
Search for missing persons	7
Remains recovery	12
Shoreline search for suspects	6
Evidence recovery	4

Type of Call	# of Incidents
Safety zone enforcement	10
Infrastructure patrol	54
Medical calls	4
Special events	5
Hazards to navigation	3
Boat fire	3

The River Rescue Unit operates on the Pittsburgh Bureau of Emergency Services Computer Aided Dispatch (CAD) system. This CAD data was not provided to the project team in order to perform further analysis.

Recommendations:

Add 1 authorized full-time Sergeant position to the River Rescue Unit.

4. Mounted Unit

The Mounted Unit is currently authorized six full-time Officer positions and four part-time positions. The unit's primary responsibilities include community outreach, attending community events, parades, special events and other community events. The unit also assists with crowd control in large crowd events and assists with search and rescue and other calls for service as needed.

The full-time officers work from 6am – 4pm, either Sunday through Wednesday or Wednesday through Saturday. The schedule varies often due to community engagement commitments and other commitments. The unit's part-time officers are assigned to various units throughout the police bureau and assist as needed.

(1) Span of Control

The Mounted Unit is currently authorized six full-time Officer positions and four part-time positions, and is supervised by the Motor Sergeant in an ancillary capacity.

First-line supervision is one of the most important responsibilities in policing, and as discussed before, it is critically important every police officer have a first-line supervisor assigned. However, because the Motor Sergeant is currently assigned supervisory duties as a collateral duty assignment, their ability to be effective as a present first-line supervisor is limited. Given the number of officers currently assigned to this unit, a full-time Sergeant is recommended.

In 2021, the Mounted Unit handled a total of five calls for service which were entered into the computer-aided dispatch (CAD) system. The following table provides the categories of calls for service, as well as the average call handling time (HT)⁸ for each:

Mounted Unit Most Common Incident Types

Incident Type	# CFS	HT
NEIGHBORHOOD PATROL	2	161.4
PERSON MISSING	1	117.3
TRAFFIC COMPLAINT	1	5.8
NON DANGEROUS ANIMAL	1	76.4
All Other Types	0	0
Total	5	104.5

As mentioned previously, there were a total of five calls for service entered into the Computer-Aided Dispatch (CAD) system. Given the nature of the unit, the above table is not indicative of the overall workload for 2021.

The below chart depicts the Mounted Unit's community events attended and patrols for 2021 and 2022 (January - July):

	Month	# Events/Patrols
2022	January	4
	February	7
	March	20
	April	13
	May	6
	June	9
	July	7
2021	January	11
	February	6
	March	15
	April	13

⁸ Handling time is defined as the total time in which a unit was assigned to an incident. It is calculated as the difference between the recorded time stamps the unit being dispatched and cleared from the incident.

Month	# Events/Patrols
May	14
June	16
July	9
August	8
September	11
October	13
November	6
December	12
<i>Avg./Month</i>	<i>10.5</i>

The Mounted Unit trains the last Wednesday of each month and holds a joint training with area agencies one time per year. Officers ensure unit horses are fed, watered, and groomed and are responsible for cleaning stalls and discarding waste, cleaning horse trailers, stall mats, gear, and equipment.

Recommendations:

Add 1 authorized full-time Sergeant to the Mounted Unit.

Improve CAD utilization in order to improve analysis of the Mounted Unit for future resource allocation.

5. Special Weapons and Tactics (SWAT)

The Pittsburgh Police Bureau SWAT is currently authorized one full-time Lieutenant, six full-time Police Officers, and thirty-eight part-time Police Officers. Responsibilities include providing specially trained Officers, resources, and equipment in high risk situations such as barricaded persons, dignitary protection, high risk warrant service, hostage rescue, and surveillance.

The Lieutenant and full time Officers work Monday through Thursday, 6am – 4pm. The full time Officers form the Tactical Operations Section (TOS) within the team. These Officers function as team leaders and share administrative and tactical responsibilities, procure equipment, conduct tactical research, plan missions, and perform equipment, vehicle, and building maintenance. The TOS Officers also perform lead training roles within the different SWAT functions. The part time Officers are assigned throughout the police bureau and have various specialties and respond to SWAT callouts as needed. Each TOS Officer is on-call for one a one week period every other week, each part time officer is on-call one week out of the month.

The size of SWAT teams nationally are varied and diverse, with the prevailing idea and assertion being that they must be large enough to ensure adequate and properly trained resources for which situations they will likely be called upon to resolve. Although, most agencies are unable to staff SWAT based solely on a need to cover all of these likely situations. Most agencies staff teams based on the number needed for the single most common incident encountered, which is typically a high-risk search warrant service.

The following table provides the ten most common incident and officer categories of calls for service handled by SWAT in 2021, as well as the average call handling time (HT)⁹ for each:

CFS Most Common Incident Types– SWAT

Incident Type	# CFS	HT	12a	4a	8a	12p	4p	8p
BARRICADED PERSON	12	92.5						
GUN THREATENED OR SEEN	9	113.9						
DOMESTIC VIOLENCE	4	97.9						
GUNSHOT- E0	4	188.7						
WARRANT SERVICE	3	40.6						
PSYCH- VIOLENT & WEAP- E2	2	60.5						
PSYCH- E2	2	102.2						
ROBBERYIN PRO&JUST OCC	2	45.5						
SHOTS FIRED/HEARD	2	137.6						
PSYCH- JUMPER- E2	1	228.8						
All Other Types	18	55.8						
Tot al	59	90.3						

In 2021, SWAT handled a total of 59 calls for service which were entered into the Computer-Aided Dispatch (CAD) system. Barricaded Person is the most common incident type, with the highest number occurring between 8am and 1pm. The average

⁹ Handling time is defined as the total time in which a unit was assigned to an incident. It is calculated as the difference between the recorded time stamps the unit being dispatched and cleared from the incident.

handling time for each call for service is 92.5 minutes. Data related to team callouts was not provided to the project team in order to conduct further analysis.

The Pittsburgh Police Bureau defines SWAT as a Tier 1 Team. The National Tactical Officers Association (NTOA) recommends Tier 1 Team minimum personnel staffing level be at one Commander, three Team Leaders, four Snipers, and eighteen Operators. Although certain jurisdictional conditions such as topography, operational tempo, and anticipated mission requirements may necessitate modifications to these minimum staffing levels. Pittsburgh Bureau SWAT currently meets this minimum staffing recommendation.

Each Pittsburgh Bureau SWAT Officer is required to train a minimum of 16 hours each month. This training is typically conducted in 2, 8 hour shifts. There are also several 4 hour micro-trainings throughout the year. Some specialty positions within the team are required to train more hours than others. The National Tactical Officers Association (NTOA) recommends the following training guidelines for Tier 1 Teams:

- Minimum 40-hour Basic SWAT course for new members.
- 16 – 40 hours and/or 192 – 480 hours annually or regular, reoccurring, and documented critical skills training.
- Critical skill training such as sniper, tactical emergency medical support, explosive breaching, etc. should be in addition to the above listed hours (if cross trained as an entry team operator).
- 40 hours of annual training should be conducted and attended by all members in order to address consistency in tactics and procedures. This training should be in addition to regular monthly/annual critical skills maintenance training (although blended together in certain situations).

Data related to training was not provided to the project team in order to conduct further analysis.

Recommendations:

Ensure current SWAT training standards meet the minimum National Tactical Officers Association (NOLA) recommendations at a minimum.

Improve utilization of CAD to enable better analysis of SWAT for future resource allocation.

6. K9 Unit

The K9 Unit is supervised by the Bomb Squad Sergeant (collateral duty assignment), and is comprised of fifteen Officers and three Canine Trainers. Five Officers are assigned patrol multi-purpose canines who are certified in criminal offender locating and apprehension and narcotics detection. Ten Officers are assigned to single-purpose canines certified in explosives detection. One Canine Trainer is assigned a bloodhound used to search for endangered people and one canine trainer is assigned an electronic sniffing canine used in order to locate items containing computer chips.

The Explosives Detection Handlers and Canines are participating members in the Pennsylvania Region 13 Task Force. The Region 13 Task Force is a combination of multiple jurisdictions, agencies, and disciplines who work together in order to strengthen its ability to prevent, protect against, mitigate, respond to, and recover from acts of terrorism and other catastrophic events. The explosives detection canines and all equipment, including vehicles are supplied by the Region 13 Task Force.

The three Trainers are assigned to the training academy full time in order to provide consistent training to the Canine Handlers. The Trainers work 6am – 4pm, Monday through Thursday. The two Trainers are also on call due to their Canine Handler responsibilities. Currently, the fifteen Patrol Canine Handlers are assigned to one of three zones. Below is the current zone canine staffing:

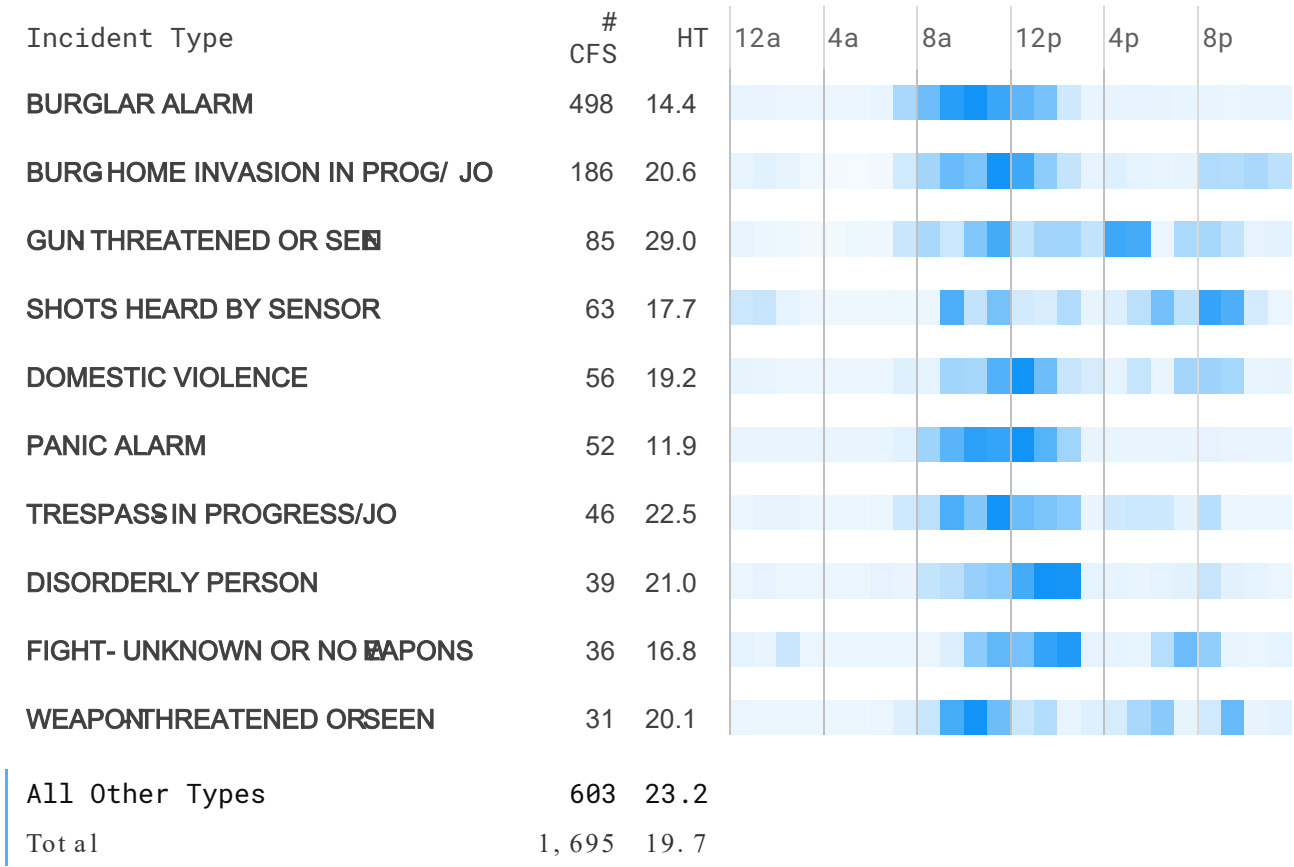
Zone 1	Zone 4	Zone 6
6	4	5

Five Handlers work 6am – 4pm, five Handlers work 2pm – 12am, and five Handlers work 10pm – 8am shifts. The Patrol Canine Handlers work either Sunday through Wednesday or Wednesday through Saturday.

The following table provides the ten most common incident and officer categories of calls for service handled by the K9 Unit in 2021, as well as the average call handling time (HT)¹⁰ for each:

¹⁰ Handling time is defined as the total time in which a unit was assigned to an incident. It is calculated as the difference between the recorded time stamps the unit being dispatched and cleared from the incident.

CFS Most Common Incident Types – K9



In 2021, the K9 Unit handled a total of 1,695 calls for service which were entered into the Computer-Aided Dispatch (CAD) system. Burglar alarms are the most common incident type, with the highest number occurring between 7am and 2pm. The average handling time for each call for service is 14.4 minutes.

The following chart depicts the K9 Unit usage for the years 2018 through 2021:

	2018	2019	2020	2021
Total Number of K9 Handlers	21	17	17	18
Demonstrations/Presentations	34	30	2	0
Building Searches	408	385	138	179
Tracking	94	86	44	58
Searches/Sweeps	355	399	94	213
Crowd Control	4	UNK	276	1
Apprehensions	108	UNK	49	38
Region 13 Calls	UNK	16	21	15
Outside Agency Assists	UNK	19	18	39
Other Uses	92	N/A	16	44

The current K9 Unit's deployment and scheduling configuration was instituted in 2022. Prior to 2022, handlers were assigned district wide, and the K9 Unit Sergeant retained day to day functional control. As previously discussed, the current configuration has each of the Canine Handlers assigned to one of three zones. Day to day functional supervisor control is assigned to Patrol Sergeants within each of these three zones. K9 Handlers are utilized as primary Officers on all calls for service (including primary report taking) or as back-up officers for canine assist calls for service depending on the particular assigned Patrol Sergeant. The K9 Sergeant is responsible for administrative oversight of the handlers can canines; conducting use of force investigations and unit tracking. During special events, the K9 Sergeant assumes functional control of the Handlers.

The International Association of Chief of Police (IACP) Law Enforcement Policy Center has created a model policy related to police canines. This policy was created in order to provide police agencies with concrete guidance and directives in the manner in which actions, tasks, and operations should be performed. The following guidelines are provided in this policy addressing canine team utilization:

- Canine teams should make all reasonable attempts to remain available to respond to requests for assistance.
- Canine teams should not be dispatched to routine calls for service unless other officers are unavailable to respond.
- Canine teams should not be dispatched or self-dispatch to traffic accidents unless injuries or traffic conditions require immediate attention. Units should return to service once sufficient patrol resources are at the scene.
- Canine teams may not be used for secondary employment assignments. Exceptions may be made for events sanctioned by the Bureau or its governing

jurisdiction that are considered extra-duty assignments.

In order to meet current canine best practices and align with the IACP model policy, it is recommended that the K9 Unit's deployment and scheduling be modified to ensure that canine teams are not dispatched to routine calls for service unless other officers are unavailable to respond.

As previously discussed, the K9 Unit is currently staffed with eighteen Officers and supervisory oversight is assigned to the Bomb Squad Sergeant as a collateral duty. First-line supervision is one of the most important responsibilities in policing. A Police Sergeant ensures the Chief of Police's vision is carried out at the officer level. A Sergeant supervises officers who are the critically important face of the Bureau for many citizens. A Sergeant holds officers accountable, cares for the safety and welfare of officers, and plays a key role in the culture of a police organization. A Sergeant also handles a wide range of administrative duties such as scheduling shifts, writing reports, and handling minor disciplinary matters. It is critically important every police officer have a first-line supervisor directly assigned. While recommending first-line supervision, Officer to Sergeant span of control must also be addressed.

Officer to Sergeant span of control ratios have a significant impact on the performance of first-line supervisors and their ability to fulfill the range of their duties effectively. While factors such as job functions, available technology, and the competencies of the supervisor and staff may play a role in this ratio, the recommended supervisory span of control is seven Officers to one Sergeant.

The K9 Unit is currently staffed with eighteen Officers. It is recommended that two full-time Sergeant positions be added to the K9 Unit. Although this will result in a supervisory span of control ratio of nine Officers to one Sergeant, three of these Officers are only assigned as Trainers. If the K9 Unit's current authorized staffing is increased, it is recommended that a third full-time Sergeant also be added.

Recommendations:

Modify the K9 Unit's current deployment and scheduling methodology in order to meet current best practices and ensure alignment with IACP model policy.

Add 2 full-time authorized Sergeant positions to supervise the K9 Unit.

7. Motors Unit

The Motors Unit is responsible for traffic safety enforcement and education, conducting vehicle escorts, performing traffic control, and participating in special events and

community activities. The unit is broken up into two separate shifts; AM shift and PM shift.

The AM shift has one Lieutenant (vacant), two Sergeants, and eight Officers. When assigned the Lieutenant will work Monday through Thursday and manage the day to day operations of the shift. The shift is divided into two teams of one Sergeant and four Officers each. One team works Monday through Thursday, and the other team works Sunday through Wednesday. The AM shift is assigned 6am – 4pm.

The PM shift has one Lieutenant, two Sergeants, and ten Officers. The PM shift Lieutenant works Monday through Thursday and manages the day to day operations of the shift. The shift is divided into two teams of one Sergeant and five Officers each. One team works Monday through Thursday, and the other team works Sunday through Wednesday. The PM shift is assigned 2pm – 12am.

(1) Span of Control

Officer to Sergeant span of control ratios have a significant impact on the performance of first-line supervisors and their ability to fulfill the range of their duties effectively. While factors such as job functions, available technology, and the competencies of the supervisor and staff may play a role in this ratio, the recommended supervisory span of control is seven officers to one sergeant. The below chart depicts the Motor Unit Sergeant's current supervisory span of control:

Supervisory Span of Control	Ratio
Sergeant #1	1:4
Sergeant #2	1:4
Sergeant #3	1:5
Sergeant #4	1:5

It is recommended to reduce the number of Sergeant positions in the Motor Unit from four to three. Reducing the number of Sergeants in the Motors Unit to three will modify the supervisory span of control to 1:6, which is within the recommended ratio of 1:7. This Motor Sergeant position can be utilized in order to fill supervisory vacancies in other units inside the Special Deployment Division. It will also reduce the number of collateral duty assignments given to Sergeants.

Currently, the PM Lieutenant is assigned management duties only associated with the PM Motor Team. A Police Lieutenant is a middle-management position; which takes broad direction from Commanders and turns them into a plan of action for Sergeants to

initiate with their officers. A Police Lieutenant evaluates unit performance and identifies development and training needs.

Given the current authorized Motor Unit staffing level, it is recommended that only one Lieutenant be assigned to the Unit. It is also recommended that the Lieutenant position’s schedule be modified in order to provide supervisory oversight of all four Motor Unit Sergeant positions.

(1) Workload and Ability to Meet Unit Objectives

The following table provides the ten most common incident and officer categories of calls for service handled by the Motorcycle Unit in 2021, as well as the average call handling time (HT)¹¹ for each:

CFS Most Common Incident Types – Motorcycle Unit

Incident Type	# CFS	HT	12a	4a	8a	12p	4p	8p
PARKING COMPLAINT	87	33.4	█		█	█	█	█
DISABLED VEHICLE	11	51.9			█	█	█	█
TRAFFIC COMPLAINT	10	8.0			█	█	█	█
CRASH- NO INJURIES	7	15.9			█	█	█	█
CRASH- UNKNOWN INJURIES	6	82.8			█	█	█	█
SUSPICIOUS VEHICLE	4	26.3				█	█	█
PUBLIC SERVICE DETAILS	4	16.5			█	█		
UNKNOWN TROUBLE	3	6.0			█	█		█
BURGLAR ALARM	3	8.0			█	█	█	
SOLICITING	2	6.9			█		█	
All Other Types	33	39.9						
Total	170	33.6						

¹¹ Handling time is defined as the total time in which a unit was assigned to an incident. It is calculated as the difference between the recorded time stamps the unit being dispatched and cleared from the incident.

In 2021, the Motorcycle Unit handled a total of 170 calls for service which were entered into the Computer-Aided Dispatch (CAD) system. Parking complaints are the most common incident type, with the highest number occurring between 9pm and 1am. The average handling time for each call for service is 33.4 minutes.

The following table provides the ten most common incident categories of Officer self-initiated activity conducted by the Motors Unit in 2021, as well as the average call handling time (HT)¹² for each:

SI Most Common Incident Types – Motorcycle Unit

Incident Type	# CFS	HT	12a	4a	8a	12p	4p	8p
TRAFFIC STOP	315	12.1						
PARKING COMPLAINT	204	65.1						
TRAFFIC COMPLAINT	186	36.4						
TRAFFIC POST - POLICE	133	61.6						
DETAIL - POLICE	84	73.3						
NEIGHBORHOOD PATROL	76	32.7						
TOW REQUEST	45	140.0						
DISABLED VEHICLE	43	34.7						
CRASH- NO INJURIES	43	29.2						
PROTEST IN PROGRESS	41	69.3						
All Other Types	513	41.3						
Total	1,683	43.8						

In 2021, the Motors Unit conducted a total of 1,683 self-initiated incidents which were entered into the Computer-Aided Dispatch (CAD) system. The highest number of self-initiated incidents are traffic stops (315), with the highest number occurring between 2pm and 5pm. The average handling time for each traffic stop is 12.1 minutes.

¹² Handling time is defined as the total time in which a unit was assigned to an incident. It is calculated as the difference between the recorded time stamps the unit being dispatched and cleared from the incident.

Motor officers are not typically the primary unit assigned to investigate traffic crashes. This responsibility is assigned to patrol officers within each zone.

Recommendations:

Reduce the current authorized staffing level of 2 Lieutenant to 1 in the Motors Unit.

Reduce the current authorized staffing level of 4 Sergeants to 3 Sergeants in the Motors Unit.

Maintain current authorized staffing level of 18 Officers in the Motors Unit.

Evaluate the need to assign Motors Officers as primary investigative unit at traffic crashes.

8. Impaired Driving Unit

The Impaired Driving Unit is comprised of three Officers (two positions are currently vacant). A Motor Sergeant is assigned supervisory oversight of the unit. The unit performs proactive enforcement with a focus on stopping impaired drivers. The current Officer works Sunday through Wednesday, 10pm – 8am and is trained in the detection, evaluation, and testing of impaired drivers. The Impaired Driving Unit Officer is also a Drug Recognition Expert (DRE) who tests drivers who are under the influence of drugs, also causing impairment.

This current Officer, along with a Special Deployment Division Sergeant and Officer are currently the only three in the entire Pittsburgh Police Bureau who are certified to conduct evaluation and testing of impaired drivers for alcohol and drugs. As a result, a large amount of overtime occurs. It is a common practice among police agencies throughout the United States, that every Police Officer be trained and certified to conduct their own evaluation and testing of impaired drivers for alcohol. Many agencies have several officers trained and certified in drug recognition as well. It is recommended that the Pittsburgh Police Bureau develop a robust drug and alcohol evaluation program through the National Highway Traffic Safety Administration (NHTSA).

The following table provides the ten most common incident and officer categories of calls for service handled by the Impaired Driving Unit in 2021, as well as the average call handling time (HT)¹³ for each:

¹³ Handling time is defined as the total time in which a unit was assigned to an incident. It is calculated as the difference between the recorded time stamps the unit being dispatched and cleared from the incident.

Impaired Driving Unit Most Common Incident Types (Reactive)

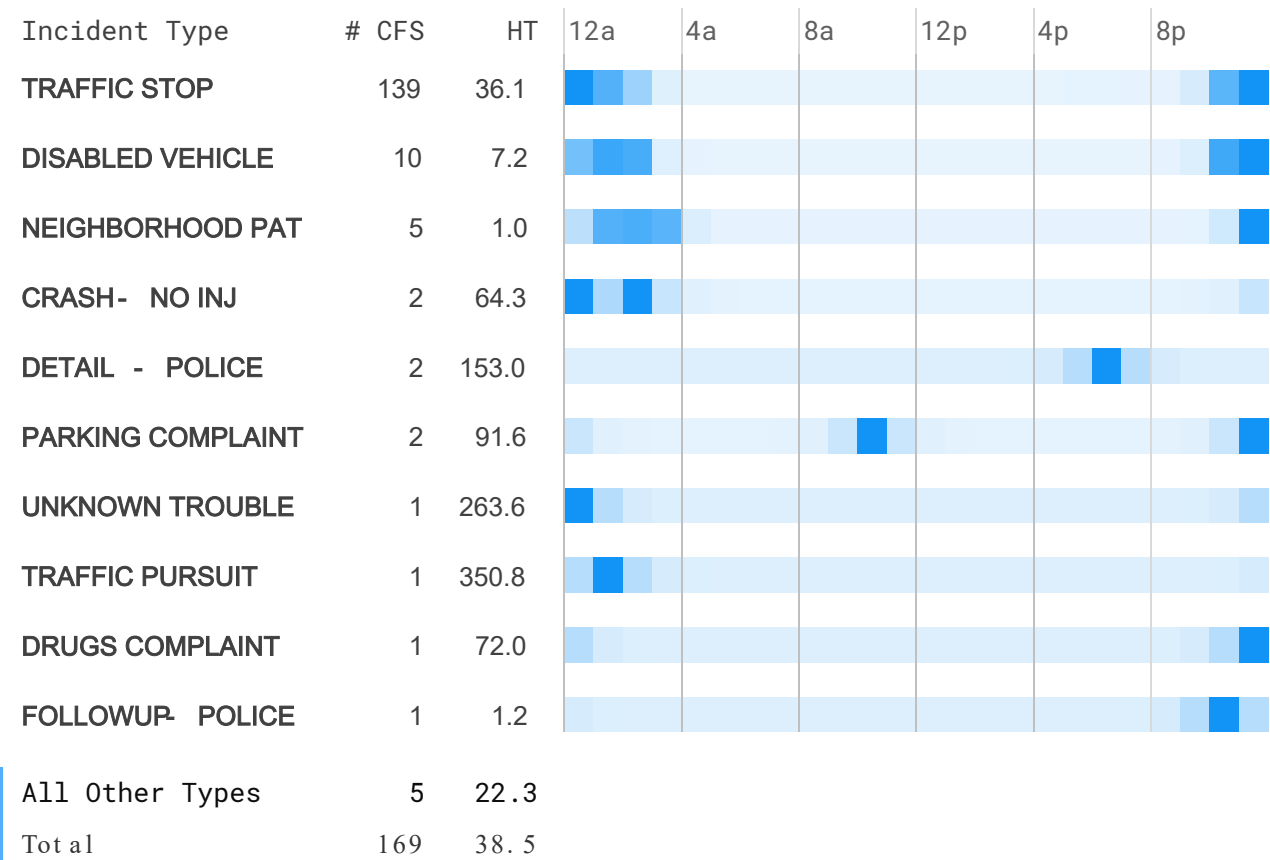
Incident Type	# CFS	HT	12a	4a	8a	12p	4p	8p	
CRASH- UNKNOWN INJURIES	12	65.2							
INTOX DRIVER	9	58.1							
CRASH- INJURIES	8	66.7							
UNKNOWN	7	106.9							
CRASH- NO INJURIES	7	42.9							
TRAFFIC COMPLAINT	5	196.6							
CRASH- INJURIES	4	43.0							
SHOTS HEARD BY SENSOR	4	37.9							
CRASH- INTO STRUCTURE	4	46.9							
DOMESTIC VIOLENCE	4	8.9							
All Other Types	60	41.9							
Total	124	55.9							

In 2021, the Impaired Driving Unit handled a total of 124 calls for service which were entered into the Computer-Aided Dispatch (CAD) system. Unknown injury crashes are the most common types, with the highest number occurring between 8pm and 4am. The average handling time for each call for service is 65.2 minutes.

The following table provides the ten most common incident categories of Officer self-initiated activity conducted by the Impaired Driving Unit in 2021, as well as the average call handling time (HT)¹⁴ for each:

¹⁴ Handling time is defined as the total time in which a unit was assigned to an incident. It is calculated as the difference between the recorded time stamps the unit being dispatched and cleared from the incident.

Impaired Driving Unit Most Common Incident Types (Proactive)



In 2021, the Impaired Driving Unit conducted a total of 169 self-initiated incidents which were entered into the Computer-Aided Dispatch (CAD) system. The highest number of self-initiated incidents are traffic stops (139), with the highest number occurring between 10pm and 2am. The average handling time for each traffic stop is 36.1 minutes.

Recommendations:

Fill current vacancies in the Impaired Driving Unit.

Train and certify all Pittsburgh Police Bureau Officers to perform evaluation and testing of impaired drivers in order to reduce overtime hours.

Develop a robust drug and alcohol evaluation program through the National Highway Traffic Safety Administration (NHTSA).

9. Commercial Motor Vehicle Enforcement Unit

The Commercial Motor Vehicle Enforcement Unit performs proactive enforcement and conducts stationary checkpoints in order to ensure all commercial vehicle drivers and

their vehicles operate safely and comply with federal, state, and local laws. The Unit is comprised of two Officers who work Monday through Thursday, 6am – pm. The Unit's immediate supervisor is a Motor Sergeant, and administratively managed by the collision investigation unit's lead detective.

In 2021, the Commercial Motor Vehicle Enforcement Unit appeared in the Computer-Aided Dispatch (CAD) system only one time. Further data has was not supplied to the project team in order to analyze the unit's workload.

Recommendations:

Ensure Commercial Motor Vehicle Enforcement Unit utilizes the CAD system in order to analyze workload and future resource allocation.

10. Traffic Collision Investigation Unit

The Traffic Collision Investigation Unit conducts investigations concerning vehicle collisions with critical injuries or fatalities. The unit is comprised of one full time Detective and five part time Officers. The Detective works Monday through Thursday, 6am – 4pm. The part time Officers are assigned various primary duties throughout the Bureau and are assigned to assist in investigations as needed. The full time Detective has administrative oversight of the unit and reports directly to the Special Deployment Division Commander. The unit detective alternates on-call responsibilities every other week with one other employee in order to ensure 24 hour investigative coverage.

(1) TCIU Workload Factors

Fatal and critical injury crash investigations are among the most complex and time-consuming investigations conducted. These cases routinely involve multiple investigative techniques and substantial evidence to process. Additionally, because of their complexity they are typically handled by a group of investigators and additional resources are often used. The following table shows a breakdown of approximate caseload hours for a fatal / critical injury crash investigation:

Task	Processes Involved	Approximate Time	% of Time Completed
Crash Scene	Respond to crash scene and contain crash scene	2 hours	100%
Document Crash Scene	Conduct laser scan, and or measure and photograph crash location.	4 hours	100%
Evidence	Secure and take to property / evidence to property room.	2 hours	100%

Task	Processes Involved	Approximate Time	% of Time Completed
Blood Evidence	Write warrant for blood draw or other chemical analysis and obtain sample.	4 hours	100%
Warrants / Subpoenas	Write warrants and/or subpoenas for vehicle(s), cell phones, medical records and other electronic evidence or physical locations.	16 hours	100%
Video	Review of video recovered from scene and BWC	8 hours	100%
Cell Phones	Cell Phone Downloads (after warrant), with some taking longer than others.	4 hours	100%
Vehicle Search and Data Recovery	Search of vehicle and recover of evidence once warrant is secured.	12 hours	100%
Accident Reconstruction	Conduct analysis, complete diagrams and documents and report writing.	10 hours	100%
Postmortem Exam or medical records review	Review medical records or medical examiner report (after warrant or subpoena)	6 hours	100%
Victim / Witness Interview(s)	Interview(s), including report writing.	4 hours	100%
Suspect Interview(s)	Interview(s), including report writing.	4 hours	50%
Jail Call Monitoring	Listen to calls, write reports.	4 Hours	25%
Consult with DA	Conduct follow up, write additional reports.	4 hours	100%
Total	(If all tasks completed)	84 hours	
On Average		79 hours	

This list is not all-inclusive and does not contain all elements, nor will every fatal crash will have the same amount of evidence or interviews conducted. Included in these hours is the assumption that investigators will be conducting RMS searches, social media searches, checking association files, receiving informant information and other investigative techniques (trackers, cell tower data, etc.), if available.

It also assumed that investigators work as a team and not all investigative hours will be worked by a single detective (these are hours for lead detective only). Many cases will not require the number of hours listed, but some cases may require significantly more.

Using the case time estimates and the percentage of the time that each subtask is completed, this translates to approximately **79 hours** allotted per case.

Additionally, most large police agencies will assign a team of other investigators to assist during the early stages of a fatal crash investigation, which represent approximately 20 hours per investigator assigned.

The below chart depicts the Traffic Collision Investigation Unit's workload for 2021:

Traffic Collision Investigation Unit Workload	
2021	58 cases

(2) Calculation Staffing Needs

In 2021, the total number of caseload hours was 4,582. The base number of hours in an employee's work year is 2,184. After accounting for vacation, sick leave, and other absences from work a figure of 1,720 hours is typically more appropriate. Using 1,720 hours, a total of 3 Detectives are needed. The following table illustrates this calculation process:

Calculation of Investigator Staffing Needs		
Total Caseload Hours		4,582
<i>Divided by total net available hours for 1 Detective</i>	÷	1,720
Number of Investigators Needed	=	2.66

As mentioned previously, the Traffic Collision Investigation Unit is comprised of one full-time Detective and five part-time Officers. Though part-time Officers are ideal for a limited number of traffic crash investigations because of their flexibility, they are limited in the number of hours they can work. This often results in extended investigative time associated with each crash. It is recommended that the authorized full-time Detective positions be increased to two. It is also recommended that the total number of part-time Officers remain at five.

Due to the complexity of fatal and critical injury crash investigations, it is recommended that a Sergeant be assigned supervisory oversight of the unit as a collateral duty, and a Lieutenant be assigned management oversight.

Recommendations:

In the Traffic Collision Investigation Unit, increase the total number of authorized full-time Detectives by 1, for a total of 2 full-time Detectives assigned.

Assign to a Lieutenant the management oversight of the Traffic Collision Investigation Unit.

Assign to a Sergeant the supervisory oversight of the Traffic Collision Investigation Unit as a collateral duty assignment.

11. Abandoned Vehicle Unit

The Abandoned Vehicle Unit is comprised of two Police Officers. The Motor Sergeant is assigned first-line supervisory functions. The unit is tasked with maintaining the records of vehicles towed each year. Other responsibilities include liaison with the Police Officers assigned abandoned vehicle duties in each of the patrol zones and other government departments.

Vehicles are towed for a variety of reasons such as parking and moving violations, abandonment, and vehicle collisions. When towed, the unit's officers are responsible for sending letters to citizens informing them the bureau has towed their vehicle. In 2021, the Pittsburgh Police Bureau towed a total of 1,237 vehicles.

The tasks assigned to the Abandoned Vehicle Unit are administrative in nature. Many agencies use non-sworn/civilian positions for a variety of tasks such as these. These tasks do not require full police powers and can be accomplished through civilian employees. The use of civilian employees will allow police officers to answer calls for service which require full police powers elsewhere within the bureau. Civilian employees are cost effective, and at times can improve relations between the police and community. It is recommended that tasks assigned to the Abandoned Vehicle Unit be performed by a civilian. One such civilian position is an Administrative Assistant. Administrative Assistants perform a variety of clerical and administrative tasks in police organizations such as developing and maintaining effective office procedures, responding to public inquiries, and maintaining law enforcement records.

It is recommended that the two authorized sworn Police Officer positions be transferred to duties requiring full police powers and replaced by two Administrative Assistants.

Recommendations:

Civilianize the Abandoned Vehicle Unit, resulting in an increase of two Administrative Assistant positions and a reduction of two Officer positions.

4. Investigations Branch

The Investigations Branch consists of the two sections: Major Crimes Section and Narcotics/Vice & Firearms Tracking Unit. Each section is overseen by a Commander who are supported by 4 lieutenants (2 per section).

1. Caseload Analysis Methodology

To conduct the investigations workload analysis, the project team interviewed key personnel throughout investigations to understand work processes and availability of data in each investigative unit.

(1) Caseload Data

PBP provided the project team with a spreadsheet from their records management system (RMS) database that is used for tracking investigative caseloads for 2021. The caseload information was utilized to conduct analysis of each of the investigative units.

(2) Calculation of Detective Net Availability

Before determining availability and staffing needs, it is important to first review the number of net available hours detectives are available to conduct investigations. To conduct this analysis, it is critical to understand the amount of time that detectives are on leave – including vacation, sick, injury, military, or any other type of leave – as well as hours dedicated to on-duty court or training time, and time spent on administrative tasks.

The impact of each of these factors is determined through a combination of calculations made from PBP data and estimates based on the experience of the project team, which are then subtracted from the base number of annual work hours per position. The result represents the total **net available hours** of detectives and other positions, or the time in which they are on-duty and available to complete workloads and other activities in the field.

Net availability for detectives is different from patrol, in part because of court and administrative responsibilities. Workloads such as case plans, search warrant execution, and so forth that do not fit directly into case investigative hours are included within an estimated administrative time figure. The table below outlines this process in detail, outlining how each contributing factor is calculated:

Factors Used to Calculate Detective Net Availability

Work Hours Per Year

The total number of scheduled work hours for detectives, without factoring in leave, training, or anything else that takes detectives away from normal on-duty work. This factor forms the base number from which other availability factors are subtracted from.

Base number: 2,080 scheduled work hours per year

Total Leave Hours (subtracted from total work hours per year)

Includes all types of leave, including injuries and military leave, FMLA – anything that would cause detectives that are normally scheduled to work on a specific day to instead not be on duty. As a result, this category excludes on-duty training, administrative time, and on-duty court time.

From PBP Data: 324 hours of leave per year

On-Duty Training Time (subtracted from total work hours per year)

The average total number of hours spent per year in training that are completed while on-duty and not on overtime. This is calculated at 45 hours per detective per year with six detectives on SWAT receiving an additional 260 hours per year. Because not all detectives are on the SWAT team, the additional training is only calculated for the detectives that are.

From PBP Data: 34 hours of on-duty training time per year

On-Duty Court Time (subtracted from total work hours per year)

The total number of hours that each detective spends per year attending court while on duty, including transit time. Court attendance while on overtime is not included in the figure.

Without any data recording on-duty court time specifically for detectives, the number of hours is estimated based on the experience of the project team.

Estimated: 120 hours of on-duty court time per year

Administrative Time

(subtracted from net available hours after leave, court and training hours deducted)

The total number of hours per year spent completing administrative tasks while on-duty, including staff meetings, returning phone calls, emails, search warrant preparation and planning and various other activities including some operations that may not be directly captured in the case hours calculations.

The number is calculated as an estimated 20% of net work hours after other deductions.

Estimated: 320 hours of administrative time per year

Total Net Available Hours

After subtracting the previous factors from the total work hours per year, the remaining hours comprise the total *net available hours* for detectives – the time in which they are available to work after accounting for all leave, on-duty training, court, and administrative time. Net availability can also be expressed as a percentage of the base number of work hours per year.

Calculated by subtracting the previously listed factors from the base number:
1,282 net available hours per detective

The following table summarizes this calculation process, displaying how each net availability factor contributes to the overall net availability of detectives:

Calculation of Detective Net Availability

Base Annual Work Hours		2,080
Total Leave Hours	–	324
On-Duty Training Hours	–	34
On-Duty Court Time Hours	–	120
Administrative Hours	–	320
Net Available Hours Per Detective	=	1,282

Overall, the detective has approximately 1,282 net available hours per year, representing the total time in which they are able to conduct investigations. These hours will be used in the following sections to analyze detective caseloads.

(3) Caseload Hours

Not all investigative cases require the same number of investigative hours, for example a homicide investigation requires more investigative time (and resources) than a burglary. To factor for this, Matrix Consulting Group developed several case type investigative caseload work hours. The average case hours were developed through dozens of studies and interviews with detective working each case type. The following case type caseload workload hours were used to calculate staff resource needs:

(3.1) Homicide

Homicide cases are among the most complex and time-consuming investigations that are conducted. These cases receive a high level of scrutiny and therefore almost all investigative techniques are used. Additionally, because of their complexity they are typically handled by a group of detectives and additional resources are often used.

The following table shows a breakdown of approximate caseload hours for a homicide case or officer involved shooting:

Task	Processes Involved	Approximate Time	% of Time Completed
DNA	Evidence to Crime Lab	4 hours	100%
Crime Scene Material	Evidence to Property / Evidence	4 hours	100%
Cell Phones	Cell Phone Downloads, with some taking longer than others.	30 hours	100%
Video	Review of video recovered from scene and BWC	40 hours	100%
Social Media/ Electronic Rec./ Phys. Location	Warrants/Subpoenas/Review of Evidence Obtained.	60 hours	100%
Location Data	Warrants/Subpoenas/Review of Evidence Obtained.	40 hours	100%
Surveillance	Surveillance, including locating suspect and report writing.	10 hours	100%
Postmortem Exam	Autopsy performed by ME (Detectives observe and consult)	6 hours	100%
Victim / Witness Interview(s)	Interview(s), including report writing.	40 hours	100%
Suspect Interview(s)	Interview(s), including report writing.	12 hours	50%

Task	Processes Involved	Approximate Time	% of Time Completed
Jail Call Monitoring	Listen to calls, write reports.	20 Hours	100%
Consult with DA	Conduct follow up, write additional reports.	10 hours	100%
Total	<i>If all tasks completed:</i>	276 hours	
	<i>On Average:</i>	276 hours	

This list is not all inclusive and does not contain all elements and not every homicide will have the same amount of evidence or interviews conducted. Included in these hours is the assumption that detectives will be conducting RMS searches, social media searches, checking association files, receiving informant information and other investigative techniques (trackers, cell tower data, etc.), if available.

It also assumed that detectives work as a team and not all investigative hours will be worked by a single detective (These are hours for lead detective only). Many cases will not require the number of hours listed, but some cases may require significantly more.

Using the case time estimates and the percentage of the time that each subtask is completed, this translates to approximately **276 hours** allotted per case.

Additionally, on average most departments assign a team of other detectives to assist during the early stages of a homicide investigation which represents approximately 40 hours per investigator assigned.

(3.2) Person Crimes

Person crimes cases are treated more seriously by the judicial system and tend to have more witnesses and evidence requiring more time in interviews and recovering and processing evidence than property crimes.

The approximate case hours were developed through numerous interviews with detectives, and are summarized in the following table:

Task	Processes Involved	Approximate Time	% of Time Completed
DNA	Evidence to crime lab, includes submission and report.	3 hours	10%
Crime Scene Material	Evidence to property, inspection, and report writing.	4 hours	30%
Cell Phones	Cell phone downloads, with some taking longer than others.	10 hours	50%
Video	Review of video recovered from scene and BWC, report writing.	10 hours	50%
Social Media/ Elec. Records	Warrants and subpoenas, including submission and report.	10 hours	20%
Location Data	Warrants and subpoenas, including submission and report.	20 hours	20%
Surveillance	Surveillance, including locating suspect and report writing.	10 hours	10%
Victim / Witness Interview(s)	Interview(s), including report writing.	2 hours	100%
Suspect Interview(s)	Interview(s), including report writing.	2 hours	50%
Jail Call Monitoring	Listen to calls, report writing.	10 hours	10%
Consult with DA	Conduct follow up, write additional reports.	1 hours	20%
Total	<i>If all tasks completed:</i>	82.0 hours	
	<i>On average:</i>	22.6 hours	

This list is not all inclusive and does not contain all elements of an investigation and not every case will have same amount of evidence or interviews conducted. Included in these hours is the assumption that detectives will be using RMS searches, checking association files, receiving informant information, and other investigative techniques (trackers, cell tower data, etc.), if available. Many cases will not require the number of hours listed, but some cases may require significantly more.

Based on the percentage for how often each subtask is completed, each solvable case equates to an average of approximately **22.6 hours**.

(3.3) Sexual Assault

Sexual assault and crimes against children are even more complex cases that are treated more seriously by the judicial system; they tend to have less witnesses, thus requiring more time in interviews and recovery and processing of evidence than other person crimes.

The following chart describes the approximate investigative times for sex crimes:

	Processes Involved	Approximate Time	% of Time Completed
DNA	Evidence to crime lab, includes submission and report.	2 hours	50%
Crime Scene Material	Evidence to property, inspection, and report writing.	2 hours	50%
Cell Phones	Cell phone downloads, with some taking longer than others.	4 hours	40%
Video	Review of video recovered from scene and BWC, report writing.	4 hours	50%
Social Media/ Elec. Records	Warrants and subpoenas, including submission and report.	10 hours	20%
Location Data	Warrants and subpoenas, including submission and report.	20 hours	40%
Surveillance	Surveillance, including locating suspect and report writing.	10 hours	20%
Sex Assault Kit	Sex Assault Exam including report writing.	6 Hours	90%
Victim / Witness Interviews	Interview(s), including report writing.	2 hours	100%
Suspect	Interview(s), including report writing.	2 hours	50%
Jail Call Monitoring	Listen to calls, report writing.	2 hours	40%
Consult with DA	Review case, perform follow up, includes report writing.	1 hours	20%
Total	<i>If all tasks completed:</i>	<i>65.0 hours</i>	

Processes Involved	Approximate Time	% of Time Completed
On average:	26.6 hours	

This list is not all inclusive and does not contain all elements of all investigations. Not every case will have same amount of evidence or interviews conducted. Included in these hours is the assumption that detectives will be conducting RMS searches, checking association files, receiving informant information and other investigative techniques (trackers, cell tower data, etc.), if available. Many cases will not require the number of hours listed, but some cases may require significantly more.

Using the above work hour estimates and the percentage of the time that each subtask is completed, this translates to approximately **26.6 hours** per solvable case.

(3.4) Internet Crimes Against Children (ICAC)

Internet Crimes Against Children are complex investigative cases which rely heavily on digital forensic evidence that requires unique processes. These cases are treated more seriously by the judicial system; they tend to have less witnesses, thus requiring more time in interviews, search warrants to be written and recovery and processing of evidence than other crimes.

The chart below shows the approximate investigative time for ICAC investigations:

	Processes Involved	Approximate Time	% of Time Completed
Cell Phones	Cell phone downloads, with some taking longer than others.	4 hours	30%
Video	Review of video recovered from scene and BWC, report writing.	4 hours	30%
Social Media/ Elec. Records	Warrants and subpoenas, including submission and report.	6 hours	20%
Location Data	Warrants and subpoenas, including submission and report.	20 hours	30%
Surveillance	Surveillance, including locating suspect and report writing.	10 hours	20%
Document / Digital Evidence Review	Review and recover images and files, and write reports.	30 Hours	100%

	Processes Involved	Approximate Time	% of Time Completed
Victim / Witness Interviews	Interview(s), including report writing.	2 hours	50%
Suspect	Suspect interview(s), including report writing.	2 hours	50%
Jail Call Monitoring	Listen to calls, report writing.	4 hours	10%
Consult with DA	Review case, perform follow up, includes report writing.	4 hours	10%
Total	<i>If all tasks completed:</i>	<i>86.0 hours</i>	
	<i>On average:</i>	<i>44.4 hours</i>	

This list is not all inclusive and does not contain all elements and not every sex assault case will have same amount of evidence or interviews conducted. Included in these hours is the assumption that detectives will be conducting RMS searches, checking association files, receiving informant information and other investigative techniques (trackers, cell tower data, etc.), if available. Many cases will not require the number of hours listed, but some cases may require significantly more.

Using the above work hour estimates and the percentage of the time that each subtask is completed, this translates to approximately **44.4 hours** per solvable case.

(3.5) Burglary / Property Crime

Burglary / Property Crimes are typically less complex investigative cases than person crimes and generally require less investigative time or resources. These cases are treated less seriously by the judicial system, and they tend to have less witnesses. The following chart describes the approximate investigative times for Burglary / Property Crimes:

	Processes Involved	Approximate Time	% of Time Completed
DNA	Evidence to crime lab, includes submission and report.	2 hours	20%
Crime Scene Material	Evidence to Property / Evidence, inspection, and report writing.	2 hours	20%

	Processes Involved	Approximate Time	% of Time Completed
Cell Phones	Cell phone downloads, with some taking longer than others.	4 hours	50%
Video	Review of video recovered from scene and BWC, report writing.	2 hours	50%
Social Media/ Elec. Records	Warrants and subpoenas, including submission and report.	6 hours	30%
Location Data	Warrants and subpoenas, including submission and report.	20 hours	40%
Surveillance	Surveillance, including locating suspect and report writing.	10 hours	20%
Victim / Witness Interviews	Interview(s), including report writing.	1 hours	50%
Suspect Interview	Interview(s), including report writing.	1 hours	50%
Jail Call Monitoring	Listen to calls, report writing.	2 hours	10%
Consult with DA	Review case, perform follow up, includes report writing.	1 hours	10%
Total	<i>If all tasks completed:</i>	<i>51.0 hours</i>	
	<i>On average:</i>	<i>16.9 hours</i>	

This list is not all inclusive and does not contain all elements of all investigations. Not every case will have same amount of evidence or interviews conducted. Included in these hours is the assumption that detectives will be conducting RMS searches, checking association files, receiving informant information and other investigative techniques (trackers, cell tower data, etc.), if available. Many cases will not require the number of hours listed, but some cases may require significantly more.

Using the above work hour estimates and the percentage of the time that each subtask is completed, this translates to approximately **16.9 hours** per solvable case.

(3.6) Financial Crimes

Financial crimes are exceedingly difficult cases to pursue and typically take longer to investigate as much of the evidence has to be subpoenaed or obtained with a search

warrant. In addition, much of the evidence belongs to financial institutions and detectives must wait for them to comply with legal requests for information before they can proceed, and this can take weeks to months depending on the type and amount of data requested. They also tend to have much lower solvability rates (approximately 50% less solvable than person crimes). These types of cases typically do not require a detective to respond to a scene and are often handled as follow up a day or more after the occurrence.

The following chart details processes and times associated with financial crimes:

	Processes Involved	Approximate Time	% of Time Completed
Document / Digital Evidence Review	Review/ recover financial data, files, and write reports.	12 hours	100%
Video	Review of video recovered from scene and BWC, report writing.	4 hours	10%
Social Media/ Elec. Records	Warrants and subpoenas, including submission and report.	8 hours	10%
Cell Phone / computer evidence	Warrants and subpoenas, including submission and report.	8 hours	50%
Location Data	Warrants and subpoenas, including submission and report.	20 hours	50%
Victim / Witness Interview(s)	Interview(s), including report writing.	2 hours	100%
Suspect Interview(s)	Interview(s), including report writing.	2 hours	20%
Total	<i>If all tasks completed:</i>	<i>56.0 hours</i>	
	<i>On average:</i>	<i>29.6 hours</i>	

This list is not all inclusive and does not contain all elements of all investigations. Not every case will have same amount of evidence or interviews conducted. Included in these hours is the assumption that detectives will be conducting RMS searches, checking association files, receiving informant information and other investigative techniques (trackers, cell tower data, etc.), if available. Many cases will not require the number of hours listed, but some cases may require significantly more.

Using the above work hour estimates and the percentage of the time that each subtask is completed, this translates to approximately **29.6 hours** per solvable case.

(3.7) Domestic Assault

Domestic Assault cases generally require less investigative time because the victim and suspect are known; however, they do require some investigation for successful prosecution. The following chart describes the approximate investigative times for these cases:

	Processes Involved	Approximate Time	% of Time Completed
DNA	Evidence to crime lab, includes submission and report.	2 hours	20%
Crime Scene Material	Evidence to Property / Evidence, inspection, and report writing.	2 hours	10%
Cell Phones	Cell phone downloads, with some taking longer than others.	4 hours	50%
Video	Review of video recovered from scene and BWC, report writing.	2 hours	100%
Social Media/ Elec. Records	Warrants and subpoenas, including submission and report.	4 hours	20%
Surveillance	Surveillance, including locating suspect and report writing.	2 hours	20%
Victim / Witness Interviews	Interview(s), including report writing.	2 hours	100%
Suspect Interview	Interview(s), including report writing.	2 hours	50%
Jail Call Monitoring	Listen to calls, report writing.	2 hours	10%
Consult with DA	Review case, perform follow up, includes report writing.	1 hours	10%
Total	<i>If all tasks completed:</i>	<i>21.0 hours</i>	
	<i>On average:</i>	<i>8.7 hours</i>	

This list is not all inclusive and does not contain all elements of all investigations. Not every case will have same amount of evidence or interviews conducted. Included in these hours is the assumption that detectives will be conducting RMS searches, checking association files, receiving informant information and other investigative techniques

(trackers, cell tower data, etc.), if available. Many cases will not require the number of hours listed, but some cases may require significantly more.

Using the above work hour estimates and the percentage of the time that each subtask is completed, this translates to approximately **8.7 hours** per solvable case.

(3.8) Missing / Runaway

Missing / Runaway cases typical involve interviewing reporting party, last person to have seen them, checking last known locations, close friends and relatives and entering information into teletype. Depending on leads and investigation required by law or agency policy these cases range from 2 to 4 hours with an average of about **3 hours**.

(3.9) General Crimes / Officer Assist

General crimes / officer assists can vary greatly depending on the type of crime or assistance needed. These cases are typically lower-level crimes where some follow up is needed or an officer needs assistance with a case they are working. This can include assisting with a cell phone download, social media, or open sources search, warrant preparation or other investigative techniques. Depending on the type of crime and investigative need these cases take between 4 and 8 hours with an average of **6 hours**.

2. Investigations Command

Investigations command is responsible for overall operations of investigations. The command consists of the assistant chief, 1 administrative support specialist and 3 administrative assistants (2 vacancies). The Assistant Chief manages the overall operations of investigations, coordinates resources and conducts long term planning. The Administrative Support Specialist provides administrative support to investigations and completes various statistical reports. The administrative assistants area signed to the detectives desk that acts as a dispatch for investigative units, police and headquarters helping to coordinate response to major cases and forwarding calls to the appropriate unit / person. There are no specific performance measures for investigations command.

The staff in investigations command provide critical support to all of investigations. There are 2 current vacancies on the detective desk that limits the ability of the unit to function as intended to support the investigative units.

3. Violent Crimes Section

The violent crimes sections consists of Violent Crime Unit / Group Violence Intervention / Robbery, Special Victims, Domestic Violence, Computer Crimes, Witness Protection, Crime Scene Unit, and Auto Squad.

(1) Caseload Workload Hours Analysis by Unit

To determine the caseload the project team reviewed the total number of assigned cases per unit and then sorted the cases by case type. Using the caseload hours by case type the total caseloads per work unit were then calculated.

(1.1) Major Crimes- Violent Crimes Unit (Homicide Unit)

The Violent Crimes Unit investigates homicides and serious person crimes. The unit consists of 1 sergeant and 22 detectives.

(1.2) Caseload

The following table details major crimes unit caseload with associated work hours:

Violent Crimes Unit Caseload (2021)

Case Type	# Cases	Investigative Hours Per	Total Hours
Homicide	56	276	15,456
Homicide Assist	56*	160	8,960
Child Deaths / OIS	9	276	2,484
Person Crimes (Assault/Robbery/Other)	318	22.6	7,186
Total	383	N/A	34,086

**Not included in caseload count total.*

As the table above indicates, the caseload assigned is represents approximately 34,086 hours.

(1.3) Summary of Workload Hours

As mentioned above there are a total of 22 authorized detective positions assigned to work cases. Using the previous calculation of net available caseload hours and 2021 caseload data, the number of detectives needed to investigate the caseload can be determined:

Calculation of Detective Staffing Needs

Total Caseload Hours		34,086
<i>Divided by total net available hours for 1 detective (1,282)</i>	÷	1,282
Number of Detectives Needed	=	26.58

As the chart indicates, the number of detectives recommended to work the assigned caseload hours assigned is 26.58, and there are a total of 22 detectives currently assigned. To work the assigned cases the violent crimes unit should have 27 detectives assigned.

(1.4) Span of Control

There is currently 1 sergeant assigned to supervise 22 detectives. This is an excessive span of control based on the seriousness of the cases assigned to the unit (homicides), the number of call outs and the need for close supervision on the serious person crimes cases investigated by the bureau. The International Association of Chiefs of Police (IACP) recommends a span of control of no more than 6 to 9 officers in patrol to one supervisor. This general span of control also applies to investigative units as well because of the type of cases assigned. A total of 3 sergeants should be assigned to supervise the violent crimes unit. This would reduce the span of control to 1 sergeant to approximately 7 detectives. With the increase in staffing recommendation of assigning 27 detectives will create a span of control of 1 sergeant to 9 detectives which is the upper limit of a recommended span of control.

Recommendations:

Increase authorized staffing in the Violent Crimes Unit by 5 detectives to work homicides, resulting in a total of 27 detectives.

Increase sergeant staffing in the Violent Crimes Unit by two sergeants, for a total of 3 sergeants assigned.

(2) Group Violence Initiative (GVI)

GVI investigates crimes that have been determined to have a group related association to including non-fatal shootings, robberies, and other cases with group crime nexus. The unit consists of 1 sergeant and 7 detectives.

(2.1) Caseload

The following table details GVI unit caseload with associated work hours:

GVI Unit Caseload (2021)

Case Type	# Cases	Investigative Hours Per	Total Hours
Person Crimes	162	22.6	3,661
Total	162	N/A	3,661

As the table above indicates, the caseload assigned is represents approximately 3,661 hours.

(2.2) Summary of Workload Hours

There are a total of 7 authorized detective positions assigned to work cases. Using the previous calculation of net available caseload hours and total 2021 caseload the number of detectives needed to investigate the caseload can be determined:

Calculation of Detective Staffing Needs

Total Caseload Hours		3,661
<i>Divided by total net available hours for 1 detective (1,282)</i>	÷	1,282
Number of Detectives Needed	=	2.85

As the chart indicates the number of detectives recommended to work the assigned caseload hours assigned is 2.85 and there are a total of 7 detectives currently assigned. Though the caseload hours indicated approximately 3 detectives are needed, GVI also conducts follow up on group violence cases, develops intelligence and assists on other cases included homicides.

GVI provides a significant resource to prevent and solve group related crime. They are a resource of other investigative units. To be effective in all facets of group violence investigations the unit needs resources to conduct follow up and intelligence that current staffing levels provide.

(3) Computer Crimes Unit

The computer crimes unit operates similar to a digital forensics unit as it recovers, and processes digital evidence used in violent crimes. The unit is also responsible for

preparing digital evidence for prosecution and obtaining video from city cameras. The unit is staffed with 1 sergeant and seven detectives.

(3.1) Computer Crimes Activities

The unit reported the following performance metrics for 2021:

Computer Crimes Activity (2021)

Type	#
DA Data Transfers	604
Phone Exam	1,098
Computer / Vehicle	23
MVR / City Camera	1,130
Video Recovery	889
Other Requests	143
Total	3,887

As the chart indicates, the unit conducted 3,887 work processes in 2021. This is a 79% increase over last year. A task time analysis was not conducted because of variance in conducting each task. Additionally, the unit conducts activities in the field in addition to performing tasks in the office. There is a fluctuating backlog of tasks to be performed because the unit triages cases to focus on cases by urgency and severity.

(3.2) Digital Evidence

Digital evidence has become as important as physical evidence in investigating cases. The increase in digital evidence and processes for recovering it require additional resources to ensure that all digital evidence is properly recovered and prepared. The computer crimes unit needs additional staffing to process additional digital evidence and emerging processes for recovering it. Adding 2 additional detectives would reduce the fluctuating backlog and increase the amount digital evidence that be recovered from the field.

Recommendation:

Increase staffing of the Computer Crimes Unit by 2 detectives, for a total of 9 detectives assigned.

(4) Crime Scene Unit (CSU)

The crime scene unit responds to crime scenes, documents and recovers evidence. The unit also conducts analysis on recovered evidence. The crime scene unit consists of 2 sergeants and 17 crime scene technicians that provide 24-hour coverage.

(4.1) Crime Scene Unit Activities

The following table details the crime scene unit responses by crime type:

CSU Responses (2021)

Incident Type	#
Homicide	56
Aggravated Assault	190
Death Investigation	196
Burglary	487
Robbery	56
Sex Assault	15
Miscellaneous (Shots fired, drugs, etc.)	582
Total	1,582

As the table above indicates, the crime scene unit responded to 1,582 scenes in 2021. Due to variability in processes and crime scene activities at each crime scene a task time analysis was not conducted.

The unit also conducted further analysis on items recovered from crime scenes. The following table details the number and type of processes performed by the unit:

CSU Analysis Workload (2021)

Type	#
Firearms Processed	850
Latent Print Comparisons	2,050
AFIS Entries	250
Total	3,150

As the chart indicates the unit conducted 3,150 processes in addition to responding to crime scenes. The processes resulted 104 AFIS hits and 35 identifications made.

(4.2) Crime Scene Unit- Latent Prints

As mentioned above there are a total of 2 sergeants and 17 detective positions assigned. The CSU Latent Print Section consist of two (2) full-time latent print examiners, and one (1) part-time examiner who also respond to and process crime scenes. The workload of AFIS entries and comparisons currently conducted by detectives who also respond to crime scenes. This causes a disruption in work processes for AFIS and conducting comparisons. In larger police agencies like Pittsburgh these tasks are typically performed by dedicated staff who do not respond to crime scenes. This is because of training and certifications needed to effectively conduct these processes. This may also allow the unit to process more prints and make more AFIS entries. This increase will require an additional sergeant to maintain recommended supervision of between 6 to 9 staff to a supervisor.

The work performed by the crime scene unit can be performed by civilian staff because it does not require law enforcement commissions or law enforcement specific training. Many agencies around the country are transitioning to civilian staff for crime scene processing because they typically cost less and many are getting trained in forensics from colleges that offer a forensics program. Long term PBP should transition to civilian staff for crime scene processing. This would require collective bargaining.

Recommendations:

Create dedicated AFIS and ten print comparison unit of dedicated staff from 3 current personnel.

In the Crime Scene Unit, increase sergeant staffing by 1 sergeant, for a total of 3 sergeants assigned.

In the Crime Scene Unit, increase staffing by 3 detectives, for a total of 20 detectives assigned.

Over the long term, transition crime scene processing to civilian staff.

(5) Special Victims and Domestic Violence

The special victims and domestic violence units investigates sex assaults, sex abuse, child abuse and domestic violence.

The unit is staffed by 3 sergeants, 17 detectives (2 vacancies), 1 Analyst and 1 Administrative Specialist. 10 detectives conduct sex assault and child abuse cases, 2

detectives conduct missing persons, 1 sergeant and 2 detectives conduct domestic violence investigations, and 1 detective is assigned to Megan's law.

(5.1) Special Victims and Domestic Violence Caseload

The unit reported the following performance metrics for 2021:

Special Victims and Domestic Violence Activity (2021)

Case Type	# Cases	Investigative Hours Per	Total Hours
Sex Assault	425	26.6	11,305
Aggravated Assault / Kidnap	24	22.6	542
Domestic Violence	337	8.7	2,931
Missing Person	583	3	1,749
Total	1,369	N/A	16,527

(5.2) Summary of Workload Hours

There are a total of 16 authorized detective positions assigned to work these cases. Using the previous calculation of net available caseload hours and total 2021 caseload the number of detectives needed to investigate the caseload can be determined:

Calculation of Detective Staffing Needs

Total Caseload Hours		16,527
<i>Divided by total net available hours for 1 detective (1,282)</i>	÷	1,282
Number of Detectives Needed	=	12.89

As the chart indicates the number of detectives recommended to work the assigned caseload hours assigned is 12.89 and there are a total of 16 detectives currently assigned with 2 vacancies. There are more detectives assigned to the work assigned cases than needed.

One detective is assigned to work Megan's law which is responsible for tracking registered sex offenders. The unit reported the following work activities for 2021:

Megan's Law Detective Activities (2021)

Type	#
Sexually violent predator notifications	37
Investigations requests	124
Megan's law warrants	19
Megan's law arrests	18
Residents checks	353
Employment checks	227
Office warrants	34
Office arrests	24
Total	836

As the table indicates, the Megan's law detective conducted 836 activities in 2021 including 353 residence checks. This is very high level of activity for 1 detective. A primary activity of the detective is residence checks. With only 1 detective assigned a second detective is needed to assist with residence due to officer safety concerns. A second detective could assist with office arrests and residence checks so that these activities could be conducted more safely.

(5.3) Analyst and Administrative Specialist

The Analyst assigned to the domestic unit performs important functions of record keeping, tracking, producing reports in support of unit functions. The administrative specialist performs administrative functions in support of the unit. There are no specific task time analysis because each position conducts multiple functions on daily basis that require different amounts of time to perform. There are no reported backlogs for either position.

Recommendations:

Reduce staffing in the Special Victims and Domestic Violence unit by 1 detective, for a total of 16 authorized detectives, 3 sergeants, 1 analyst and 1 administrative specialist.

(6) Fire Investigations Squad

The fire investigations squad is responsible for the investigation of suspicious fires assisting the fire bureau. The unit consists of 3 detectives who share a supervisor with burglary, pawn, and auto theft detectives.

(6.1) Fire Investigation Caseload

The unit reported the following performance metrics for 2021:

Type	# of Cases	Investigative Hours Per	Total Hours
Arson	207	22.6	4,678
Unfounded	206	2.0	412
Total	413	N/A	5,090

(6.2) Summary of Workload Hours

As mentioned above, there are a total of 3 authorized detective positions assigned to work cases. Using the previous calculation of net available caseload hours and total 2021 caseload the number of detectives needed to investigate the caseload can be determined:

Calculation of Detective Staffing Needs

Total Caseload Hours		5,605
<i>Divided by total net available hours for 1 detective (1,282)</i>	÷	1,282
Number of Detectives Needed	=	3.97

As the chart indicates, the number of detectives recommended to work the assigned caseload hours assigned is 3.97, and there are a total of 3 detectives currently assigned. To effectively work the cases assigned the fire investigations squad should be staffed with 4 detectives.

Recommendation:

In the Fire Investigations Squad, increase staffing by 1 detective, for a total of 4 detectives assigned.

(7) Auto Squad

The Auto Squad is responsible for the investigation of auto theft. The unit consists of 4 detectives.

(7.1) Auto Squad Caseload

The unit reported the following performance metrics for 2021:

Auto Squad Activity (2021)

Case Type	# Cases	Investigative Hours Per	Total Hours
Auto Theft	561	16.9	9,480
Burglary with Auto	3	16.9	50
Insurance Fraud	6	16.9	101
Total	570	N/A	9,631

As the chart indicates, the auto squad was assigned 570 cases in 2021. The number of cases assigned for full investigation is higher than expected with reported auto thefts averaging 550 cases a year over the last few years. This is because in many cases of auto theft there are few leads to follow up on for successful prosecution.

(7.2) Summary of Workload Hours

As mentioned above, there are a total of 4 authorized detective positions assigned to work cases. Using the previous calculation of net available caseload hours and total 2021 caseload the number of detectives needed to investigate the caseload can be determined:

Calculation of Detective Staffing Needs

Total Caseload Hours		9,631
<i>Divided by total net available hours for 1 detective (1,282)</i>	÷	1,282
Number of Detectives Needed	=	7.51

As the chart indicates, the number of detectives recommended to work the assigned caseload hours assigned is 7.51 and there are a total of 4 detectives currently assigned. As noted earlier the number of cases assigned is higher than we typically see. Added an additional detective to the auto squad would allow the unit to follow up on more cases that may have workable leads.

Recommendation:

In Auto Squad, increase staffing by 1 detective, for a total of 5 detectives.

(8) Burglary/Pawn Squad

The burglary/pawn squad is responsible for the investigation of burglaries that occur in Pittsburgh and the monitoring of pawn shops. The unit consists of 6 detectives with 6 authorized who share a supervisor with fire investigations and auto theft detectives.

(8.1) Burglary/Pawn Caseload

The unit reported the following performance metrics for 2021:

Type	# Cases	Investigative Hours Per	Total Hours
Burglary	386	16.9	6,523

(8.2) Summary of Workload Hours

As mentioned previously, there are a total of 3 authorized detective positions assigned to work cases. Using the previous calculation of net available caseload hours and total 2021 caseload the number of detectives needed to investigate the caseload can be determined:

Calculation of Detective Staffing Needs

Total Caseload Hours		6,523
<i>Divided by total net available hours for 1 detective (1,282)</i>	÷	1,282
Number of Detectives Needed	=	5.08

As the chart indicates the number of detectives recommended to work the assigned caseload hours assigned is 5.08 and there are a total of 6 detectives currently assigned.

There is 1 administrative specialist assigned to the auto squad, burglary/pawn, and fire investigation squads. The administrative specialist performs several administrative tasks in support of the units. This frees up the supervisor and detectives to focus on their investigative duties. There are no reported backlogs of tasks to be performed.

(8.4) Span of Control

The detectives in auto squad, burglary / pawn and fire investigation are supervised by 1 sergeant. This creates a span of control of 14 detectives to 1 sergeant which exceeds the recommended span of control. The International Association of the Chiefs of Police (IACP) recommends no more than 9 direct reports per supervisor for patrol functions. A

similar span of control is also recommended. Adding 1 sergeant for a total of 2 sergeants assigned between the squads would reduce the span of control to 1 to 7.

Recommendation:

Add 1 sergeant over the Auto Squad, Burglary/Pawn, and Fire Investigations, for a total of 2 sergeants assigned.

(9) Fugitive Apprehension Unit

The Fugitive Apprehension Unit primary function is to locate, pursue, and capture violent offenders and wanted suspects. Additionally, the unit supports the efforts of the United States Marshals Service and other outside partners in locating and apprehending suspects. The unit consists of 4 detectives, though other detectives are sometimes brought in to assist.

The unit reported the following performance measures for six months in 2022:

FAU Arrests/Activities *(First six months of 2022)*

Type	#
Homicide	21
Aggravated Assault	18
Domestic Violence	3
Bank Robber	1
Firearms Seized	51

As the chart indicates, the fugitive apprehension unit has been very active in apprehending very dangerous suspects. The unit provides a significant service to other investigative units by locating and apprehending wanted suspects.

(10) Witness Protection Squad

The Witness Protection Squad provides assistance with housing relocation, security, and transportation to a court proceeding for material witnesses testifying on behalf of the Commonwealth. The unit consists of 1 sergeant and 3 detectives. The unit reported the following performance metrics for 2021:

Processes / Activities (2021)

Type	#
Referrals Received	33
Cases Assigned	28
Witnesses	11
Witnesses Assist	18
Deactivated from Program	3
Participants in Program	80

The witness protection squad provides a valuable service that assists with effective prosecution of serious cases. This is especially true with cases where witnesses may be reluctant to testify due to fear of retaliation. The squad has to triage cases to decide which witnesses need the services most which reduces the number of witnesses that can be served. This approach strikes a balance to the number of services delivered and the number of requests received. This is the right approach as not every case warrants extensive services or security.

3. Narcotics / Vice

The Narcotics Division consists of the Strategic Investigations Unit, Surveillance and Technical Support Unit, Narcotic/Vice Investigative Unit, Firearms Tracking Unit, and the Graffiti Squad. The unit is overseen by a Commander is supported by two lieutenants and administrative specialist.

(1) Surveillance and Technical Support Unit (Asset Forfeiture/Equipment/Evidence)

The Surveillance and Technical Support Unit (STSU) is responsible for securing monies and properties seized during narcotics investigations and vice raids into Pittsburgh Police property. The unit consists of 2 detectives who are direct reports to the lieutenant.

The unit provides dedicated resources that are responsible for the maintenance of undercover equipment, daily transport of property and evidence, payment of all undercover bills, compiling monthly reports, and maintenance of equipment and files in the narcotics warehouse. There is no reported backlog of processes in the unit.

(2) Firearms Tracking Unit (FTU)

The FTU Unit is responsible for investigating all recovered firearms and returning them to their rightful owner, if permitted by law, or destroying or selling the guns if the owner or

the court so requests. The unit also conducts monthly NCIC Validations. The unit consists of 1 sergeant, 3 detectives and 1 administrative specialist.

The FTU reported the following performance measures for 2021:

FTU Processes and Activities (2021)

Type	#
Firearm Investigations	473
Firearms Recovered	925
Pittsburgh Stolen Firearms Recovered	81
Outside Stolen Firearms Recovered	117
Ghost guns recovered	50
NCIC Validations Completed	1,861

As the chart indicates FTU followed up on 473 firearm cases and recovered 925 firearms including 50 ghost guns. There are no reported backlogs in this unit.

(3) Narcotics and Vice - AM Shift

The narcotics and vice unit conducts narcotics investigations. The unit focuses on street and mid-level narcotics traffickers. The unit consists of 2 sergeants, 11 detectives and 1 administrative specialist. The unit reported the following performance metrics for 2021:

Narcotics and Vice - AM Shift Activity (2021)

Type	#
Narcotic Arrests	60
Prostitution Arrests	24
Human Trafficking Arrests	1
Overdose Investigations	42
Warrants (locations and Cell phones)	52
Cash Seized	\$99,634
Crack Cocaine Seized	542 grams
Powder Cocaine Seized	1,028 grams
Heroin "Bricks"	431
Guns Seized	30

As the chart above indicates the unit is active conducting investigations, making seizures and arrests. The unit is active with the current staffing.

(4) Narcotics and Vice – PM Shift

The narcotics and vice unit conducts narcotics investigations. The unit focuses on street and mid-level narcotics traffickers. The unit consists of 1 sergeant and 7 detectives. The unit reported the following performance metrics for 2021:

Narcotics and Vice - PM Shift Activity (2021)

Type	#
Narcotic Arrests	69
Warrants (locations and cell phones)	28
Overdose Investigations	58
Cash Seized	\$23,619
Crack Cocaine Seized	61.5 grams
Powder Cocaine Seized	29 grams
Heroin "Bricks"	38.5
Guns Seized	22

As the chart above indicates, the unit is active conducting investigations, making seizures and arrests. Though the unit is active, there are some additional investigations that could be conducted with additional staffing, especially human trafficking which takes significant resources to be successful. Adding two detectives would allow the unit to conduct more investigations.

Recommendation:

Increase staffing by 2 detectives in Narcotics and Vice – PM Shift, for a total of 1 sergeants and 9 detectives assigned.

(5) Strategic Investigations (Task Forces)

Strategic Investigations consists of a detectives assigned several different multi-agency task forces. There are a total of 14 detectives assigned to 7 different task forces. The detectives are assigned as follows:

- 1 detective is assigned to DEA - Diversion
- 5 detectives are assigned to the DEA. (1 Vacancy)

- 4 detectives are assigned to the FBI Safe Streets TF
- 1 detective is assigned to the FBI Opioid TF.
- 1 detective is assigned to the U.S. Marshals Fugitive TF.
- 2 detectives are assigned to the ATF.

Individual units reported the following performance metrics (combined for all task forces):

Strategic Investigations Activity (2021)

Type	#
Arrests / Indictments	329
Warrants (locations and cell phones)	208
Informant Buys	107
Cash Seized	\$9,272,460
Crack Cocaine Seized	62 ounces
Powder Cocaine Seized	52 Kilograms
Heroin Seized	309 ounces
Fentanyl Seized	6 Kilograms
Meth Seized	163 Kilograms
Firearms Seized	261

As the chart indicates, the various task forces have been very active in making narcotic and cash seizures, arrests, and gun seizures. Task Forces provide PBP with additional resources and leverage to conduct larger investigations.

(6) HIDTA (High-Intensity Drug Trafficking Areas) Unit

The HIDTA Investigations Unit investigates all levels of illegal narcotic distribution. The primary focus of the unit is to target mid-level and street-level drug dealers. As a HIDTA group, the unit attempts to identify drug trafficking organizations (DTO) and money laundering organizations (MLO) The unit completes both long and short-term investigations. The unit consists of 1 sergeant, 6 detectives and 1 administrative specialist.

The unit reported the following performance metrics for 2021:

HIDTA Activity (2021)

Type	#
Narcotic Arrests	22
Indictments	5
Warrants (locations and Cell phones)	64
Overdose Investigations	64
Cash Seized	\$554,662
Crack Cocaine Seized	3 ounces
Powder Cocaine Seized	940 grams
Heroin (bricks) Seized	46
Fentanyl Seized	737 Kilograms
Meth Seized	67 Kilograms
Firearms Seized	20

As the chart indicates, the unit is effective at its mission of investigating narcotic trackers. Many of the investigations conducted by the unit are longer term which require the resources that a unit like HIDTA funded units provide.

(7) Graffiti

The Graffiti detective is responsible for investigating any graffiti complaints received through reports, 311, or other avenues. The unit works closely with public works and 311 to organize the cleaning of graffiti. There are no reported performance metrics for this position.

Graffiti is a common complaint in larger cities and in addition to being a public nuisance some graffiti may be used by street level gangs to communicate. The intelligence quick removal of graffiti is a goal of the graffiti detective. The unit should maintain individual performance measures to validate the need for the position.

Recommendations:

Maintain annual performance measures for the Graffiti detective.

5. Administration

The Administrative Bureau within the Pittsburgh Bureau of Police is led by an Assistant Chief who is directly supported by two Commanders. These two commanders oversee the Administration and Support Services branches of the Bureau, respectively. The administration branch includes the training academy, the property room, as well as relations with the Office of Municipal Investigations (OMI). The commander of support services oversees the warrant office, the courts liaisons, the computer operations unit, the wellness unit, and the central records and reporting unit (CRRU) which encompasses the records functions of PBP as well as the telephone reporting unit.

1. Administrative Branch

As previously mentioned, the Administrative Bureau is separated into two distinct branches, one of which is the Administrative Branch. The Administrative Branch is overseen by a Commander who is directly supported by a Lieutenant, Sergeant, and Detective position. These positions are in place to complete a variety of administrative and investigative related responsibilities for the overall functionality of the administrative branch.

Currently, only the Commander and Lieutenant positions are filled, resulting in vacancies of the Detective and Sergeant positions. The responsibilities of these positions are being completed by the Lieutenant. These vacancies should be filled as soon as possible.

(1) Training Academy

The Bureau conducts recruit training, mandatory in-service training for all department members, hosts and provides various police specialty trainings for both department members and outside agencies and coordinates inter-department training led by other department Bureaus and Units. Training is delivered both in-person and in online training platforms.

The Training Academy at the PBP is led by a Lieutenant position. The Lieutenant position is responsible for the overall direction of the training academy, including the oversight of all curriculum and budgetary responsibilities. This position is integral to the overall functionality of the training academy and should be maintained and staffed at all times moving forward. A Clerical Specialist directly supports the Lieutenant in a variety of

secretarial duties¹⁵ and is an integral part of the staff at the academy that should be maintained at all times.

(1.1) Sergeants and Officers

The Lieutenant is directly supported by 3 Sergeant positions and 10¹⁶ Officer positions. While these positions are separated by ranks, their duties in relation to the overall functionality of the training academy are similar. As a result, they will be evaluated together below. Currently, there is one vacant Sergeant position and two vacant Officer positions. Further, 2023 sees the reassignment of 3 K9 Instructors to be assigned under the purview of the Training Academy. In the experience of MCG project staff, this is a change that ought to be completed, as centralizing all training protocols and personnel is integral in upholding curriculum practices and oversight.

Recommendation:

Move the three K9 Instructors within the oversight of the Training Academy as planned.

(1.2) Use of Force Reviews

Another facet of the duties assigned to personnel within the Training Academy is the oversight and review of all Use of Force reports completed by PBP personnel. Upon force being used in the field, a Use of Force report is generated to document the occurrence. This report is then sent in a monthly file to personnel within the Training Academy for review. In the experience of MCG project staff, this practice aligns with best practices across all external governing organizations and should be continued as is.

(1.3) Curriculum Considerations

While policing continues to change in the United States, police academy training has typically not kept pace. Potentially serious consequences such as legal, financial, and reputational consequences exist when police agencies do not adequately invest in the training of their Officers. The Police Executive Research Forum (PERF) recently published 40 guiding principles in order to transform Police Recruit training. It is recommended that the Pittsburgh Bureau of Police assess its current academy practices and curriculum to ensure training is updated in order to meet policing challenges. The following

¹⁵ The Clerical Specialist at the Training Academy is responsible for specialize assignments surrounding the state tax system that requires special authorization and training, delineating this position from any other similar positions throughout the Bureau.

¹⁶ 2023 assignments see the reassignment of two officer positions from the Training Academy for a total of 10 Officers assigned to the Training Academy.

assessment tool, incorporating these guiding principles, should be used as a guiding point:

Police Academy Assessment Tool

Organization, Operation, and Philosophy

- Academy philosophy aligns with current Bureau policing philosophies.
- Training is centered on critical thinking and values-based decision making.
- Training is an academic environment based on adult-learning principles, augmented with appropriate stress-based learning.
- Academy resources, curriculum, instruction, and quality are consistent.
- Meaningful input and feedback from other organizational areas within the Bureau are received and inputted.
- The Bureau's mission, vision, and values are reinforced throughout academy training.
- A culture of wellness is established throughout the academy.
- Internal procedural justice is practiced throughout academy training.
- Training is open and transparent in order to maintain and build upon community trust.

Curriculum

- Adult learning principles are applied throughout recruit training and innovative approaches which reinforce critical thinking and decision making are utilized.
- Scenario-based training is focused on both tasks which Police Officers engage in on a day-to-day basis and high-risk encounters infrequently faced.
- Curriculum includes reviewing videos of past incidents in order to learn from officers' tactics and outcomes.
- Curriculum includes history of policing in the United States, and in Pittsburgh, with special emphasis on racial justice issues and law enforcements' role in society.
- Recruits are trained in how to interact with community members.
- Physical fitness is incorporated throughout academy training and treated as part of a career-long focus on health and wellness.
- Training is focused on agency policies, procedures, organizational values, and local community.

- Professional curriculum development personnel who are experts in adult learning assist in developing, writing, and developing academy curriculum.
- Courses are sequenced according to learning objectives, not instructor availability.
- Incorporate recent graduates in curriculum review processes and updates.
- Embrace adaptive learning which customizes the learning experience for different academy recruits.
- Academy lesson plans are accessible to all Bureau employees.

- Leadership and Instructors
- Academy leadership is diverse and includes people with a background in adult education and learning.
 - A formal, rigorous process for selecting instructors exists.
 - Professional educators are included to teach courses in areas that do not require specific law enforcement experience.
 - Instructors are up to date on current issues in policing and adult learning principles.
 - Staff is rotated back to the field, to keep skills fresh and ground teaching in the practical aspects of current policing practices.
 - A broad spectrum of outside instructors and community resources are used which bring different perspectives on policing issues.

- Technology
- Recruits are equipped with body-worn cameras and use them throughout academy training.
 - Recruits are provided with the technological tools necessary to succeed.
 - Training is not overly reliant on training simulators.
 - Virtual reality tools are implemented into training.
 - Technology which supports physical fitness training is used.
 - Academy facility technology supports modern approaches to teaching.

Recommendation:

Review all PBP Training Academy policies and protocols in comparison to the newly released PERF Training Protocol recommendations. Make adjustments as deemed fit.

(1.4) Firearms Instructors

As a part of the goals outlined in 2021, representatives from the PBP Training Academy took on the task of completing the processes necessary to be able to certify their own

firearms instructors internal to the organization. This practice is highly recommended on behalf of MCG project staff and is a part of best practices guides seen throughout a wide range of governing organizations.

In 2022, MPOETC Firearms Instructor Course was created and subsequently approved by MPOETC. As a result, 10 firearms instructors were trained and certified in 2022 to train new recruits and conduct all necessary in-service training related to firearms and less-lethal methods. With these responsibilities and certifications comes an increased need for personnel specifically assigned to these functionalities. In response, there should be an increase in staffing of 1 FTE Sergeant under the Training Academy's purview who should be responsible for the oversight of all firearms instruction and firearms instructors, including certifications for instructors, in-service training, new recruit training, and all research relating to policies on firearms and their utilization within the Bureau.

Recommendation:

Increase the staffing of sergeants assigned to the Training Academy by 1 position, for a total of 4 FTEs. The new sergeant position should oversee all firearms-related training and certifications.

(1) Property Room

The Property Room at PBP is overseen by a civilian Supervisor who is directly supervised by 5 Officer positions. At the moment, the supervisor role and one of the Officer positions are vacant. The Supervisor is responsible for coordinating all training, scheduling, budget, approvals, and auditing practices associated with the property room. The Supervisor also serves as the liaison between the property room and any internal or external unit or entity (e.g., records, legal offices, District Attorney's office, etc.).

This role is integral to the overall functionality of the Property Room and should be maintained and staffed consistently moving forward.

(2.1) Officers

The following table depicts an overview of the workloads associated with the Property Room in 2020 and 2021:

Property Room Workload

Workload Indicator	2020	2021
Cases	3,323	3,024
Pieces of Evidence	-	16,100
Firearms	630	937
Issuance		
Taser Cartridges	40	73
Tourniquets	2	7
OC Canisters	52	64
NARCAN Doses	126	181
Radio Support Requests		102
Firearms		
Total Firearms	630	937
PFA Guns	73	47
Sexual Assault		
Antiquated Case Research	-	401
Destruction		
Firearms	29	29
Test Files	-	11,268
Medication (lbs.)	500	300

Source: PBP Annual Reports

As can be seen above, 2021 workload indicators captured by the Property Room indicate a slight increase in workload; however, these should be viewed as a return to 'normal' workloads as a result of the conclusion of COVID-19 pandemic effects. As a result, the vacant positions should be filled immediately to assist in handling these increasing workloads.

(2.2) Civilianization Considerations

While there are responsibilities and areas of expertise within a police agency's property room that demands the experience and training of sworn personnel, a large majority of these roles and responsibilities can be completed by civilian personnel. As such, two of the current Officer positions should be transferred to civilian positions through attrition. This will yield a hybrid staff of civilian and sworn personnel, allowing for a range of expertise while still staffing adequate levels of sworn personnel for duties mandating their experience or certifications (e.g., property destruction, property transfer, chain of custody monitoring, etc.).

Recommendation:

Civilianize 2 of the 5 officer positions within the Property Room through attrition.

(2) Office of Municipal Investigations (OMI)

The Office of Municipal Investigations at PBP is responsible for coordinating the receipt, analysis, and investigation of citizen complaints of civil and/or criminal misconduct alleged against employees of the City of Pittsburgh. This includes uniformed personnel such as Fire, Police, EMS, and Building Inspection employees. As such, the police personnel that are allocated to the OMI are not directly supervised by the Commander of Administration, but by employees of the City of Pittsburgh. This reporting structure as a separate entity is advantageous and will allow these personnel the ability to effectively investigate any matters relating to PBP personnel.

The police personnel that are allocated to the OMI from the bureau of police is led by a sergeant who serves as the supervisor of PBP employees allocated to this unit. The sergeant reports to the Commander of Administration within PBP, but also reports to a separate supervisor within OMI for separation purposes. The sergeant position is integral to the overall function of the unit and should be fully staffed at all times.

The sergeant is supported by both detectives and civilian investigators. These support staff work together to complete background investigations for PBP personnel, investigate all misconduct alleged against PBP employees, and other related functions. These personnel are only distinguished in their access to confidential information databases (e.g., JNET), in which the detectives are able to, and civilian investigators are not.

Currently, there are 6 allocated FTEs for each of these respective positions, totaling 12 support staff. The civilian investigator positions are fully staffed at 6 FTE. This should be maintained to provide adequate investigative support in their function's.

There is currently one vacant detective position of the 6 FTE allocated to OMI. This position should be filled.

Recommendation:

Fill the vacant detective position in the citywide OMI office immediately through hiring or reassignment.

2. Support Services Branch

The second half of the Administrative Bureau is the Support Services Branch. The Support Services Branch is supervised by a Commander who is directly supported by a Lieutenant and an Administrative Specialist.

The Commander position is responsible for general oversight of all aspects of the Support Services Branch and reports directly to the Assistant Chief of Administration in the chain of command. Currently, this position is vacant and due to its importance regarding the oversight of the branch, should be filled immediately.

The Lieutenant reports directly to the Commander and is responsible for the coordination of projects throughout and across different units within the branch discussed below.

The Administrative Specialist is responsible for general administrative support and reports directly to the Commander. Both of these positions are currently fully staffed with 1 FTE are integral to the success of the Support Services Branch. As a result, these positions should be maintained and staffed at all times moving forward.

(1) Warrant Office

The Warrant Office is responsible for the maintenance and upkeep of all warrants issued and overseen by the Bureau of Police. These functions include all regular arrest warrants, failure to appear warrants, and detention warrants. The Warrant Office is staffed by 3 Sergeants and 16 Officers, and all positions are currently filled. Sergeants are responsible for shift oversight and approving/denying arrest reports, investigative reports, and criminal complaints. Once these reports are approved, they are sent to arraignment court and entered into the judicial system's processing systems. Each of these Sergeant positions are key to the functionality of the Warrant Office, as there is a need for direct supervisory roles on each shift.

Warrant Office Officers are staffed in 3 shifts to achieve 24-hour coverage. These shifts are currently deployed on 4/10-hour shifts; however, will be transitioning with the rest of the Bureau to 5/8-hour shifts. Currently, there are 6 officers on the AM shift, and 5 officers on the PM and Night shifts, respectively. The table below outlines the current shift schedule and deployment of personnel:

Current Staffing by Shift

Shift	Hours	Staffing	
		# Sgt.	# Ofc.
AM	0600 - 1600	1	6
PM	1600 - 0200	1	5
Night	2200 - 0800	1	5

The following section attempts to evaluate this staffing deployment strategy. The tables below outline the workload associated with these positions across the three shifts in 2021:

Warrant Office Activity (2021)

Type	AM Total	PM Total	Night Total	Yearly Totals
Arrest Docket Entries - On View	733	1,029	1,113	2,875
Arrest Docket Entries - Warrant	944	656	306	1,906
Arrested and Detained Entries	511	662	470	1,643
Juvenile Referral	98	11	14	123
Summons Arrests	467	554	539	1,560
Citation Docket Entries	512	611	383	1,506
Warrants Prepared	350	540	2	892
Walk-In Arrests Processed	42	3	6	51
Shift Totals	3,657	4,066	2,833	10,556

As can be seen, there is a variation in staffing needs across the three shifts within the Warrant Office. As a result, the following staffing table exhibits recommended staffing levels across the three shifts in 2023:

Recommended Staffing by Shift

Shift	Hours	Staffing		+/- Change
		# Sgt.	# Ofc.	
AM	0600 - 1600	1	4	-2
PM	1600 - 0200	1	6	+1
Night	2200 - 0800	1	6	+1

This staffing model will properly allocate the Officers assigned to the Warrant Office across the three shifts in terms of the overall workload shown above while still allowing for adequate staffing related to the sporadic workloads associated with “On View” warrants and the processing of walk-ins. Also, this staffing model correlates to the findings presented in the Operations section associated with both calls for service as well as the self-initiated activity of PBP patrol officers. While these two units are separate in their workflows, the activity of PBP patrol officers directly impacts the workload of the Warrant Office.

The table below presents the yearly trends in workload that are utilized to evaluate the adequacy of staffing levels within the Warrant Office:

Warrant Office Services	Yearly Totals		
	2020	2021	% Change
Arrest Docket Entries - On View	3,166	2,875	-9%
Arrest Docket Entries - Warrant	1,836	1,906	4%
Arrested and Detained Entries	1,347	1,643	22%
Juvenile Referral	172	123	-28%
Summons Arrests	1,771	1,560	-12%
Citation Docket Entries	1,533	1,506	-2%
Warrants Prepared	866	892	3%
Walk-In Arrests Processed	77	51	-34%
Total	10,768	10,556	-2%

While there was a drastic difference in some varieties of workload, there was only a net 2% decrease in workload associated with the Warrant Office. As a result, the current staffing of the Warrant Office should be maintained.

Recommendation:

In the Warrant Office, reallocate officer staffing across shifts to better match workloads. Two of the officers assigned to the AM shift currently should be reassigned to the PM and Night shifts (one each).

(2) Central Records and Reporting Unit (CRRU)

The Central Records and Reporting Unit (CRRU) within the Bureau of Police is the central records repository for the Bureau, as well as the entity responsible for all state and federal reporting mandates associated with their status as a police agency. The CRRU is overseen by a single Supervisor that is currently staffed. This position is responsible for

general oversight of the Unit, including reporting practices, training, budgetary duties, and personnel scheduling and logistics. This position is integral to the functionality of the Unit and should be maintained and staffed at all times. The Supervisor is directly supported by two Administrative Assistants who are responsible for administrative oversight of the CRRU and the Telephone Reporting Unit.

(1.1) Administrative Specialists

The Administrative Specialists within the CRRU are the personnel responsible for the completion of records and report entries as well as completion of reports generated for the aforementioned state and federal reporting practices of the Bureau. These staff are on duty from 0800 to 1600, Monday through Friday. In addition to the Administrative Specialists assigned to general records and reporting functions, there are two FTE budgeted to be assigned to a Telephone Reporting Unit (TRU) that is to be staffed from 1100 to 1900 and 1500 to 2300 Monday through Friday.

There are 11 FTE budgeted for the general records and reporting responsibilities and these positions are currently fully staffed. However, the 2 FTE budgeted for the TRU are currently vacant. The establishment of a functional TRU to alleviate the responsibilities of dispatchers, as well as establishing a call filtering system dedicated toward prioritizing low-priority and non-immediate calls for service are two practices that are integral to the PBP moving forward. The two FTE assigned to the TRU should also be supported by light-duty sworn personnel when applicable. The following list outlines call types that have been utilized in a TRU or online reporting capacity in police agencies¹⁷ who have contracted the services of Matrix Consulting Group in the past 5 years:

- Theft,
- Accident (Non-Injury),
- Theft from Vehicle,
- Lost/Found Property,
- Vandalism, and
- Harassment.

¹⁷ Examples of these agencies include, but are not limited to: Sacramento (CA), Indianapolis (IN), Charlotte (NC), San Antonio (TX), Columbus (OH), Madison (WI), Fort Worth (TX), and Milwaukee (WI).

These call types should mirror the call filtering protocols put in place by PBP to establish a functioning and full-time dedicated TRU.

(1.2) Cashiers

To assist in front counter responsibilities associated with the CRRU, two FTE cashiers are on staff to conduct the associated cashier and clerical work. These cashiers are also responsible for the generating necessary reports associated with the processing of subpoenas as well as “right to know” requests.

There are no workload indicators associated with this position.

Recommendation:

Assign light-duty sworn officers to detail in support of the Telephone Reporting Unit when possible.

Develop a call-filtering system dedicated to the utilization of the Telephone Reporting Unit for calls for service that do not necessitate an immediate or emergency police response.

(3) Courts Liaisons

Courts Liaison positions are integral to the workflow associated with PBP employees and Officers reporting to the multiple courtrooms throughout the City in a timely manner. These two Sergeant positions are staffed at their respective courts with direct support of a Clerk position at each location to oversee the logistical support of officers and employees attending necessary court hearings. These four positions (2 Sergeants and 2 Clerks) are currently fully staffed and should be maintained moving forward.

(4) Computer Operations Unit

The Computer Operations Unit is staffed with 1 Sergeant and 4 Officers. On top of responsibility for general oversight of the Unit, the Sergeant conducts all criminal history evaluations for sworn and non-sworn personnel and acts as TAC with state and interagency criminal history and intel databases for certification purposes. This position is integral to the functionality of the Unit and should be maintained and staffed at all times.

The Officers (4 FTE) serve in a variety of technology capacities including:

- Addressing workload related to trouble shooting,
- Overseeing user account management,

- Conducting technology refresh and equipment deployment,
- Creating IDs,
- Serving as system administrators for body-worn camera database,
- Monitoring SharePoint functionality, and
- Overseeing the Mobile Data Terminal.

There are no workload indicators associated with the Officer positions within the Computer Operations Unit.

While there are several tasks under the purview of the Officer position within the Computer Operations Unit, the majority of these tasks do not necessitate the Unit to be staffed by sworn personnel. As a result, two of the four Officer positions should be transitioned to civilian Administrative Specialists through attrition. This will also serve to delineate workflow responsibilities throughout the Unit, as sworn personnel will be assigned to all body worn camera-related assignments, with Administrative Specialists completing all other assignments within the Unit.

Recommendation:

Within the Computer Operations Unit, transition 2 of the 4 officer positions to civilian administrative specialist classifications.

(5) Wellness Unit

The Wellness Unit consists solely of an Employee Wellness and Resource Coordinator, a position which is currently staffed at 1 FTE by a Master Police Officer. The coordinator position is responsible for all wellness-related activities throughout the entire Bureau, including, but not limited to the following:

- Serving as the coordinator for the Crisis Intervention Team,
- Handling all associated CIT trainings and mental health-related trainings, both in-service and at the Training Academy,
- Serving as a CIT International Coordinator,
- Serving as a liaison with all external mental health and community social workers,
- Serving on the Occupational Safety and Health Administration (OSHA) committee,
- Serving as the disability services Coordinator,

- Participating as a member of the peer support team,
- Serving as the recruitment coordinator, and
- Reviewing all CIT-related reports generated in the field.

A large majority of the job duties of the Wellness and Resource Coordinator revolves around CIT-related activity. The following tables outline these calls for service in 2021 across hour and weekday and season:

CIT Calls for Service by Hour and Weekday, 2021

Hour	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Total
12a	60	70	33	37	23	42	58	323
1am	33	16	31	30	23	35	28	196
2am	29	28	18	25	33	15	18	166
3am	43	14	29	15	20	38	28	187
4am	37	12	29	30	25	16	33	182
5am	26	18	7	9	27	17	14	118
6am	45	22	16	16	25	18	24	166
7am	11	16	7	20	8	20	25	107
8am	43	32	12	7	22	19	4	139
9am	29	55	39	33	12	9	24	201
10am	40	64	72	32	32	28	39	307
11am	30	30	45	45	45	43	17	255
12pm	49	66	23	52	46	40	54	330
1pm	44	58	27	31	45	44	16	265
2pm	50	38	87	39	57	82	43	396
3pm	40	52	49	47	85	77	29	379
4pm	57	50	80	46	63	64	37	397
5pm	37	67	32	27	69	63	31	326
6pm	73	37	54	60	58	50	57	389
7pm	48	43	73	40	54	70	68	396
8pm	83	61	59	59	33	66	80	441
9pm	65	65	72	64	72	58	65	461
10pm	35	99	59	40	57	71	37	398
11pm	62	94	42	42	61	32	49	382
Total	1,069	1,107	995	846	995	1,017	878	6,907

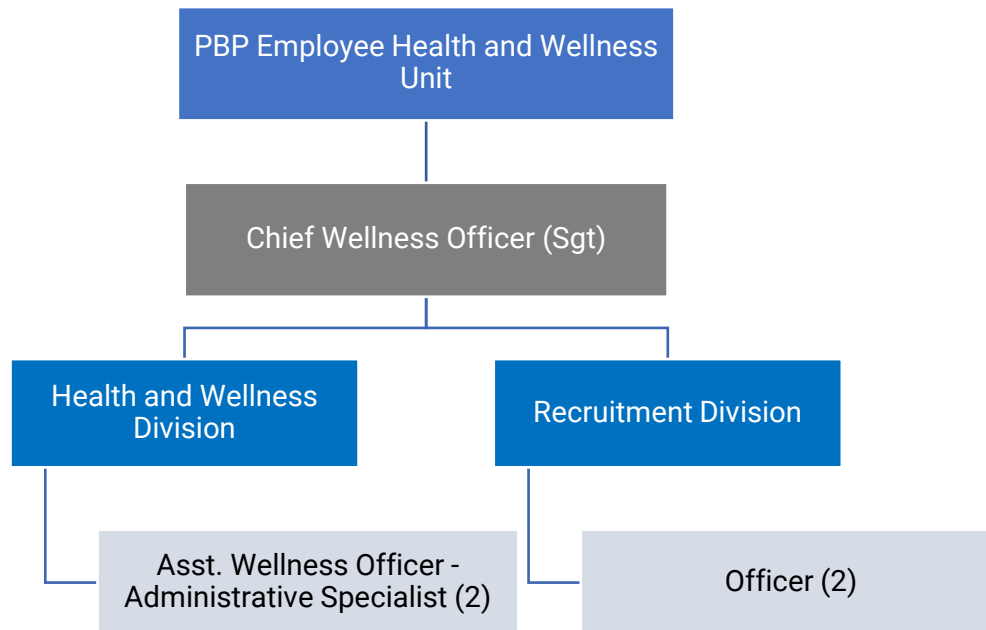
CIT Monthly Calls for Service, 2021

Month	# of CFS	Seasonal +/-
Jan	558	
Feb	552	+0.9%
Mar	633	
Apr	643	
May	550	+4.6%
Jun	613	
Jul	675	
Aug	574	+8.6%
Sep	626	
Oct	590	
Nov	468	-14.1%
Dec	425	
Total	6,907	

The tables above indicate how the duties currently assigned to the Employee Health and Wellness Coordinator are too drastic for the work of one person. Currently, this position garners responsibility from too many different practice areas and, as a result, is taking away from the main purpose of having an Employee Wellness Unit resource. In the current state of American policing, the need for Employee Safety and Wellness is at an all-time high, as its need was outlined in the final report of the President's Taskforce on 21st Century Policing¹⁸ in their 6th Pillar: "*Officer Safety and Wellness*".

To assist in the prioritization of employee health and wellness while still encompassing all current roles and responsibilities assigned to the Unit, MCG project staff recommend the following organizational structure within the Wellness Unit:

¹⁸ To view the final report of the President's Taskforce on 21st Century Policing, see: https://cops.usdoj.gov/pdf/taskforce/taskforce_finalreport.pdf.



This organizational structure will facilitate the focus on employee health and wellness as outlined by the President’s Taskforce on 21st Century Policing, while providing PBP with adequate staff to support these policies and programs while recruiting new officers and employees at an acceptable rate in a time where recruitment and retention are of utmost importance throughout police agencies across the country.

The organizational structure outlined above allows for a Chief Wellness Officer at the rank of Sergeant to oversee two civilians with the position of Administrative Specialist to assist in the CIT-related tasks outlined above. The other branch of this Unit will serve in a recruitment capacity. The assignment of the Sergeant as the Chief Wellness Officer allows for two Officers to be assigned to these positions and report directly to a sworn Sergeant, eliminating any concerns related to collective bargaining.

Recommendation:

Increase the current staffing of the Wellness Unit by 1 sergeant, 1 officer, and 2 administrative specialists, in addition to the 1 officer that currently comprises the unit.

6. Chief of Staff

The Chief of Staff functions as the executive officer under the Chief of Police and is responsible to oversee the intelligence and analysis support functions for the Bureau. The Criminal Intelligence Unit, Crime Analysis Unit, Real Time Crime Center, and Fusion Center report to the Chief of Staff.

A Commander filling the Chief of Staff role retired mid-year 2022. In late 2022, a Lieutenant transferred to the vacant position in the Criminal Intelligence Unit and has been the acting Commander in the Chief of Staff role. The Acting Commander has been off work after the transfer and has not been interviewed for this study. A Sergeant assigned to the Criminal Intelligence Unit is the Acting Lieutenant supervising all four units.

1. Criminal Intelligence Unit

The Criminal Intelligence Unit (CIU) functions to collect, analyze and distribute criminal intelligence information using established criteria that provides for legitimate needs of law enforcement. Intelligence is gathered for the purposes of identifying criminal patterns, trends, identification of suspects, criminal enterprises, and police and/or public safety issues. Investigators receive specialized training in threat assessments, dignitary protection and event planning and have access to sensitive information.

Criminal Intelligence is staffed with a Sergeant who is currently the Acting Lieutenant overseeing all four units and 15 detectives. There are two vacancies, for a total of 17 authorized detectives assigned to unit. Detectives work Monday through Friday on 8 hours shifts. Detectives stagger work hours to staff CIU 6am to 6pm and rotate on call duties for after hours. The unit is organized as follows:

Mayor's Protective Detail (2 Detectives)

Detectives assigned to the Mayor's Office provide physical protection for the mayor carrying out the city business. Detectives are assigned to those positions full time and do not rotate through other positions or conduct investigations.

JTTF Joint Terrorism Task Force (1 Detective)

The detective assigned to JTTF work with other jurisdictions to investigate and prevent actual or potential acts of terrorism occurring in the Pittsburgh area.

Fusion Center (1 Detective)

Pittsburgh Bureau Police has assigned 1 Detective to the Pennsylvania Criminal Intelligence Center, one of 79 fusion centers in the United States. Fusion Centers are state operated centers that serve as focal points to gather, receive, analyze, and share threat-related information between state, local Tribal, federal, and private sector partners.

Zone Group & Gang Investigators (13 Detectives, 11 of which are filled)

Primary functions include:

- Prepare investigative packets and analysis in support of other investigators- Criminal Intelligence Investigators assist Homicide, Narcotics and Zone Investigators daily.
 - Dignitary Protection Responsibilities: The Criminal Intelligence Unit is responsible for the coordination and operational planning for dignitary visits as well as staffing assignments during visits hosted by Pittsburgh. Two detectives assist Pennsylvania State Police planned Governor and Lt. Governor dignitary visits.
 - Investigate social media posts/threats to determine threat level.
 - Site security assessments.
 - Investigate illegal activities of suspected criminal enterprise.
 - Surveillance for operational events in support of investigations.
-

(1.1) Workload and Ability to Meet Unit Objectives

Workloads for Criminal Intelligence Units are a hybrid of reactive and proactive law enforcement work. Workloads can be difficult to measure as the focus of criminal intelligence work is to collect and analyze various pieces of information to detect patterns, trends, and the probability of future criminal acts. Investigators are tasked with providing decision makers with substantive information for a range of sensitive operations or investigations.

Pittsburgh CIU staff provide investigative supportive for other investigative units in the Bureau and carry individual caseloads. CIU staff take the lead planning, documenting, and

staffing large events and dignitary events. Threat assessment is part of the operational planning and determines the scale of staffing required based on threat assessment findings.

Not all workload data is tracked; however, the following investigative tasks and operational responsibilities were completed by CIU for 2022:

- 1661 information requests were made of the unit to include a wide range of investigative assistance inquiries and social media threats assessments.
- 15 dignitary visits - CIU is responsible to create the operational plan for dignitary visits and fill dignitary protection roles during visits. (Both the President and Vice President visited Pittsburgh in 2021 and 2022.)
- CIU prepared 127 Situational Awareness Reports for Protests and Rallies and provided surveillance for most events.
- CIU completed 32 operational orders for large scale events that included marathons, concerts sporting events and parades. In addition to planning these events, CIU investigators staffed the events.
- Detectives carry individual investigative caseloads. Caseload numbers were not provided.

Informational or investigative requests can take several minutes to several hours depending on the complexity of the request. Situational Awareness Reports generally take 4 to 8 hours depending on the scope of the assessment. Dignitary events for the President or Vice President can take several days to plan, visitations of lesser import 1 to 3 days. Dignitary visits and large events generally require several resources from the host agency and assistance from neighboring jurisdictions.

CIU analyzed, planned, and participated in a total of 174 city events for 2022, an average of 3 events a week and completed an average of 32 investigative inquiries each week. Planning and staffing that number of events each week is more than most cities of similar size.

The allocation of staff resources for Criminal Intelligence units is generally a policy decision driven by the law enforcement executives of the jurisdiction. There is no formula to evaluate the level of staff resources for criminal intelligence functions as the unit assists other major investigative units, carries individual caseloads and in the case of Pittsburgh, is the primary planning and response unit for Bureau events. It is common for agencies to assign major event planning and dignitary visits to these units. Staff are

specially trained and generally have higher information clearance levels. The training and higher information clearance allow for information sharing with federal partners resulting in smoother operational planning. With the number of events occurring in Pittsburgh is not recommended staffing be reduced.

(1) Span of Control

The Criminal Intelligence consists of 1 sergeant and 17 officers when fully staffed. Criminal Intelligence officers are often involved in high-risk activities with access to sensitive or classified information. International Association of Chiefs of Police (IACP) among others recommends a span of control of 6 to 9 direct reports to supervisor. An additional sergeant should be added to Criminal Investigations Division to bring span of control ratios in line with best practice standards.

Recommendations:

Add 1 Sergeant to the Criminal Intelligence Unit.

2. Real Time Crime Center

The Real Time Crime Center (RTCC) is a centralized law enforcement technology center providing necessary support functions through real time integrated technologies and camera networks. The primary mission of RTCC is to provide real time actionable intelligence to assist field operators. Detectives are responsible to monitor CAD, police radio communications, ShotSpotter Gunfire Location, Alert and Analysis Service, License Plate Recognition program (LPR), and city-wide cameras. RTCC personnel provide additional criminal research when requested from investigators involved in active investigations for Pittsburgh and other outside agencies.

Some Real Time Crime Centers function as administrative analytical support only. The Detectives and Sergeant in the Pittsburgh RTCC are responsible to direct assets in the field in addition to providing intelligence. RTCC sworn personnel often become an active part of real time incidents and are added to the CAD call. The civilian analyst does not have those responsibilities and does not work alone for those reasons. The civilian analyst performs all other work tasks.

RTCC is operational 24 hours a day 7 days a week. Per Pittsburgh Bureau of Police Policy, the Chief of Staff or designee shall be responsible for overall administration of RTCC. The Center is managed by a Lieutenant and 3 Sergeants. The most senior Detective is designated the acting Sergeant for weekend shifts.

Two Detectives are assigned to each shift with 2 FTE minimums. Shifts are augmented by accommodated (limited duty) officers. Night shift is staffed with a crime analyst. Accommodated officers are not permanently assigned FTE and can be transferred to full duty or placed on extended leave. The tables below show staffing for each shift of the RTCC:

Day Light Shift

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	Sergeant	Sergeant	Sergeant	Sergeant	Sergeant	
Detective	Detective	Detective	Detective	Detective		
		Detective	Detective	Detective	Detective	Detective
Accom Ofc	Accom Ofc	Accom Ofc	Accom Ofc			Accom Ofc

PM Shift

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	Sergeant	Sergeant	Sergeant	Sergeant	Sergeant	
Detective	Detective	Detective	Detective	Detective		
		Detective	Detective	Detective	Detective	Detective
Accom Ofc	Accom Ofc	Accom Ofc	Accom Ofc			Accom Ofc

Night Turn Shift

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	Sergeant	Sergeant	Sergeant	Sergeant	Sergeant	
Detective	Detective	Detective	Detective	Detective		
		Detective	Detective	Detective	Detective	Detective
		Accom Ofc	Accom Ofc	Accom Ofc	Accom Ofc	Accom Ofc
Analyst	Analyst	Analyst			Analyst	Analyst

As the above staffing shows, on three days per week for each shift, there are only two sworn personnel scheduled to work. To meet minimum staffing for those days, overtime is utilized if one FTE is absent. Backfill for vacation, sick and training time is limited to RTCC and Criminal Intelligence personnel due to the additional certifications under Bureau of Justice Assistance 28 CFR Part 23 - Criminal Intelligence Operation Systems and the limited access to systems and sensitive information in the RTCC.

When backfill cannot be hired, the RTCC is staffed with one sworn FTE. Workloads can fluctuate drastically during a shift overwhelming one FTE with numerous time sensitive tasks. Key findings in a 2019 RAND Study of Real Time Crime Centers in Chicago cited the persistent availability of staff was necessary to monitor operations, cameras, live map displays, and other technologies to help detect, respond, and investigate crime in near real time.

(1.1) Workload and Ability to Meet Unit Objectives

RTCC handled 16,489 logged calls for assistance for 2022. The data provided was not broken down by category. The time required for RTCC calls ranged from 15 seconds to dispatch a Shot Spotter or License Plate Reader camera activation to several hours for major crime incidents.

Investigators from inside and outside the Bureau make requests for camera footage or information captured within technology located in the RTCC. The processing time for those requests vary depending on the size or complexity of the request. RTCC provided approximately 1,000 additional assists to officers in the field not attributed to a CAD call. Over the last two years requests have increased as more agencies become aware of video and technological information housed in RTCC.

When not actively assisting field personnel the RTCC is responsible for the following:

- Collection of daily staffing numbers from One Drive for distribution to Zone Commanders.
- Monitoring shift resources and moving personnel as necessary for major incidents as they unfold.
- Logging/recording all Shot Spotter Activations city wide – 250 to 500 activations per month. (This task was a function of the front desk officers until 2020 when it was assigned to RTCC.)
- Dispatch License Plate Reader (LPR) camera activations. Currently 120 stolen vehicles trigger LPR cameras in the city. Camera activations vary greatly from day to day, the low side being 3 to 4 activations and the high side 30 to 35 activations.
- RTCC is responsible for determining the need for on-call Duty Command response and making the notifications. Pittsburgh Bureau of Police Duty Commanders rotate weekly on call responsibility for response to after-hours incidents.
- Duty Commander Call Log - RTCC documents significant events 0800 to 0800 each day on behalf the Duty Commander. All incidents occurring through the city

e.g., suicides, shots fired, shootings, and all significant crimes are documented with supporting information and sent to the designated Duty Commander for the week. The report contains on average 15 significant events for each 24 hours period.

- Call out notifications for Homicide Unit and Critical Incidents.
- Front desk phone calls for Head Quarters when civilian clerks are not present. Currently Head Quarters does not staff clerks in the evenings or the weekends. RTCC staff assist the public through answering questions or routing calls to the appropriate unit.
- RTCC is utilized as the command center for all events, parades, and critical incidents. 1 RTCC FTE is assigned to the Incident Commander when RTCC is utilized as the Command Center.
- Fulfilling additional data requests for Pittsburgh investigations and outside, local, state, and federal agencies.

Without a breakdown of the workloads included in the 17,489 (16,489+1,000) completed tasks, it is not possible to assign a time element to each task or group of tasks. However, considering the nature of Real Time operations and time sensitivity associated with workloads in the RTCC, the workload volume is not the only consideration for staffing. Police operations are 24-hours 7 days a week. With current staggered days off, each shift has 3 days a week with only 2 sworn personnel available to work. With the limited pool of FTE trained to work in RTCC filling overtime is difficult resulting in only 1 FTE available to manage the numerous functions in the RTCC during the shift.

Based on the need to operate around the clock, with fluctuating work volumes is it critical to always have two staff on duty to include weekends. To determine the number of FTE required for each shift for 2 FTE minimums, Matrix staff used a shift relief factor.

To ascertain the number of FTE needed, first the net number of work hours available after factoring in sick, training, vacation and other leave is determined. Using data provided by Pittsburgh the net available hours for work were calculated to be 1,439.

To calculate the 2 FTE minimum relief, the days of the year (365) are multiplied by the length of the shift (8) minus the net available hours (1,439) to determine number of FTE needed to meet the required number of staff per shift. The table displays this equation.

Number of FTE needed for each required staff position

Days of the year		365
Shift length	x	8 = 2920
Net available work hours	-	1,439 = 1,481 or 1.48 rounded to 1.5 FTE

With minimum staffing of 2 per shift, the number of FTE required to meet minimum staffing is 2 multiplied by 1.5 or 3 staff assigned per shift. To staff each shift with 3 FTE, 3 additional sworn should be assigned to RTCC. Adding 1 FTE to each shift working Thursday through Monday staffs each day of the week with 3 FTE for all shifts.

Recommendations:

Increase staffing in the Real Time Crime Center by 3 officers (1 on each shift) in order to better meet minimum staffing requirements, resulting in a total of 12 officers across all shifts.

3. Crime Analysis

The Pittsburgh Crime Analysis Unit provides various analytical reports for the Bureau through the collection, processing and analysis of crime trends, patterns, and problems. The analysts conduct a variety of statistical and descriptive analysis using software tools, and critical thinking to explain when, how and why complex issues around crime and disorder and quality of life concerns occur. The unit is staffed with 3 Crime Analysts supervised by a Crime Analyst Coordinator. The unit is authorized 4 Crime Analysts, there is one vacancy.

The number of analysis requests and time required to produce work product is not tracked. To assess whether the unit is correctly staffed the Matrix team reviewed key workloads and compared work product and service levels with industry standards for law enforcement analytics.

The Crime Analysis Unit provides several analytical products for the Bureau. In addition to individual requests, several recurring reports are produced for Bureau personnel and Pittsburgh citizens as follows:

- Daily -Calls for Service Report which includes:
 - Shots Fired/Shootings
 - Daily Briefings
 - Weekly
 - 2 Map products
 - 10 Neighborhoods receive a weekly crime snapshot

Monthly

- UCRs for the Month
- Neighborhood Snap Shots for 12 Neighborhoods
- Shot Spotter Report
- Critical Incidents

Quarterly

- City Wide Workloads
- Staffing Reports

Monthly and quarterly reports require more data sets and additional manual workloads creating visuals and analysis for reports.

Annual Report

The Crime Analysis Unit produces two annual reports. An internal report includes a complete breakdown and analysis for all units and divisions within the Bureau. A second report is produced for public consumption. One Crime Analyst is assigned full time as project manager for the internal annual report. Other analysts in the unit work 20 hours a week to pull data, analyze and ready a draft report for April. With the recent vacancy in the unit workloads are increased for other analysts.

In addition to the recurring reports analysts support Bureau personnel providing analysis and data to officers and investigators upon request. Analysts read the daily intelligence brief to assist with significant crime trends or high-profile crimes. Analysts assist investigators with real time crime analysis and produce reports to keep the public informed. For more specialized support, analysts meet with investigators to create products to improve investigative methods and strategies. The coordinator meets daily with command staff and supervisors to discuss Bureau business, crime trend concerns or critical incidents.

Prior to COVID-19, analysts spent time riding with officers in patrol zones to share information and identify ways to provide crime analysis tools for patrol. With current projects, vacant analyst position and the annual report project this practice has been paused due to workloads and staffing.

The Crime Analysis Unit also answers Right to Know requests. The City legal team vets the requests and forwards the request to the unit. These requests vary in size and complexity. A recent request included 10 years of data. There are backlogs with these requests.

The Bureau of Justice Assistance National Training and Assistance Center published a checklist to assess law enforcement agency crime analysis capabilities. Pittsburgh Crime Analysis processes were reviewed and compared to these industry recommendations. Pittsburgh Crime Analysis Unit meets the following industry standards:

- Automated reports
- Calls for service reports
- Complete analysis of divisions and units
- Access to needed data and technology systems for timely analysis
- Regular communication with IT staff
- Regular communication with command staff
- Civilian Crime Analyst supervisor
- Communication with field personnel
- Crime Analyst Supervisor is aware of agency priorities and communicates with analysts daily
- Crime Analysis Unit partners with academic institutions and researchers

There are gaps, however, in communication and engagement with patrol officers in zones. Crime Analysts are not able to ride with patrol officers due to current workloads. Crime Analysis staff indicated it is unknown if reports produced by the Crime Analysis Unit are useful for patrol or if officers are aware the reports are available to them.

Communication Plan

Communication is key to ensuring agencies maximize crime analysts' findings. It is common for officers within police units to view the crime analysis as only for command staff. An internal communication plan should be developed to ensure that all Bureau personnel are aware of what crime analysis does. The communication should include various channels. When time permits analysts can attend patrol briefing or create an intranet portal focused on crime analysis. As part of the communication plan, it is important for command level staff to communicate the value Crime Analysis staff provide to all personnel within the Bureau.

Regarding internal Bureau communications via an intranet, crime analysis personnel can upload data and reports to the Bureau's SharePoint system but are not allowed access to view content. The feedback loop from internal customers is important to identify which products or reports are helpful or need to be amended. The Crime Analysis Unit should have access to SharePoint or other technology to increase engagement and communication with patrol and other end users of crime analysis tools.

Recommendations:

Create a communication plan on behalf of the Crime Analysis Unit to encourage communication and engagement with zone patrol officers.

Provide access to SharePoint or other intranet solution as an access portal for increased engagement and communication between patrol and Crime Analysis Unit.

7. Office of Strategy, Accountability and Resiliency

1. OSAR

The Office of Strategy, Accountability and Resiliency (OSAR) was created in July 2020 and is tasked with the following:

- Identify best practices.
- Develop initiatives promoting economy, efficiency, diversity accountability and accreditation.
- Identify and implement practices for effective crime reduction while building public trust.

OSAR was previously led by a Commander. The beginning of 2023 the Commander position was eliminated leaving the unit with 1 Lieutenant, 1 Sergeant and 5 authorized Detective positions. Currently there is 1 Detective vacancy with an additional anticipated vacancy the end of January. As of January 2023, OSAR is a direct report to the Public Safety Director and the Chief of Police.

Current workloads for OSAR are not typical of research and development or strategic planning units. The original mission given to the unit was to identify and implement best practices and to promote initiatives consistent with Bureau goals. A review of the work projects for 2020, 2021 and 2022 reveal a gradual broadening of assigned work from the original given mission.

In 2020 OSAR was tasked with developing a plan to manage the effects of COVID-19 on personnel while maintaining emergency service response. The Pandemic Command Group was formed, and protocols developed in an Emergency Operations Order to include contract tracing, wellness follow up, vaccine clinics for officers, and personnel management in line with recommended COVID-19 protocols.

In addition to the COVID-19 response OSAR was assigned the following projects for 2020 and 2021:

- Develop and implement a 4/10 schedule.
- Develop a Disciplinary Matrix to standardize penalties and track officer misconduct.
- Initiate the implementation of a new RMS system (Central Square RMS provided by Allegheny County at no cost to PBP).

- Initiate implementation of an early warning system to track officer performance, complaints, use of force and other metrics related to job performance to provide a real time “snapshot”.
- Initiate the development of standardizing Bureau processes and procedures.
- Research first line leader (corporal) program for future implementation.
- Research, design and implement a Diversion program to prevent unwanted entry into the criminal justice system for low level, non-violent offenders.
- Review and revise existing PBP policies to meet local and national initiative related to police reforms.
- Provide PBP leadership with broader awareness of staffing available in real time
- Update policies to reflect best practices for Domestic Violence.
- Collaborate with business process optimization consultant to improve internal processes within PBP to reduce redundancy, promote efficiency and standardization.
- Maintain PLEAC accreditation standards.
- Transition Bureau policies to Lexipol.
- Create permanent callsigns for officers.

Many of the above projects have been completed by OSAR, but not all were implemented by the Bureau. A few projects are ongoing due to the size or the nature of the work assignment.

The RMS and payroll systems are two of the larger projects that continued throughout 2021 and 2022. Initially RMS work committees were formed, and projects assigned as collateral duties to various Bureau personnel. OSAR increasingly took over implementation functions. The OSAR Lieutenant is currently the only system administrator for the new RMS. The same occurred with the new payroll system (InTime). The OSAR Sergeant is the system administrator for the new payroll system.

Remaining work for the RMS system implementation includes training personnel in the Computer Operations and Records Room and updating policies and procedures. There are also technology issues outside the capabilities of Bureau IT personnel requiring assistance from city IT.

The InTime payroll system is nearing completion with an anticipated start date in March 2023. The OSAR Sergeant is currently training all Bureau personnel, internal and external payroll clerks and demonstrating the system workflow to the city and external vendor responsible for issuing payroll checks. There is no administrative help within OSAR. The

Sergeant is tasked with administrative inputs for the new system which include entering all personnel call signs.

The Bureau does not have a designated Office of Professional Standards. Some of those tasks have been assigned to OSAR.

- Tracking all department discipline in spreadsheet format for implementation for the discipline matrix.
- Identifying and tracking Brady/Giglio for Bureau personnel. Current discipline files are in hard copy. The Bureau is selecting a vendor to digitalize those records.

Over the last few years, the original mission of OSAR transitioned from research and strategic planning to organizing and performing tasks to meet the immediate needs of the Bureau. With COVID-19 being the exception, some of the work projects completed by OSAR should be assigned to divisions responsible for work within those systems. Most law enforcement agencies task RMS implementation to technology, communications, or records divisions. Payroll system implementation projects are assigned to technology and finance divisions. OSAR is not staffed with civilian professionals trained in RMS, payroll, or technology. The current implementation plan for both systems is inefficient and does not meet with best practices for law enforcement support services. Both projects should be transitioned to the appropriate section with oversight of the implementation assigned to Command or Civilian Management for those respective sections.

The remaining OSAR detectives are each assigned major projects with ongoing tasks that should be organized under Professional Standards to include the transition of Bureau Policies to Lexipol and the Bureau Accreditation process. Two detectives are assigned to the three-year accreditation process and one detective is assigned policy updates and the Lexipol transition. Work assigned to Professional Standards units is critical for law enforcement agencies to maintain the integrity of internal processes and transparency for those outside the agency.

Agency Executives need to redefine the mission for the OSAR and how the unit should best support the Chief's Office and Bureau. Without a designated Office of Professional Standards, OSAR should continue to perform those tasks and assignments. With the transition of the RMS and Payroll projects, current staffing is sufficient to manage accreditation, policy review and the Lexipol policy transition.

Recommendations:

Transition RMS implementation to the Central Records and Report Unit.

Transition InTime payroll system to the Computer Operations Section.

2. Fleet

Pittsburgh Bureau of Police (PBP) Fleet is part of the centrally maintained City of Pittsburgh Fleet. The City Fleet Manager has overall responsibility for Bureau of Police fleet. City Fleet Operations include:

- Fleet Procurement
- Equipment Management System Software
- Automated Fuel Dispensing
- Preventative Maintenance Program
- Roadside Assistance & Towing
- Vehicle Maintenance
- Warranty Services
- Online Auctions

City Fleet funding is provided through the City of Pittsburgh Equipment Leasing Authority (ELA). The ELA issues bonds to purchase city equipment (to include vehicles), holds the title for the equipment and leases the equipment or vehicle back to the City. The ELA is managed by a five-member board appointed by the Mayor and City Council President.

Bureau of Police Fleet Operations is assigned to an Assistant Chief. A sergeant and officer manage the day-to-day responsibilities for Pittsburgh Bureau of Police fleet vehicles. Vehicles are upfitted with cameras and emergency equipment when vehicles are built, and tablets are installed prior to the vehicle being released into service. Fleet Operations is responsible for vehicle hardware maintenance which includes tablet installation and previously included Camera/IT services due to city staffing issues. Computer Operations has recently been assigned vehicle camera maintenance; Fleet Operations will be responsible for vehicle hardware.

Fleet Operations FTE manage internal vehicle rotations/distribution, ensure vehicles receive scheduled preventative maintenance, complete research for future vehicle and equipment needs, liaison with vendors and the City garage for services. With most fleet responsibilities completed by the City, staffing for the internal management and hardware maintenance of Bureau fleet is sufficient.

(1) Vehicle Use Policy

PBP provided the vehicle use policy for the operations of Bureau of Police vehicles. The effective date of the policy is 4/4/15 with a revise (review) date of 10/13/17. The policy covers general vehicle use guidance, care and servicing expectations and authorizes employees to take home vehicles based on member call back to duty responsibilities. The guidance on take home vehicles is vague and does not consider best practice criteria for take home vehicle decisions. Take home vehicles decisions are authorized by the Chief or designee. Part of effective fleet management is prioritizing fleet needs for primary police functions which includes considering the necessity of take-home vehicles for personnel.

A formal take home vehicle policy should be developed that includes an assessment of the impact of take-home vehicles on the current fleet and PBP staffing. The take home vehicle policy should establish formal, detailed policy and procedures for take home vehicles that includes:

- Process for applying for take-home vehicles.
- Criteria for approving or denying requests.
- Maintenance and regular review of approved employees.
- Mileage or geographical cap.
- Clear guidelines on personal use.

(2) Replacement Planning

The City Equipment Leasing Authority determines how many new vehicles the Bureau receives each year and what vehicle models will be purchased. Bureau Fleet Operations does not have a written replacement plan but does provide researched recommendations to City Fleet regarding Bureau Fleet needs. Fleet Operations has the following replacement goals:

- Patrol vehicles replaced every 3 years or 85,000 miles. (Patrol vehicles are driven every shift or 24 hours a day.)
- Motorcycles replaced every 3 years.
- Unmarked vehicles replaced every 7 years.
- Specialty Units with previously purchased fleet through grant or asset forfeiture are replaced on an as needed basis when funding allows.

Fleet Replacement industry standards recommend patrol vehicles be replaced every 3 to 5 years and/or at 100,000 miles (warranty limit) and non-patrol every 7 years or 100,000 miles. Currently Pittsburgh Bureau of Police patrol vehicles are driven beyond 3 year/100,000 mileage recommended standard. With limited ability to replace vehicles, unmarked vehicles are regularly evaluated and remain in rotation until too costly to repair.

The below table reflects the Bureau of Police Fleet inventory organized by assignment, number of vehicles and average age and mileage by assignment.

PBP Fleet Inventory

Assignment	Avg. Vehicle Year	#	Avg. Mileage
ACADEMY	2016	5	30,794
BOMB SQUAD	2012	3	45,776
CHIEF	2021	1	4,368
COLLISION INVESTIGATION	2014	2	3,650
COMMAND	2019	16	24,672
COMMAND	2019	1	24,427
COMMAND SPARE	2018	1	54,085
COMM. VEHICLE ENFORCEMENT	2008	2	62,371
COMM. ENGAGEMENT	2017	2	12,958
COMM. ENGAGEMENT (TRAILER)	2020	1	–
DEPUTY CHIEF	2018	1	13,250
DRUG RECOG. EXPERT (TRAFFIC)	2013	2	57,396
DUI CHECKPOINT TRAILER	2003	1	–
EOD	2006	1	67,201
FLEET INV SPARE	2019	3	12,085
FLEET UTILITY TRUCK	2016	1	14,592
FLOOD RESPONSE	2009	2	43,553
INVESTIGATIONS	2015	70	48,137
K9	2016	18	75,668
K9	2014	1	65,003
MAYORS SECURITY TEAM	2018	2	31,775
MOTOR UNIT	2018	28	22,535
MOUNTED PATROL	2015	3	32,995
MOUNTED PATROL TRAILER	2019	2	–

Assignment	Avg. Vehicle Year	#	Avg. Mileage
MOUNTED PATROL UTV	2019	1	1,193
OMI-INVESTIGATIONS	2012	3	72,623
PASSENGER VAN	2014	2	32,320
PATROL	2018	126	72,967
PLANNING LIEUTENANT	2016	1	44,625
PUBLIC SAFETY DIRECTOR	2020	1	17,481
QUARTERMASTER	2012	1	20,076
RETIRED/EVAL PATROL	2016	17	123,116
SPECIAL EVENTS	2016	3	86,712
SWAT	2014	14	49,427
TRAFFIC	2013	4	53,536
TRAINING TRAILER	2010	1	–
WHEELCHAIR VAN	2013	1	5,420
TOTAL/AVERAGE	2016	344	57,866

The above list includes 57 hybrid vehicles. The Bureau has additional grant-asset forfeiture vehicles not included in the above fleet list.

As the inventory list indicates, the average age for patrol vehicles is nearing 6 years, well beyond the best practice recommended 3-year life span. The average milage for patrol vehicles is 73,000 with several vehicles exceeding the recommended milage. As previously stated, the patrol fleet is driven all three shifts. Police patrol vehicles driven 24 hours a day sustain much more wear and tear on the vehicle increasing the need for repairs and reducing safety for drivers. Keeping patrol vehicles that are operated 24 hours a day in rotation beyond a 3-year lifespan is not recommended.

The average age of investigative vehicles is 9 years, slightly above the recommended vehicle age, however, the average milage for those vehicles is still relatively low at 48,000.

City Fleet was not part of this study, and the Bureau of Police Fleet Operations does not make the final determination regarding fleet purchases however industry standards recommend establishing a multiyear fleet replacement plan utilizing fleet replacement theory. A common formula is the Life Cycle Cost Analysis (LCCA) which calculates the total cost of ownership over the vehicle's lifespan. LCCA considers all costs associated with owning and operating the vehicle. Effective capital asset management is well established in the fleet industry and is based on the following principles:

- The failure to replace vehicles on time costs an organization more money, both in hard dollars and in indirect costs, than replacing them according to schedule.
- An old fleet has a negative impact on staff productivity, as unreliable vehicles are frequently in the shop and not available for work.
- If a fleet is old, departments seek to keep extra vehicles to act as backups and spares, so they can survive the increased unreliability of front-line vehicles.
- The older vehicles in a fleet use more fuel and emit more pollution than newer vehicle, because standards for emissions and fuel economy were lower in the past than they are now.
- Older vehicles are not as safe as new ones as they lack many of the advanced safety features that are standard with new cars (such as cameras, sensors, lane departure warning, collision avoidance systems, side curtain air bags, etc.).

Police departments rely on a fleet of vehicles to respond to emergencies, enforce laws and maintain public safety. The effective management of police vehicle fleets is essential to ensure that officers can carry out their duties efficiently and safely. The management of police vehicle fleets requires coordinated efforts from various departments within the police organization. Effective fleet management can help to reduce operational costs, increase officer safety and security, and improve the overall performance of law enforcement agencies. Pittsburgh Bureau Fleet Operations is not responsible for all fleet management and maintenance functions, but does manage the internal fleet use and policy.

Recommendations:

Review and update the Vehicle Use Policy.

Develop a formal take home vehicle policy.

Establish a vehicle replacement plan utilizing a life cycle cost analysis specific to Bureau fleet replacement needs and fleet industry replacement standards.

Appendix: Results of the Employee Survey

1. Introduction and Key Highlights

As another means of soliciting input into the study, the project team conducted an anonymous online survey to gauge the attitudes of the employees of the Bureau on various topics relevant to the study, such as staffing and organizational issues.

Initial survey invitations were distributed electronically to PBP employees on September 9, 2022, with the survey closing on September 27, 2022. Of the 917 total invitations sent to PBP employees, there were a total of 608 responses (either partial or complete) received by the project team, which equates to a response rate of 66%.

While many of these topics are expanded upon in the following sections, there are several key takeaways to note:

- Bureau employees feel that they provide a high level of service to the Pittsburgh community and community-oriented policing is emphasized.
- Employees expressed high levels of dissatisfaction relating to the following topics:
 - Staffing levels
 - Morale
 - Internal communications
- Employees feel that there is a lack of support from City leadership.
- Employees expressed a general satisfaction with the secondary employment system that is currently utilized, while also providing ideas for improving the program.
- Hiring and retention efforts at the Bureau are of concern throughout the entire organization.
- The prevalence of forced overtime is a major issue for a majority of employees.

The following sections provide the raw results of the survey and analysis of the findings. The responses are organized into sections based on question topic/themes. MCG project staff arrived at these specific questions and themes after consultation with members of PBP administration during the early stages of the project.

2. Respondent Demographics and Background Information

This section provides information relating to the demographics and background information of responding employees of the Bureau. These demographics will be utilized to construct crosstabulations of viable responses in succeeding sections.

Of the 608 responding employees, there were a total of 566 (93%) sworn employees compared to 42 (7%) of civilian employees.

Employment Status	%	#
Sworn Employee	93%	568
Civilian Employee	7%	40
Total	100%	608

A large majority of respondents indicated being a male (75%), followed by Female respondents (20%). Twenty-eight respondents (5%) declined to indicate their gender and four respondents (1%) indicated that they did identify by an "Other" gender.

Employee Gender	%	#
Male	75%	453
Female	20%	121
Other	1%	4
Prefer Not to Answer	5%	28

Most responding employees indicated that they have served BPD for 15 years or more (40%), followed by respondents indicating that they have served BPD from 5 to 10 years (31%) and less than 5 years (18%).

Employee Tenure	%	#
Less than 5 years	18%	112
Between 5 and 10 years	31%	188
Between 11 and 15 years	9%	57
15 years or more	40%	244
Prefer Not to Answer	1%	5

A large majority of respondents are sworn line staff (77%), followed by sworn Sergeants, Lieutenants, and Commanders (15%). Of the 7% of respondents who are of civilian status, 36 of them (6% of the total respondent pool) were non-supervisory with the other 40 (1% of the total respondent pool) being supervisory personnel.

<u>Employee Current Rank</u>	<u>%</u>	<u>#</u>
Civilian: Non-Supervisory	6%	36
Civilian: Supervisory	1%	4
Sworn: Police Officer or Detective	77%	467
Sworn: Sergeant, Lieutenant, or Commander	15%	93
Sworn: Assistant Chief, Deputy Chief, or Chief of Police	1%	5

A total of 50% of respondents indicated obtaining, at least, a 4-year college degree, with another 13% of respondents indicating having completed a 2-year college degree. Another 13% of employees indicated that they have completed graduate level coursework.

<u>Employee Level of Education</u>	<u>%</u>	<u>#</u>
High School Diploma	5%	30
Some College	17%	100
2-year Degree	13%	81
4-year Degree	50%	303
Graduate School	13%	79
Prefer Not to Answer	2%	13

A large majority (75%) of respondents indicated that they were White, followed by Black respondents (8%). A total of 84 respondents (14%) declined to answer this question.

<u>Employee Race</u>	<u>%</u>	<u>#</u>
White	75%	455
Black	8%	51
Asian	0%	2
Hispanic or Latino	1%	4
Indian	0%	0
Other	2%	10
Prefer Not to Answer	14%	84

Respondents from the Operations Division accounted for more than half of respondents (67%), as to be expected as it is the largest Division in the agency. This was followed by Investigations Division respondents (18%) and Administrative Services Division respondents (11%). A total of 29 respondents (5%) were from the Chief's Office or Chief of Staff's Office.

<u>Employee Current Assignment</u>	<u>%</u>	<u>#</u>
Operations Division	67%	404
Investigations Division	18%	108
Administrative Services Division	11%	66
Chief's Office/Chief of Staff's Office	5%	29

3. Employee General Opinions

The following section reports on responses to general opinion questions that were presented to responding employees. The general topics section was presented to all responding Bureau employees, regardless of current assignment, while subsequent sections outlined below presents questions to those employees with specific employee demographics.

Questions regarding these topics were asked in statement form, asking respondents to indicate their level of agree (i.e., Strongly Disagree (SD), Disagree (D), Agree (A), or Strongly Agree (SA)). Results are presented with a shading of blue in correlation with the level of agreement (or disagreement) with the statements listed.

(1) General Opinion Matrix

General topics questions were asked to all staff. These questions cover topics such as relationships with the community and City government, training, operations, organization, and communication. Results are presented in the table below:

#	Statement	SD	D	A	SA	NO
1	The Pittsburgh Bureau of Police provides a high level of service to the community.	11%	22%	42%	19%	6%
2	Community policing is a high priority for the Bureau.	10%	17%	45%	18%	11%
3	I receive enough training to be effective at my job.	19%	31%	38%	9%	3%
4	I have the technology necessary to complete my job tasks adequately and efficiently.	28%	32%	32%	5%	2%
5	The Pittsburgh Bureau of Police's hiring practices bring in the best officers/employees for the job.	45%	31%	13%	2%	9%
6	There is clear communication from the top of the organization.	65%	24%	6%	1%	4%
7	The department is headed in the right direction.	66%	22%	5%	1%	5%

8	I plan on making a career at the Pittsburgh Bureau of Police.	15%	12%	39%	14%	20%
9	I am satisfied with my job.	26%	29%	32%	6%	7%
10	The city's leadership supports the Bureau.	65%	21%	6%	1%	7%

Responding employees indicated having high levels of agreement relating to the following topics:

- The level of service that PBP provides to the City of Pittsburgh,
- The emphasis of community policing on behalf of the PBP, and
- Planning to make a career within the Bureau of Police.

While there is a long list of questions with high levels of agreement amongst PBP staff, there are also a variety of areas identified by MCG project staff as opportunities for improvement within the Bureau. These topics are listed and expanded upon in the section below.

(2) General Topics Opportunities for Improvement

Expansion of these areas are listed on a question-by-question basis. Expansion is constructed across relevant employee demographic and background information collected at the onset of the employee survey. Only relevant findings are portrayed.

#3: "I receive enough training to be effective at my job."

A total of 50% of respondents disagreed (either strongly disagreed or disagreed) with this statement relating to the amount of training provided at PBP and its ability to allow them to be effective at their job. These findings were consistent across all relevant employee demographics, especially across employee tenure categories, as shown below.

Employee Tenure	SD	D	A	SA	NO
Less than 5 years	23%	42%	26%	6%	4%
Between 5 and 10 years	24%	27%	35%	11%	2%
Between 11 and 15 years	25%	35%	33%	5%	2%
15 years or more	12%	28%	46%	10%	4%
Prefer Not to Answer	20%	40%	20%	0%	20%

#4: “I have the technology necessary to complete my job tasks adequately and efficiently.”

When asked about having the technology necessary to complete their job tasks adequately and efficiently, respondents disagreed (either strongly disagreed or disagreed) 60% of the time. These findings are consistent across all relevant demographics. Shown below is the breakdown of responses across respondent’s current assignment for context.

Employee Current Assignment	SD	D	A	SA	NO
Operations Division	29%	33%	32%	4%	2%
Investigations Division	25%	32%	34%	7%	2%
Administrative Services Division	24%	27%	34%	8%	6%
Chief’s Office/Chief of Staff’s Office	36%	39%	21%	4%	0%

#5: “The Pittsburgh Bureau of Police’s hiring practices bring in the best officers/employees for the job.”

A large majority (76%) of respondents overall disagreed (either strongly disagreed or disagreed) with the statement above regarding the hiring practices of the PBP bringing in the best officers or employees for the job. These findings were consistent not only throughout the Operations, Investigations, and Administrative Services Divisions, but also the Chief’s Office and Chief of Staff’s Office, as shown below.

Employee Current Assignment	SD	D	A	SA	NO
Operations Division	46%	30%	13%	1%	10%
Investigations Division	39%	39%	14%	2%	5%
Administrative Services Division	45%	26%	15%	5%	10%
Chief's Office/Chief of Staff's Office	54%	21%	11%	0%	14%

#6: “There is clear communication from the top of the organization.”

A large majority (89%) of respondents disagreed (either strongly disagreed or disagreed) with the statement above regarding the clear communication from the top of the Bureau of Police’s organization. These findings are consistent throughout supervisory levels in both the civilian and sworn employee status.

Employee Current Rank	SD	D	A	SA	NO
Civilian: Non-Supervisory	47%	16%	25%	3%	9%
Civilian: Supervisory	25%	25%	25%	0%	25%
Sworn: Police Officer or Detective	69%	22%	5%	1%	3%
Sworn: Sergeant, Lieutenant, or Commander	57%	35%	4%	0%	3%
Sworn: Assistant Chief, Deputy Chief, or Chief of Police	0%	50%	50%	0%	0%

#7: “The department is headed in the right direction.”

A large majority of respondents (88%) disagreed (either strongly disagreed or disagreed) with the above statement asking if the respondent thought the Bureau of Police was headed in the right direction. These findings were consistent across all relevant employee demographics. Findings across employee tenure are shown below, exhibiting how even Less tenured officers and employees disagreed with this statement.

Employee Tenure	SD	D	A	SA	NO
Less than 5 years	66%	24%	5%	1%	5%
Between 5 and 10 years	80%	15%	2%	1%	3%
Between 11 and 15 years	65%	23%	9%	0%	4%
15 years or more	57%	28%	7%	0%	8%
Prefer Not to Answer	80%	0%	0%	0%	20%

#9: “I am satisfied with my job.”

Job satisfaction is a key topic and area of interest throughout American policing in modern society. When asked if they were satisfied with their job, 55% of respondents disagreed (either strongly disagreed or disagreed). These findings are consistent across employee demographics, as exhibited by the findings across employee tenure categories provided below.

Employee Tenure	SD	D	A	SA	NO
Less than 5 years	27%	30%	27%	6%	11%
Between 5 and 10 years	34%	29%	28%	4%	5%
Between 11 and 15 years	28%	19%	33%	11%	9%
15 years or more	20%	30%	37%	8%	5%
Prefer Not to Answer	40%	40%	0%	0%	20%

#10: “The city’s leadership supports the Bureau.”

An overwhelming majority (86%) of responding employees disagreed (either strongly disagreed or disagreed) with the above statement regarding the support that Pittsburgh’s city leadership expresses towards the Bureau. Again, this increased level of disagreement

was consistent across employee demographic areas, as exemplified by the findings across employee current assignment provided below.

Employee Current Assignment	SD	D	A	SA	NO
Operations Division	72%	19%	2%	1%	6%
Investigations Division	58%	26%	12%	0%	4%
Administrative Services Division	40%	26%	13%	5%	16%
Chief's Office/Chief of Staff's Office	46%	21%	14%	4%	14%

(3) General Opinions Open-Ended

At the conclusion of the general opinions multiple-choice section, respondents were provided the opportunity to expand upon any of the addressed topics. Responses (267) underscored the trends outlined in the previous section – indicating a lack of support from City leadership, communication and staffing inadequacies, and a lack of strategic alignment throughout the organization. Most frequent responses are provided in the table below.

Rank	Response Code
1	Staffing Inadequate
2	No Support from Command/City Govt
3	No Strategic Alignment
4	Lack of Communication

4. Patrol-Specific Questions

The survey asked questions specifically to patrol officers of the Bureau. These questions are pertinent to gauge opinions relating to daily operations of patrol in Pittsburgh.

(1) Patrol Demographics

In total, 330 personnel (54% of total respondents) indicated being currently assigned to patrol and responded to this bank of questions. These respondents were spread across all six patrol zones currently deployed by the Division, as shown in the table below:

<u>Patrol Zone Assignments</u>	<u>%</u>	<u>#</u>
Patrol Zone 1	17%	62
Patrol Zone 2	16%	58
Patrol Zone 3	14%	50
Patrol Zone 4	14%	48
Patrol Zone 5	13%	45
Patrol Zone 6	16%	57
Special Deployment Division	10%	35

(2) Patrol Multiple Choice Matrix

These multiple-choice questions were also asked in statement form like the general opinion questions were above, asking patrol officers to indicate their level of agreement with said statement (i.e., Strongly Disagree (SD), Disagree (D), Agree (A), or Strongly Agree (SA)). Results are presented with a shading of blue in correlation with the level of agreement (or disagreement) with the statements listed.

#	Statement	SD	D	A	SA	NO
1	We have sufficient proactive time available to address problems in the community.	50%	33%	12%	1%	4%
2	Most of the time, there are adequate backup units available.	34%	42%	19%	2%	3%
3	Our response times to lower priority calls are adequate.	23%	31%	38%	4%	4%
4	Our response times to higher priority calls are adequate.	16%	30%	41%	10%	3%
5	Patrol workload is relatively balanced across the six patrol zones.	53%	27%	9%	0%	10%
6	Our shift schedule allows for adequate work/life balance.	41%	19%	23%	14%	4%
7	The amount of overtime I am required to work is reasonable.	37%	26%	26%	2%	9%
8	The process for assigning mandated overtime is fair.	30%	29%	29%	5%	7%
9	Patrol Sergeants have an adequate presence in the field.	22%	27%	37%	6%	8%
10	The division of roles between Sergeants and Lieutenants is clear to me.	15%	23%	43%	12%	7%

Results show that patrol officers had high levels of agreement relating to topics such 1) response times to high priority calls for service, 2) the presence of patrol Sergeants in the field, and 3) the clear division of roles between Sergeants and Lieutenants within the Division.

However, there were also several areas in which high levels of disagreement among responding patrol officers. These topics are identified and described in depth in the following section.

(3) Patrol Areas for Improvement

Expansion of these areas are listed on a question-by-question basis. Expansion is constructed across relevant employee demographic and background information collected at the onset of the employee survey. Only relevant findings are portrayed.

#1: “We have sufficient proactive time to address problems in the community.”

A large majority (83%) of responding patrol personnel disagreed (either strongly disagreed or disagreed) with the above statement regarding the sufficiency of proactive time available to address problems in the community. These findings were consistent across relevant employee demographics, even across the 6 different patrol zones and the Special Deployment Division, as shown below.

Patrol Zone Assignment	SD	D	A	SA	NO
Patrol Zone 1	68%	31%	2%	0%	0%
Patrol Zone 2	47%	33%	14%	0%	5%
Patrol Zone 3	46%	42%	8%	0%	4%
Patrol Zone 4	33%	40%	17%	4%	6%
Patrol Zone 5	58%	33%	2%	2%	4%
Patrol Zone 6	51%	23%	19%	2%	5%
Special Deployment Division	46%	20%	26%	0%	9%

#2: “Most of the time, there are adequate backup units available.”

Most responding patrol employees (76%) disagreed (either strongly disagreed or disagreed) with the above statement regarding the adequacy of backup units available on patrol. This high level of disagreement is found throughout all employee tenure categories.

Employee Tenure	SD	D	A	SA	NO
Less than 5 years	32%	45%	21%	1%	1%
Between 5 and 10 years	40%	39%	17%	2%	2%
Between 11 and 15 years	30%	44%	19%	4%	4%
15 years or more	29%	44%	21%	2%	4%
Prefer Not to Answer	100%	0%	0%	0%	0%

#3: “Our response times to lower priority calls are adequate.”

While a majority of responding patrol personnel felt that their response times to high priority calls for service was adequate, there was increased levels of disagreement (54%) relating to the adequacy of response times to lower-level priority calls for service. These findings were consistent across all relevant employee demographics with the exception of across patrol zones, as shown below. These findings vary in the respondent’s level of disagreement from 45% (Zone 2) to 64% (Zones 1 and 5).

Patrol Zone Assignment	SD	D	A	SA	NO
Patrol Zone 1	38%	28%	28%	5%	2%
Patrol Zone 2	16%	29%	50%	2%	3%
Patrol Zone 3	24%	26%	40%	6%	4%
Patrol Zone 4	15%	35%	44%	4%	2%
Patrol Zone 5	33%	31%	27%	4%	4%
Patrol Zone 6	14%	33%	49%	2%	2%
Special Deployment Division	17%	31%	29%	6%	17%

#5: “Patrol workload is relatively balanced across the six patrol zones.”

A large majority (80%) of responding patrol personnel disagreed (either strongly disagreed or disagreed) with the above statement relating to the balance of workload across the six patrol zones. These findings were consistent across all employee demographics, notably across all patrol zone assignments (shown below).

Patrol Zone Assignment	SD	D	A	SA	NO
Patrol Zone 1	68%	21%	5%	0%	6%
Patrol Zone 2	47%	24%	16%	0%	14%
Patrol Zone 3	60%	22%	10%	0%	8%
Patrol Zone 4	35%	29%	17%	0%	19%
Patrol Zone 5	64%	31%	2%	0%	2%
Patrol Zone 6	56%	30%	9%	2%	4%
Special Deployment Division	37%	37%	6%	0%	20%

#6: “Our shift schedule allows for adequate work/life balance.”

The ability of the shift schedule to provide adequate work/life balance for patrol officers was disagreed with 60% of the time. This level of disagreement is relatively consistent across all employee demographics, with slight variations in level of disagreement across

employee tenure categories, as shown below – however, the level of agreement across employee tenure categories never falls below 52% (employees tenured between 5 and 10 years).

Employee Tenure	SD	D	A	SA	NO
Less than 5 years	46%	20%	18%	15%	1%
Between 5 and 10 years	35%	17%	26%	17%	6%
Between 11 and 15 years	52%	15%	15%	19%	0%
15 years or more	38%	21%	25%	11%	5%
Prefer Not to Answer	100%	0%	0%	0%	0%

#7: “The amount of overtime I am required to work is reasonable.”

A majority of responding patrol personnel (63%) disagreed (either strongly disagreed or disagreed) with the statement above relating to the reasonableness of the amount of required overtime for patrol personnel. These findings are consistent across employee demographics with the exception of employee tenure (as shown below), which is to be expected as the forced overtime policy at PBP considers employee tenure for forced overtime.

Employee Tenure	SD	D	A	SA	NO
Less than 5 years	51%	35%	11%	1%	3%
Between 5 and 10 years	39%	27%	24%	3%	7%
Between 11 and 15 years	37%	22%	30%	7%	4%
15 years or more	24%	19%	40%	1%	16%
Prefer Not to Answer	50%	50%	0%	0%	0%

#8: “The process for assigning mandated overtime is fair.”

Most responding patrol employees (59%) disagreed (either strongly disagreed or disagreed) with the statement above relating to the fairness of the process for assigning mandated overtime. Consistent with the logic outlined in the previous section, project staff expected this finding to vary across employee tenure categories, as shown below.

Employee Tenure	SD	D	A	SA	NO
Less than 5 years	42%	38%	15%	2%	3%
Between 5 and 10 years	33%	24%	27%	9%	7%
Between 11 and 15 years	15%	30%	41%	4%	11%
15 years or more	18%	27%	41%	4%	10%
Prefer Not to Answer	50%	50%	0%	0%	0%

(4) Patrol Open-Ended Responses

Following the previous multiple-choice section, patrol personnel were presented the option to expand upon any of the previous topics in the multiple-choice section. Responses (175 total) were subject to keyword analysis to develop the most frequent response codes seen in the selection of responses. The most frequent responses are provided in the table below.

Rank	Response Code
1	Inadequate Staffing
2	Overtime Issues
3	Schedule

The inadequacy of staffing, issues relating to the mandated overtime of patrol officers, and the current shift schedule were the top ranked responses provided in the open-ended section. These findings are consistent with findings outlined in the previous section of patrol multiple choice questions.

(5) Secondary Employment

The Pittsburgh Bureau of Police utilizes officers in secondary employment for a variety of reasons. The survey gathered information regarding employee's secondary employment opportunities. Findings are presented in this section.

(1) Employees Using Secondary Employment

Responding patrol employees were asked if they regularly worked secondary employment. As shown in the table below, 41% (149 officers) regularly utilize the secondary employment system.

<u>Regular Secondary Employment</u>	<u>%</u>	<u>#</u>
Yes	41%	149
No	57%	205
N/A	2%	8

(2) The Adequacy of the Secondary Employment System

Responding patrol employees who indicated that they regularly utilized the secondary employment system at PBP were then asked whether the secondary employment system works well for their needs, their responses are provided in the following table.

<u>Response</u>	<u>%</u>
Strongly Disagree	5%
Disagree	12%
Agree	52%
Strongly Agree	25%
No Opinion	5%

As shown, a large majority (77%) of the respondents who are assigned to patrol and regularly utilized the secondary employment system at PBP agree (either agree or strongly agree) that the current system works well for their needs.

(3) Improving the Secondary Employment System

Project staff then provided these employees the ability to express ways in which they felt the Bureau could strengthen or improve the secondary employment system from its current state. Keyword phrase analysis was used by project staff to analyze these open-ended responses. Top ranked responses are provided in the table below.

<u>Rank</u>	<u>Response Code</u>
1	Application
2	Hour Flexibility

As shown in the table above, two relevant response codes were identified. The overwhelming majority of responses indicated issues (or preferences) associated with the current (and newly adopted) application utilized for secondary employment assignments and signups. These responses indicated that employees would like the application to provide a queue of all shifts available, see who else is working the shift of interest, and see who is working the surrounding shifts for communication purposes (e.g., running late, information/location change, etc.). Responses related to the flexibility of hours should also be of note. These responses were from employees who would like to take on more secondary employment responsibilities; however, the current and extended detail times (i.e., 8-hour shifts) disallow employees with other external responsibilities (ex: children at home) to take advantage of secondary employment.

(4) Secondary Employment System Open Ended

Open ended responses to the secondary employment questions allowed respondents to provide any other information to project staff relating to the secondary employment process at PBP. These responses targeted two specific topics; the reliance on secondary employment due to financial reasons, and mirrored responses to the shortfalls regarding the current application, as outlined above.

Financial-based responses exhibited how the current pay rates of patrol officers are reliant on secondary employment and overtime to “live comfortably”, “stay ahead on bills”, and is “vital to my personal finances”.

6. Investigations Specific Questions

A bank of questions relating to questions regarding investigations were also included in the employee survey. These questions were presented only to those respondents who indicated that they were currently assigned to the Investigations Division within the Bureau.

(1) Investigations Multiple Choice Matrix

These questions were presented in the same level of agreement format as above, asking sworn personnel to indicate their level of agreement with said statement (i.e., Strongly Disagree (SD), Disagree (D), Agree (A), or Strongly Agree (SA)). Results are presented with a shading of blue in correlation with the level of agreement (or disagreement) with the statements listed. The findings are presented in the table below:

#	Statement	SD	D	A	SA	NO
1	The Division's Case Management System (CMS) is effective at managing caseloads.	16%	23%	25%	2%	33%
2	All cases with the potential for an investigation to be conducted are assigned to an investigator.	5%	9%	43%	33%	9%
3	Our on-call rotation allows for an adequate work / life balance.	14%	17%	28%	6%	34%
4	We have adequate staff to manage caseloads within the Investigations Division.	68%	22%	5%	2%	3%
5	The division between the types of crimes investigated by patrol zone detectives and those handled by the Investigations Division detectives makes sense.	19%	22%	41%	10%	7%
6	The division of the types of cases that are investigated by zone detectives versus by the Investigation Division is done consistently.	11%	29%	38%	11%	10%
7	The Investigations Division adequately manages relationships with external entities (e.g., Allegheny County, ATF, DEA, SBI, etc.).	7%	19%	39%	23%	11%

Responding employees assigned to investigations expressed high levels of disagreement for only one of the topics covered in the matrix above. Results show that responding investigative employees had a positive outlook and high levels of agreement relating to topics such as:

- The effectiveness of the Division's Case Management System (CMS),
- The case selection process,
- The call out rotation's ability to facilitate adequate work/life balance,
- The division of case types between zone detectives and Division detectives makes sense and is consistent, and
- The management of relationships with external entities to the Bureau.

While there were positive findings regarding these topics, high levels of disagreement relating to one topic provides an area for improvement. These topics are identified and described in depth in the following section.

(2) Investigations Areas for Improvement

Expansion of this area for improvement is constructed across relevant employee demographic and background information collected at the onset of the employee survey. Only relevant findings are portrayed.

#1: “We have adequate staff to manage caseloads within the Investigations Division.”

A large majority (90%) of respondents within the Investigations Division disagreed (either disagreed or strongly disagreed) with the statement above relating to the adequacy of staffing within the Investigations Division to manage caseloads. This finding was consistent across all employee demographics, notably across employee tenure categories, as shown below.

Employee Tenure	SD	D	A	SA	NO
Less than 5 years	100%	0%	0%	0%	0%
Between 5 and 10 years	84%	12%	0%	4%	0%
Between 11 and 15 years	88%	13%	0%	0%	0%
15 years or more	55%	31%	9%	2%	4%
Prefer Not to Answer	0%	0%	0%	0%	100%

7. Open-Ended Responses

The concluding sections of the survey asked all respondents to answer in open-ended form, indicating what they thought were 1) the top three strengths of the Bureau of Police, and 2) the top three opportunities for improvement at the Bureau of Police. Keyword phrase analysis was used by project staff to analyze these open-ended responses. The most frequent responses are displayed in the following tables. Number of responses are displayed for each corresponding table (as these responses were optional, with up to three responses for each survey respondent).

(1) Top Three Strengths of PBP

Responses relating to the top three strengths of PBP were the 1) officers/employees throughout the Bureau and their dedication, 2) the career development opportunities throughout the organization, 3) the resourcefulness of officers and most supervisors to get the job done with a lack of staff, and 4) the service provided to the community. These ranked responses are provided below.

Rank	Response Code
1	Officers/Employees
2	Career Development
3	Resourcefulness
4	Service Provided to the Community
*n=1,048	

(2) Top Three Opportunities for Improvement at PBP

Responses relating to the top three opportunities for improvement within BPD is that of 1) staffing, 2) accountability, 3) recruitment and retention efforts, 4) communication, and 5) benefits and compensation improvement.

Rank	Response Code
1	Staffing
2	Accountability
3	Recruitment/Retention
4	Communication
5	Benefits/Compensation
*n=1,352	