CENTER FOR PUBLIC SAFETY MANAGEMENT, LLC

POLICE OPERATIONS AND DATA ANALYSIS REPORT

FOREST PRESERVE DISTRICT OF DUPAGE COUNTY, ILLINOIS

FINAL REPORT

CPSM®

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The **International City/County Management Association** is a 107-year-old nonprofit professional association of local government administrators and managers, with approximately 13,000 members located in 32 countries.

Since its inception in 1914, ICMA has been dedicated to assisting local governments and their managers in providing services to its citizens in an efficient and effective manner. ICMA advances the knowledge of local government best practices with its website (www.icma.org), publications, research, professional development, and membership. The ICMA Center for Public Safety Management (ICMA/CPSM) was launched by ICMA to provide support to local governments in the areas of police, fire, and emergency medical services.

ICMA also represents local governments at the federal level and has been involved in numerous projects with the Department of Justice and the Department of Homeland Security.

In 2014, as part of a restructuring at ICMA, the Center for Public Safety Management (CPSM) was spun out as a separate company. It is now the exclusive provider of public safety technical assistance for ICMA. CPSM provides training and research for the Association's members and represents ICMA in its dealings with the federal government and other public safety professional associations such as CALEA, PERF, IACP, IFCA, IPMA-HR, DOJ, BJA, COPS, NFPA, and others.

The **Center for Public Safety Management, LLC**, maintains the same team of individuals performing the same level of service as when it was a component of ICMA. CPSM's local government technical assistance experience includes workload and deployment analysis using our unique methodology and subject matter experts to examine department organizational structure and culture, identify workload and staffing needs, and align department operations with industry best practices. We have conducted 388 such studies in 43 states and provinces encompassing 296 communities ranging in population from 8,000 (Boone, Iowa) to 800,000 (Indianapolis, Ind.).

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SECTION 1. EXECUTIVE SUMMARY

The Center for Public Safety Management, LLC (CPSM) was commissioned to review the law enforcement operations of the Forest Preserve District of DuPage County, Illinois. While our analysis covered all aspects of the department's operations, particular areas of focus of this study included identifying appropriate staffing of the department given the workload, community demographics, and crime levels; the effectiveness of the organizational structure; and efficiency and effectiveness of processes.

We analyzed the department workload using operations research methodology and compared that workload to staffing and deployment levels. We reviewed other performance indicators that enabled us to understand the implications of service demand on current staffing. Our study involved data collection, interviews with key operational and administrative personnel, focus groups with line-level department personnel, on-site observations of the job environment, data analysis, comparative analysis, and the development of alternatives and recommendations.

Based upon CPSM's detailed assessment of the Forest Preserve District of DuPage County, it is our conclusion that the department, overall, provides quality law enforcement services. The Forest Preserve District of DuPage County is unique in the agencies that CPSM has studied in that the jurisdiction of the District, mandated by the Illinois Downstate Forest Preserve Act, encompasses lands spread out across DuPage County. Policing functions are provided by a modern police department, supported by a finance, planning, administration, and ranger divisions. The functioning model is like that of a city (complete with oversight of Superfund sites), except the boundaries of the areas patrolled are not contiguous and require travel from one spread-out parcel to another. This creates unique challenges when looking at the operations of the agency. The staff is professional and dedicated to the mission and vision of the Forest District, which is:.

> *Mission Statement (Mandated by the Illinois Downstate Forest Preserve Act): The mission of the Forest Preserve District of DuPage County is "to acquire and hold lands containing forests, prairies, wetlands, and associated plant communities or lands capable of being restored to such natural conditions for the purpose of protecting and preserving the flora, fauna and scenic beauty for the education, pleasure and recreation of its citizens."*
>
> *Our Vision: The Forest Preserve District of DuPage County is a nationally recognized conservation agency that envisions a community in which all citizens share a connection with nature and an appreciation for cultural history.*

The department expanded the mission statement for the law enforcement department that exemplifies the high standards prescribed:

> *Department Mission Statement: The primary responsibility of the District's Law Enforcement Department is to protect the preserve users and the physical property and natural resources of the District. The continuing goal, therefore, is to provide a safe environment for the visitors using the preserves by reducing the risk of injury and crime. As available open space continues to decrease in DuPage County, an ever-increasing pressure is placed on the District's holdings and resources.*
>
> *We attempt to accomplish our goal through an educational process of interpretation and enforcement. In many respects, these methods have been very successful. Should*

we find our efforts to control undesirable activities to be ineffective, we shall then adopt a stronger position in regard to enforcement.

The District currently holds over sixty different tracks of land, spread out over 26,000 acres. The Law Enforcement Department has twenty-four ranger police officers to patrol these areas. This is currently accomplished with officers on two shifts patrolling until midnight. After midnight, a command officer is on call to handle incidents that arise after this time. Should the incident involve call out of multiple or specialty units, the command officer contacts the officers.

As you review this report, you will notice three common themes that speak to operational challenges facing the department: (1) Insufficient staffing; (2) Pay structures at both mid-level supervisory and upper management levels; and (3) Technology. Each of these has a significant and adverse impact on operational efficiency and effectiveness, and ultimately, the quality of life for the business community, residents, and visitors of the Forest Preserve District of DuPage County.

The pay structure issue is complex for two reasons: the district completes a comparable analysis with other districts and establishes compensation and benefits using those findings (with benefits at or above comparables; and the pressure on salary is largely caused from successful negotiations with the rank-and-file staff that has significantly compressed the pay at the officer ranks from below.

Throughout this report, we will strive to allow the reader to look inside the department to understand its strengths and its challenges. We sincerely hope that all parties utilize the information and recommendations contained herein in a constructive manner to make a fine law enforcement agency even better.

As part of this Executive Summary, following are general observations that we believe identify some of the more significant issues facing the department. Many of these observations concern department-wide issues rather than operations of specific units. Additionally, we have included a list of unit-specific recommendations for consideration. We believe these recommendations will enhance organizational effectiveness. Some of these recommendations involve the creation of new job classifications; others involve the reassignment/repurposing of job duties to other sections and units. It is important to note that in this report we will examine specific sections and units of the department. As we do so, and as appropriate, we will offer a detailed discussion of our general observations and recommendations for each.

In our recommendations, there are those that will require negotiations or policy changes enacted by the Board of Commissioners. Should the Forest Preserve District of DuPage County choose to implement any or all recommendations, it must be recognized that this process will not take just weeks or even months to complete, but perhaps years. The recommendations are intended to form the basis of a long-term improvement plan for the District.

We would like to emphasize that this list of recommendations is a common phenomenon in our operational assessments of law enforcement agencies around the country and should in no way be interpreted as an indictment of what we consider to be a fine department. Our work, by design, focusses on potential areas for improvement. Had we listed areas in which the department excels, that list would dwarf the number of recommendations.

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GENERAL OBSERVATIONS

FIGURE 1-1: Guiding Principles from the Strategic Plan

The District's Law Enforcement division has unique challenges compared to the typical police agency.

For example, the total area patrolled by the law enforcement department is split up into many noncontiguous parcels; officers must travel by vehicle, foot, and alternative modes of transportation to reach many of the areas under their jurisdiction. Along the way, they may enter and leave multiple incorporated areas, each of which has its own law enforcement agency.

Due to its mission, the District's hiring, retention, and promotion of staff are critical to operations. The typical police agency spends more than $10,000 onboarding new officers, which does not include the cost of field training. For most departments, the field training follows the officer in the

first year of their employment so as to familiarize that officer with the community, its citizens, and areas of interest.

For the District, the onboarding of officers requires a longer period of field training as they need to familiarize themselves with the District's many properties. Many properties do not have easily located street signs or meeting points; it may instead be" a rock" or "near the large tree" in one of the preserve areas.

In an emergency, time can be critical so members need to be familiar with these many areas that lacks guide points.

Promotions are also critical and will be discussed in the following section. Because of salary differences in the department, officers have asked for demotions, which eliminates using their institutional knowledge to the fullest extent possible. The District needs to address a succession plan that will move officers from the field to rank. Hiring from the outside requires a lengthy familiarization because patrolling the District is significantly different than patrolling a municipality.

CPSM has been meeting the past several months with various groups to develop guidance on the use of force, particularly with tools that less lethal than firearms. In this report, we will discuss the potential use of tasers by the District, but any incorporation of tasers by the District should be integrated with body cameras, radio location devices, and GPS. Police use of force will be a major focus of the Biden administration and departments need to ensure they have the capability to review and defend decisions with irrefutable evidence, which cameras can often provide. The recent conviction of Officer Chauvin in Minneapolis can be attributed largely to the recording of the incident.

CPSM also reviewed trends in the use of outdoor recreational opportunities by the public. All signs point to this usage growing.

In a recent article, Richard J. Dolesh, retired vice president of Strategic Initiatives for the National Recreation and Park Association, noted that use of outdoor facilities rose during the pandemic and is likely to remain high, particularly in urban areas. Many large urban areas have seen populations migrate to nearby outdoor areas in record numbers, similar to what was reported by all of the Forest Preserve Districts contacted by CPSM.

Dolesh interviewed David Rouse, an urban planning expert at the American Planning Association. The two reported that COVID-19 has affected nearly everything about how people use parks and recreation, and the effects will reverberate for a long time after we have defeated the virus. Changes to work programs, such as working remotely as a standard practice; participating in virtual learning, training and meetings; and contactless transactions will continue post-pandemic. In addition, many societal, economic and transportation system changes likely are here to stay as well, said Rouse, an urban planning expert and former research director for the American Planning Association. These include disruptive effects from changing economic conditions, increasing social inequality from the digital divide, diminished use of mass transit systems; changing land-use patterns; and the decline of brick-and-mortar businesses. "On the positive side, I think that the renewed interest in parks, trails, and walkable environments will remain strong," says Rouse.

Tantalizingly, urban land-use patterns that already were changing—such as the expansion of pedestrian spaces in dense urban areas, the expansion of outdoor dining on urban streets, the conversion of streets to bike lanes and trails, and the installation of "parklets" in parking spaces and former travel lanes—have opened all kinds of possibilities for wholly new types of urban parks.

CPSM found that the District's police union was pleased with a recently signed agreement. The staff felt salary levels and improved benefits recognized and rewarded their value to the organization. They also felt some tensions that existed were eliminated with the agreement and current administration. The pension program was also recognized as a value for staying with the organization rather than pursuing career changes. This was confirmed by human resources, which did not report recent significant grievances but did note that has not always been the case. The main issue with labor in the department has been the inability to attract candidates to seek and retain promotion.

Across the country, most local jurisdictions are reporting difficulty in attracting and retaining police officers. For the District, hiring will soon become critical since up to eight officers are either eligible for retirement or nearing retirement in a year or two, as are two supervisors.

When onboarding takes the better part of a year, losing one-third of the staff to retirement within the space of a year or two will make it a challenge to properly evaluate candidates, hire them, send them to academies, and provide them field training. The culture of the organization is determined by its members and undergoing such a significant change-over, if not properly managed, could result in a culture that is not within the framework of the strategic plan created by the District in 2015.

During interviews, we found that two employees were eligible to retire in 2020 but opted to delay leaving; eight or more are eligible in the next three years, including two or three supervisors. When talking about a 25-person department, that is a sizeable number to screen, test, interview, onboard, and ensure that a high quality of law enforcement service is maintained. Larger departments that CPSM has reviewed struggle to replace a far lower percentage of officers. Applications by qualified candidates are down for most law enforcement agencies and this is likely to continue as reforms to policing are debated and enacted. For the District, the field training period of 10 to 12 weeks is not excessive. since new employees must be familiarized with conservation law, the agency culture, as well as the area that makes up the District.

District officers have significant one-on-one contact with users of the District facilities; this contact requires skill and training in interpersonal techniques not always found in municipal police departments. Another way to look at it: most police departments have officers assigned to schools as resource officers. Not all officers are up to the task of these types of assignments and burn-out is a major factor. District law enforcement officers need to possess the same attributes found in school resource officers in order to interact with a variety of citizens drawn from a variety of communities and backgrounds. In a small organization, even one employee who does not meet the ideals expressed and adopted by the Board can reflect negatively on the total organization.

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RECOMMENDATIONS

The following recommendations are presented in the order in which they appear in the report. As well, each is discussed in detail in the section in which it appears.

1. The Forest Preserve District of DuPage County should meet and review with the County Sheriff as well as local police chiefs to discuss opportunities to engage specialized units to deal with specific crime problems that target the District. (See pp. 12-16.)
2. Fill the two open ranger police officer positions. (See pp. 17-18.)
3. CPSM recommends the department explore the options available from various vendors and adopt body-worn cameras as soon as it is feasible. At the writing of this report, it is our understanding this process is underway. (See pp. 18-19.)
4. The District should begin preparing to comply with all applicable requirements of the SAFE-T Act, such as by reviewing and revising its policies and procedures, planning for training needs, and adjusting records practices, for example. (See pp. 19-21.)
5. Implement a succession plan that focuses on future leaders and the continued development of personnel in the rank of sergeant. (See p. 19.)
6. Address the issue of a lack of interest by employees to test for promotion. (See pp. 22-23.)
7. Address the pay compression issue between the rank of ranger police officer and ranger sergeant. (See p. 23.)
8. Address the inability for ranger sergeants to utilize time off during the summer months. This may be addressed if the two open positions of ranger police officer are filled. (See p. 23.)
9. Fully utilize the intended capabilities of e-citation to eliminate the necessity of photocopying violations. (See p. 24.)
10. Explore the feasibility of utilizing e-crash reporting. (See p. 24.)
11. CPSM recommends the department purchase CEDs for its sworn personnel and develop policies and training for their use. (See pp. 27-28.)
12. CPSM recommends the department extend case report turn-around time to 48 hours. (See p. 28.)
13. CPSM recommends that all departments within the Forest Preserve District, but most importantly departments that conduct their work in the field, participate in training and disaster exercise simulations. The exercise could involve actual simulations or tabletop exercises. (See pp. 72-73.)
14. CPMS recommends incorporating an annual emergency preparedness exercise for all departments within the Forest Preserve District. (See p. 73.)
15. CPSM recommends regularly scheduled quarterly training for all UAS operators. (See p. 73.)
16. Conduct unannounced property room audits utilizing a command staff member from an outside agency. (See p. 75.)
17. It is imperative that efforts be made to develop the future leaders of the department. In addition to formal educational opportunities, assignment of administrative tasks and to specialized units should be part of this plan. Finally, this cannot be an informal process, but must be a carefully develop and written strategic plan. (See p. 76.)

SECTION 2. METHODOLOGY

Data Analysis

CPSM used numerous sources of data to support our conclusions and recommendations for the Forest Preserve District of DuPage County Police Division. Information was obtained from the FBI Uniform Crime Reporting (UCR) Program, Part I offenses, along with numerous sources of internal information. UCR Part I crimes are defined as murder, rape, robbery, aggravated assault, burglary, larceny-theft, and larceny of a motor vehicle. Internal sources included data from the computer-aided dispatch (CAD) system for information on calls for service (CFS).

Document Review

CPSM consultants were furnished with numerous reports and summary documents by the police department. Information on strategic plans, personnel staffing and deployment, monthly and annual reports, operations manuals, intelligence bulletins, evaluations, training records, and performance statistics were reviewed by project team staff. Follow-up phone calls were used to clarify information as needed.

Interviews

This study relied extensively on intensive interviews with personnel. On-site/in-person and telephone interviews were conducted with all division/section commanders regarding their operations.

Focus Groups

A focus group is an unstructured group interview in which the moderator actively encourages discussion among participants. Focus groups generally consist of eight to ten participants and are used to explore issues that are difficult to define. Group discussion permits greater exploration of topics. For the purposes of this study, smaller focus groups were held with a representative cross-section of employees within the department.

Operational/Administrative Observations

Over the course of the evaluation period, numerous observations were made. These included observations of general patrol; investigations; support services such as records, communications, property and evidence; and administrative functions. CPSM representatives engaged all facets of department operations from a "participant observation" perspective.

Staffing Analysis

In virtually all CPSM studies, we are asked to identify appropriate staffing levels. That is the case in this study as well. In the following subsections, we will extensively discuss workload, operational and safety conditions, and other factors to be considered in establishing appropriate staffing levels. Staffing recommendations are based upon our comprehensive evaluation of all relevant factors.

SECTION 3. COMMUNITY AND DEPARTMENT OVERVIEW

HISTORY AND COMMUNITY

In northeastern Illinois more than 170,000 acres are protected by a system of county-level land preservation agencies known as forest preserve districts and conservation districts. These public preserves are home to many endangered plants and animals and contain some of the nation's finest forests, prairies, savannas, and wetlands.

At the same time, these preserves are important sites for public education and recreation for a population of more than 8 million people. To meet the special challenges of the twenty-first century in a region with a rapidly growing population, the districts may be required to change their programs, priorities, and operations to assure their long-term viability as organizations dedicated to the preservation and protection of land in the region.

The Chicago metropolitan region's county-level forest preserves and conservation districts were among the first urban land preservation agencies in the country. Forest preserve and conservation districts exist today due to the foresight of visionaries who saw the need for preserving vast tracts of land in their natural condition.

In the late 1890s, a civic group known as the Municipal Science Club initiated a study of Chicago's system of parks, playgrounds, and open space. The Club's efforts inspired the Chicago City Council to formally establish the Special Park Commission on November 6, 1899, to develop a plan for the present and future needs of the city's park system. The Commission was composed of business leaders, attorneys, social reformers, aldermen, and prominent design professionals such as architect Dwight Perkins and landscape architect Jens Jensen.

After conducting an intensive study of the undeveloped lands at the outer regions of the city, the commission identified the need for public agencies to acquire land in its natural state. The commission further recommended the creation of a crescent-shaped beltway of natural lands around the perimeter of Chicago. In 1903, Henry G. Foreman, president of the Cook County Board, formed the Outer Belt Park Commission to move forward with the establishment of a countywide system of nature preserves.

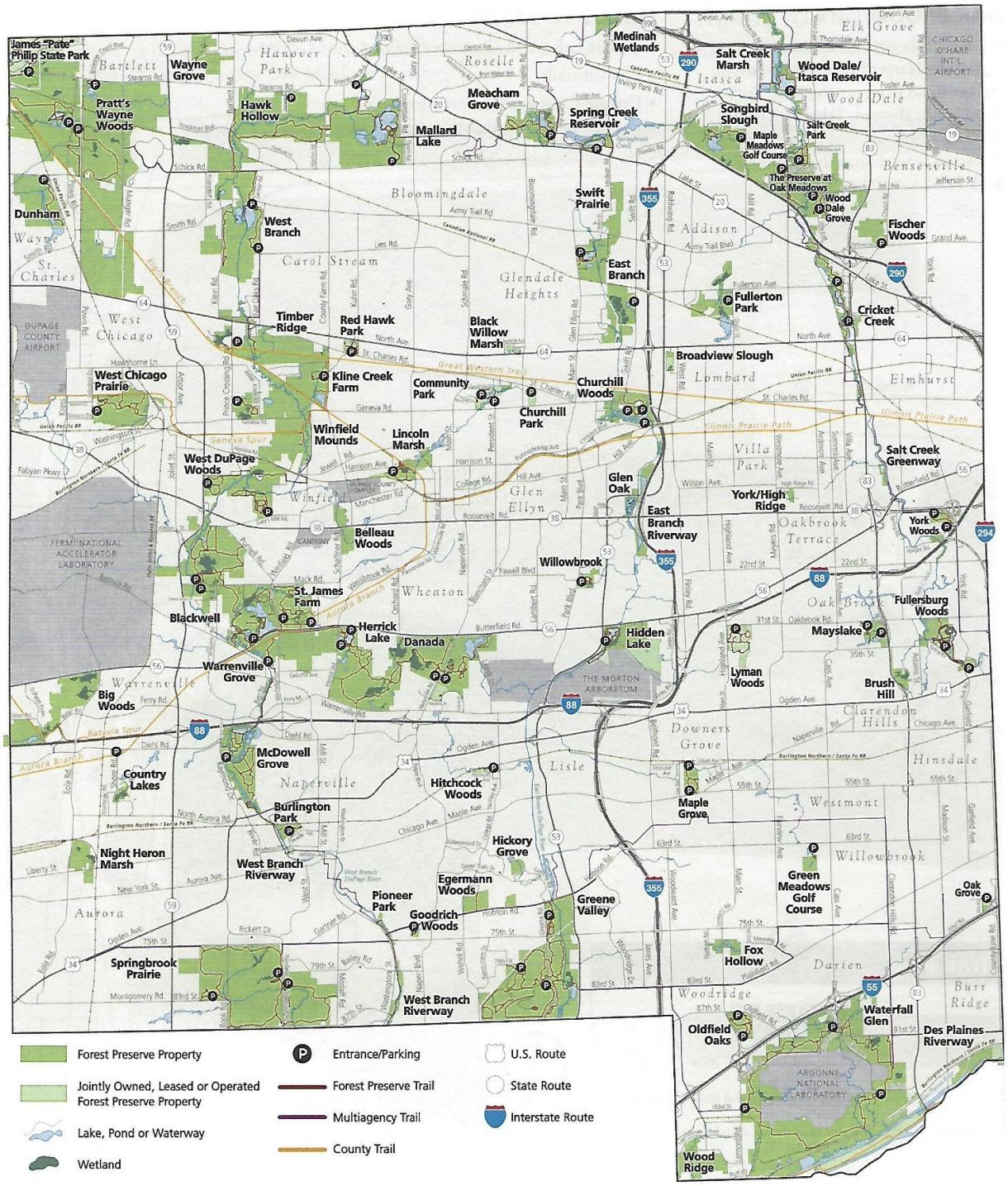
In 1905, a "Forest Preserve Act" was introduced in the state legislature but was held up by political debate. The renowned architect and planner Daniel H. Burnham incorporated the idea of a forest preserve system in his seminal 1909 Plan of Chicago.

In 1913, the General Assembly finally enacted legislation authorizing the establishment of a forest preserve district for Cook County. The Downstate Forest Preserve District Act authorizing the development of other forest preserve districts in the state was approved in 1915 and within 13 years, DuPage, Kane, and Will counties followed suit. Lake County established its forest preserves in 1958 and Kendall County created its system of forest preserves in 1964. McHenry County established a conservation district in 1971.

Founded in 1915, for over 100 years the Forest Preserve District of DuPage County has strived to protect and improve the county's natural areas while providing high-quality educational and recreational experiences for the people of DuPage County. The District is governed by a seven-

member Board of Commissioners elected from six DuPage County voting districts and a President elected at-large.

FIGURE 3-1: Map of Forest Preserve District of DuPage County Lands



The District is a legal entity and taxing body organized and existing under the Downstate Forest Preserve Act of the State of Illinois. DuPage County is located west of Chicago in northeastern Illinois and is part of the Chicago metropolitan area. DuPage County is the second largest county in Illinois with a population of 922,921. The next largest county is Lake with a population of approximately 696,000.

The District's Law Enforcement Department enforces not only federal, state, and county laws but also General Use Ordinances within more than 60 forest preserves encompassing more than 26,000 acres of land (about 12 percent of the county's 212,000 acres) and serves a population of more than 900,000 citizens. Within these 26,000 acres, there are numerous staff and unstaffed facilities, including five education facilities, three golf facilities, five youth-group campgrounds, one family campground, 31 lakes, and more than 160 miles of trails. All told, the District's preserves and facilities average approximately 6 million visitors annually

As a comparison to the 26,000 acres that are policed by the Forest Preserve District of DuPage County, the City of Naperville consists of approximately 25,216 acres policed by 260 employees of which 173 are sworn officers; Downers Grove encompasses 9,292.8 acres with a patrol police force of 48 employees, Aurora 29,408 acres with a police force of 744, and Wheaton 7,244.8 acres and a police force of 93 (66 sworn, 19 non-sworn, and 13 auxiliary) .

DEPARTMENT

The police department of the District has some unique challenges. Most of the time spent by officers is self-initiated as the District is spread across DuPage County. In addition, staff are not confined to routine patrols or calls for service; much of the time may be spent in District lands that are remote.

Under these conditions, the police department provides a full range of law enforcement services.

The department did not have employees solely designated to official sworn duties until 1974 when the position of sworn tactical ranger was established as part of the Field Operations Division. At the time, the Field Operations Division included sworn ranger personnel with job duties that included preserve maintenance/management, as well as law enforcement activities in assigned areas.

The tactical ranger position was created to perform primarily law enforcement duties in the entire jurisdiction of the District since it was becoming more difficult for the rangers to focus on the law enforcement aspect of their duties. Over the years, District property and county populations increased, necessitating a need to focus efforts on supervision and support of law enforcement by establishing a Law Enforcement Department.

The department began with a Chief and two ranger police officers; by 1982 the department grew to include the Chief, two dispatchers, two sergeants, and six tactical officers. In 1987, expansion once again created two lieutenant positions to serve along with the two sergeants and ten ranger police officers (retitled from tactical ranger). In 1990, the District officially decommissioned the sworn status of any remaining staff within the Ranger Division so that only the Law Enforcement Department personnel were to perform law enforcement activities.

The department eventually grew to include the Director of Law Enforcement (Chief), the Deputy Chief, two field lieutenants, an administrative lieutenant, two sergeants, 18 police officers, three dispatchers, an accreditation coordinator, an executive assistant, and a part-time staff assistant.

In 2015, the District underwent a reorganization during which if offered early retirement options to many District employees.

The Law Enforcement Department reorganized when the Deputy Chief, a field lieutenant, and the administrative lieutenant took the early retirement option. The Law Enforcement Department also faced the impending prospect of losing dispatch services based on consolidation requirements of the Emergency Telephone System Board of DuPage. Subsequently, the District contracted with the Addison Consolidated Dispatch Center (ACDC) for call center and dispatch services, thus eliminating the Communications Center at Forest Preserve District of DuPage County headquarters.

In 2017, the department went through an internal reorganization after the Chief of Law Enforcement, Accreditation Coordinator, Investigative Lieutenant, and a police officer retired and/or left the department. The department lost two more ranger police officer positions in 2018, which were not filled in 2019. By the end of 2019, the department consisted of 25 full-time employees and one part-time employee, as follows:

- Chief of Law Enforcement.
- Lieutenant.
- Sergeant (4).
- Ranger Police Officers (16).
- Police Records/Standards Coordinator (Accreditation Manager).
- Police Records/Evidence Coordinator.
- Executive Assistant.
- Staff Assistant (1 part-time).

The District's Law Enforcement Department was originally accredited by CALEA in 2001 as an A-size agency. Based on the reductions made in 2015, the agency transitioned to a B-sized agency, falling within the CALEA Law Enforcement Accreditation rather than CALEA Advanced Law Enforcement Accreditation.

The department is staffed seven days a week, 365 days per year, from 6:00 a.m. to midnight. When necessary, the DuPage County Sheriff's Office provides immediate response to emergencies that arise during the department's nonoperating hours and contacts an on-call District Command Officer who determines the appropriate level of the department's response.

To provide more efficient after-hours response, officers serve as Guard Residents in five of the eight Guard Houses throughout the county, including Pratt's Wayne Woods, Timber Ridge, St James (north and south), and Greene Valley. After hours response includes a command staff member who is on call after hours to respond and or coordinate any response needed. This changes from one command staff member to another each week with a schedule provided to Addison Consolidated Dispatch Center

Danada Guard House is staffed with other District employees equipped to handle animal care situations and resident inquiries. Waterfall Glen is temporarily housing college research students from around the country; and Blackwell Guard House has been vacant since October. Officers patrol the preserves by vehicle, bicycle, foot, and ATV. They enforce all criminal code and vehicle code regulations as well as fish and wildlife code and District ordinances.

Per Illinois State Code (70 ILCS 805/8a) (from Ch. 96 1/2, par. 6316, "sworn members shall be peace officers certified and trained under the provisions of the Illinois Police Training Act. The members of the police force shall have and exercise police powers over the territory owned, leased, or licensed by the District and property over which the District has easement rights for the preservation of the public peace, and the observance and enforcement of the ordinances and laws, such as are conferred upon and exercised by the police of organized cities and villages; but such police force, when acting within the limits of any city or village, but outside the territory owned, leased, or licensed by the District and property over which the District has easement rights, shall act in aid of the regular police force of such city or village and shall then be subject to the direction of its chief of police, city or village marshals, or other head thereof."(Source: P.A. 86-1480.)

Uniform Crime Report/Crime Trends

While communities differ from one another in population, demographics, geographical landscape, and social-economic distinctions, comparisons to other jurisdictions can be helpful in illustrating how crime rates in the Forest Preserve District of DuPage County measure against those of other local Illinois agencies.

Nevertheless, one must still be cautious in interpreting comparative crime data. Many variables unique to a jurisdiction can affect crime rates.

The FBI's Uniform Crime Reporting (UCR) Program assembles data on crime from police departments across the United States; the reports are utilized to measure the extent, fluctuation, and distribution of crime. For reporting purposes, criminal offenses are divided into two categories: Part 1 offenses and Part 2 offenses. In Part 1 offenses, representing the most serious crimes, the UCR indexes incidents in two categories: violent crimes and property crimes. Violent crimes include murder, rape, robbery, and aggravated assault. Property crimes include burglary, larceny, and motor vehicle theft. Crime rates are expressed (indexed) as the number of incidents per 100,000 population to allow for comparison.

This section presents information obtained from Uniform Crime Reports (UCR) collected by the Federal Bureau of Investigation (FBI) and Illinois Board of Crime Control. The tables and figures include the most recent information that is publicly available at the national level. This includes crime reports for 2010 through 2019, along with clearance rates for 2019.

In the following table we look at crime rate data for DuPage Forest Preserve District and in comparison to other Forest Preserve Districts in Illinois. From that comparison, one can see that the DuPage County Forest Preserve District compares very favorably, with lower violent crime, property crime, and overall total crime rates (indexed per 100,000).

TABLE 3-1: Reported Crime Rates in 2019, by County ReportingReporting

District	State	Violent Crime	Property Crime	Total Crime
Cook County Forest Preserve	IL	371	2,516	2,888
Kane County Forest Preserve	IL	90	901	991
Lake County Forest Preserve	IL	233	1,883	2,117
Will County Forest Preserve	IL	384	2,260	2,644
DuPage County Forest Preserve	**IL**	**83**	**1,089**	**1,172**

FIGURE 3-2: Reported DuPage County Forest Preserve District Violent and Property Crime Rates, by Year

TABLE 3-2: Reported DuPage County Forest Preserve District Crimes, by Year

Year	Violent Crime	Property Crime	Total Crime
2010	0	19	19
2011	1	27	28
2012	0	34	34
2013	1	21	22
2014	0	20	20
2015	1	28	29
2016	0	29	29
2017	7	15	22
2018	1	40	41
2019	3	30	33

Note: Data for 2019. Source: FBI Uniform Crime Report.

Experience of Other Forest Preserve Districts

CPSM had the opportunity to conduct virtual interviews with Chief Tracy Chapman of the Will County Forest Preserve District, Chief John Tannahill of the Lake County Forest Preserve District, Chief Laura King of the McHenry County Conservation District, Chief Mike Gilloffo of the Kane County Forest Preserve District, and Chief Sylvester Bush of the Cook County Forest Preserve District. We used the interview to assess common experiences of FPD law enforcement departments.

Kane County Forest Preserve District

Kane County FPD reported that they have six full-time and 18 part-time officers. A significant challenge is keeping the quality part-timers who are drawn to other agencies for full-time employment. The Chief likened many of the applicants they receive to "gypsy cops" and worried about continuing to get quality applicants. Volunteers have stepped forward to assist the two officers and a sergeant on each shift. The Chief felt staying visible had helped keep crime down.

Kane County has seen tight revenues, but it looks like they may be receiving $200,000 through CARES funding. Salaries and wages have been frozen since last year and overnight training was cancelled.

Usage of district facilities has skyrocketed during the pandemic and calls for service are up 30 percent. Services were not substantially higher, but users appeared happy and appreciative of the facilities in the District. The budget will remain lean in 2021.

The District cooperates with other agencies very well and radio communications are on the Kane County Sheriff's department frequency. The Sheriff's Department can assist but does not take on minor violations that are handled by the District law enforcement staff. From a quality-of-life perspective, District officers are able to engage violators, enforce ordinances, and make noncriminal contacts that the Sheriff's Department does not handle. Cooperation extends to the board, with the Chief crediting the Executive Director for a positive relationship.

Will County Forest Preserve District

Chief Chapman reported many of the same challenges faced by other Districts. Will County FPD utilizes 15 to 20 part-time officers who are sworn to augment 12 full-time personnel. The Chief reported that they have found it easier to keep the part-time officers, as full-time officers often move on to other agencies for higher pay and benefits than the District can provide. Getting applicants to fill the full-time positions is "a significant challenge, particularly with the pay," according to the Chief.

The Chief said that in comparison to the areas covered by the department, staff are spread thin.

Budget-wise, District revenues have not been substantially impacted. The Chief is concerned about future training budgets being reduced, since a cut was made in 2020 due to the pandemic and inability to send staff out to training.

Will County FPD has also seen a substantial increase in usage of properties even while cutting some activities that involved groups or activities that couldn't be socially distanced (movies, etc.). The ongoing response to the pandemic has required staff to look for alternative ways to engage participants and develop new programs.

A question that the Chief is looking at will be whether first-time users of District resources will continue to return post-pandemic. Many first-time users headed out to District trails, fishing areas, and other activities that could be socially distanced and safe for participants.

The Chief feels there is a need to increase staffing and education, increase salaries to retain employees, and deal with challenges of keeping part-time staff on patrols in areas that can be problematic.

The District has a good working relationship with the Sheriff's Department as well as municipalities contiguous to District facilities. With the pandemic, the chief said they had worked harder with video, relationships, and email to engage at all levels and with all constituencies. One area that is of future concern deals with the homeless populations and vandalism to District property.

Will County FPD has 26 commissioners (the Will County Board) and receives good support. Challenges include educating the board following elections, particularly if there is a changeover in party control. The District has a Chief Operating Officer and not an Executive Director.

Lake County Forest Preserve District

Lake County FPD has areas located throughout the county and has 21 full-time and 25 part-time staff. Manpower is a significant concern, particularly supervision when officers are on their own for an entire shift. The FPD is down four part-time officers and has been hiring retired police officers from other agencies.

The financial picture "is bleak" according to the Chief. There is an effort to institute a dedicated property tax, but the chances are not good. All special revenue funds are down due to the pandemic with no upturn in the foreseeable future. The FPD has lost several million dollars from its budget and grant funds have also seen a downturn.

Prior to the pandemic, the District evaluations showed an 84 percent approval of its service, but revenues have been flat for some time. The pandemic has exacerbated the revenue side of the operations. There has been a focus on maintaining standards and service but in the future, coverage will be given only to open facilities and areas. Areas that the Chief feels need more attention include canoeing, bicycle paths, and classes for the public. Environmental education groups are also quite popular but finding manpower to address these areas is difficult.

The District has a good relationship with county police chiefs, engaging with many special units. The District has county-wide jurisdiction and engages with other departments to target groups from outside that may be causing trouble at District facilities.

Lake County FPD is overseen by the County Board, which is made up of 23 officials. The Chief feels it would be more advantageous to have a FPD Board similar to DuPage so that interested and like-minded individuals can concentrate on FPD issues. An Executive Director guides day-to-day activities but the challenge is educating 23 members whose primary interests may not include FPD-related issues.

Cook County Forest Preserve District

Chief Bush is new to the District and area but has found the challenge of keeping staff to be significant. He stated they face the same problems as other Districts, particularly while overseeing 70,000 acres of land.

Staff work three shifts, and it is difficult to police all areas covered by the District. There are 74 officers, with a command staff of five, and they are looking to hire another 22 officers. For the other Districts, this could pose a problem with their part-timers who may want to move to a full-time position.

The District remained open even while others closed during the pandemic, so finances do not appear to be hard hit. This also creates challenges because of a significant rise in users. There have been many new (and first time) bikers, people taking classes, people looking at safety, and there is a hope that trend will continue long after the pandemic. The District has been tracking new users and first-time users so that it can encourage the increased participation as classes and other users return.

One challenge will be dealing with the influx of participants if usage continues at the increased levels or continues to increase. Will new facilities and resources be needed? And at what cost?

The District is working with all Cook County police agencies closely during the pandemic. Because the FPD's jurisdiction crosses village and other municipal lines, officers may be called upon or may call other departments when issues develop.

There is a superintendent over the CCFPD and one common question is why there is a need for police officers. The Chief noted that officers had conservation as well as policing responsibilities and this is often difficult to understand. The level of service for law enforcers is different in the FPD; municipal agencies would not likely respond to complaints of dogs on leashes or picnic issues while FPD officers routinely answer these calls for service.

Recommendation:

- The Forest Preserve District of DuPage County should meet and review with the County Sheriff as well as local police chiefs to discuss opportunities to engage specialized units to deal with specific crime problems that target the District. (Recommendation No. 1.)
- DuPage should look at the potential value of incorporating part-time officers. It has been used successfully in other Forest Districts and would provide the department an opportunity to evaluate hires for a longer period to determine if they meet the mission, vision, and values of the Dupage team and department. It would also provide some relief mechanism to using only overtime when full-time staff request leave, particularly if for an extended period. With smaller departments, there is less opportunity to utilize vacation, leave, or other time off (training) because of the stress it places on the rest of the organization. If multiple members request leave, it becomes nearly impossible to accommodate. Training demands are likely to increase with recent police changes; having part-time officers would provide the ability to meet these expected changes.
- By developing a robust part-time officer cadre, the department will ensure it has an adequate team from which to make selections when full-time positions become available. CPSM has found that hiring of new officers is challenged across the country with many agencies reporting few, if any, applicants for open positions. This is due to many factors but the recent past year of pandemic and social unrest has led potential applicants to consider other career opportunities.

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SECTION 4. DEPARTMENT OPERATIONS

As noted earlier, District officers spend most of their time on self-engaged patrols. Calls for service may be limited, and officers are expected to enforce conservation laws, District rules and ordinances, as well as handle criminal complaints.

Using the standard "Rule of 60" may lead to questioning about eliminating officer-generated calls but this would reduce the opportunity for officers to engage with District users.

PATROL

The District police department provides the community with a full range of police services including responding to emergencies and calls for service (CFS), performing directed patrol activities, and problem solving within the various parks. The department is very service oriented. Essentially, every call for service from the public gets a police response and every criminal case gets reviewed/investigated. The department embraces this approach and considers every request for service from the public important and deserving of a police response.

Uniformed patrol is considered the "backbone" of American policing. Officers assigned to this important function are the most visible members of the department and command the largest share of resources committed by the department. Proper allocation of these resources is critical to ensure that the department is capable of responding to emergency calls for service and providing general law enforcement services to the public.

The Patrol Unit is made up of 4 ranger police sergeants and 16 ranger police officers. They are responsible for policing services for 18 hours of the day, seven days a week. During the 6 hours the department is not staffed, police services are provided by the County Sheriff or a neighboring jurisdiction. At present, there are two ranger police officer vacancies. These positions have been budgeted for, but have not been filled.

The Patrol Unit is divided into two squads, each supervised by two ranger police sergeants. The sergeants serve as the watch commanders and are the highest-ranking officer on duty during the night and weekend hours. Each sergeant has a contingent of officers assigned under their supervision.

Most of the personnel assigned to the Patrol Unit operate on a 4/10 work schedule. Each sergeant and officer work four days per week and 10 hours per workday, with one exception. Ranger police officers assigned to the day shift work a 5/40 work schedule.

- Day Shift Ranger Police Sergeant: 6:00 a.m. to 4:00 p.m.
- Day shift Ranger Police Officer: 7:00 a.m. to 3:00 p.m.
- Night Shift Ranger Police Sergeant: 2:00 p.m. to midnight
- Night Shift Ranger Police Officer: 2:00 p.m. to midnight

Given the present staffing level of patrol, coverage will normally range from a low of three officers and one sergeant on duty to a high of eight officers and two sergeants on duty. The department has not formally established a minimum staffing level. From time to time, staffing levels are as low as two officers and one sergeant on duty. Staffing levels are affected by both the number of officers assigned to the Patrol Unit as well as the impact of time off associated

with vacations, training, court appearances, FMLA, and illness/injury. The combination of these leave factors generally results in officers being unavailable for a shift at a rate of 20 to 25 percent.

In virtually all CPSM studies we are asked to identify appropriate staffing levels. That is the case in this study as well. In the following subsections, we will extensively discuss workload and other factors to be considered in establishing staffing levels. Upon thorough evaluation of all contributing factors, we will make staffing recommendations.

As noted in the Executive Summary, our work followed two tracks: (1) the operational assessment, and (2) a data analysis of workload, primarily related to patrol. In the following pages relative to the Patrol Unit, we draw upon the data analysis report to assist in our operational assessment. The data analysis report, in full, can be found following the operational assessment and readers are encouraged to thoroughly review it. It is rich with information, only a portion of which is included in this segment of the report. For purposes of our analysis, we use computer-aided dispatch (CAD) records supplied by the regional dispatch center. These records pertain to identifiable workload associated with specific units and create the most accurate, verifiable, and comprehensive records available.

Recommendation:

- Fill the two open ranger police officer positions. (Recommendation No. 2.)

BODY-WORN CAMERAS / RECORDERS

At present, the department does not equip its officers with body-worn cameras and audio recording devices. The use of these tools is the subject of Illinois Public Act 101-0652, known as the SAFE-T Act (Safety, Accountability, Fairness and Equality – Today). On February 22, 2021, Illinois Governor J.B. Pritzker signed this bill into law. The law amends the Law Enforcement Officer-Worn Body Camera Act to require all law enforcement agencies to use officer-worn body cameras, to be phased in between January 1, 2022 and January 1, 2025, based on population size of the municipality or county. Law enforcement agencies in compliance with the requirements will receive preference by the Illinois Law Enforcement Training Standards Board in awarding grant funding under the Law Enforcement Camera Grant Act.

This Act revises some of the guidelines and requirements for use of body cameras, including allowing only supervisors and not the recording officer to review recordings prior to completing incident reports. It also requires all law enforcement agencies to provide an annual report on the use of officer-worn body cameras to the Illinois Law Enforcement Training Standards Board.

There is no question that, at present, no better technology exists for capturing encounters with individuals than body-worn cameras. They can serve to change both officer and citizen behaviors. They occasionally capture improper actions by an officer, but far more often serve to rebut false claims of officer misconduct. They do not come without downsides, however. Storing the recordings can be cumbersome and a significant issue has arisen for many departments with respect to public records requests from the media, attorneys, and the individuals contacted by the officer that led to the recording. For attorneys, requests are often part of their due diligence in handling cases, though there is often nothing of value found on the recordings. As a result, primarily to meet public records requests, many agencies have found it necessary to hire additional staff to deal with these issues.

CPSM has worked with one major communication provider that is located nearby in Illinois. They have developed a portable radio that integrates with body cameras to ensure that when an incident occurs, it is recorded. This same technology would enable location of officers at any time and throughout the district using GPS capabilities within the portable radio that integrate with the patrol car and to dispatch/supervisors.

One other option being worked on is to ensure that when a Taser is engaged, the incident is recorded. The District has an excellent IT support system and a combined and integrated solution should be pursued to protect both the District as well as officers from accusations of impropriety.

Recommendation:

- CPSM recommends the department explore the options available from various vendors and adopt body-worn cameras as soon as it is feasible. At the writing of this report, it is our understanding this process is underway. (Recommendation No. 3.)

PREPARAING FOR CHANGES TO ILLINOIS LAW

The SAFE-T Act has made other changes that will affect the department. Following are some, but not all, of the changes which the department should begin to prepare for.

Standardized Use of Force: Creates the Statewide Use of Force Standardization Act, stating that it is the intent of the General Assembly to establish statewide use of force standards for law enforcement agencies effective January 1, 2022.

Sworn Affidavits: Amends the State Police Act and the Uniform Peace Officers' Disciplinary Act to allow for the filing of a complaint against a police officer without a sworn affidavit or other legal documentation. The elimination of the affidavit requirement also applies to any collective bargaining agreements entered into after the effective date.

Administrative Investigation Notice Requirements: Amends the Uniform Peace Officers' Disciplinary Act to remove requirements that officers under investigation be informed of the names of complainants in advance of administrative proceedings and the name, rank, and unit or command of the officer in charge of the investigation.

Anonymous Complaints: Amends the Police and Community Relations Improvement Act to allow any person to file a notice of an anonymous complaint to the Illinois Law Enforcement Training Standards Board (ILETSB) for conduct that would qualify an officer for decertification (this includes the following: a felony or misdemeanor, excessive use of force, failing to comply with duty to intervene, tampered with a dash camera or body camera, committed perjury, made a false statement, tampered with or fabricated evidence, or engaged in unprofessional or unethical conduct). Provides that ILETSB will investigate allegations and complete a preliminary review to determine whether further investigation is warranted. If ILETSB determines there is objective, verifiable evidence to support the allegations, the Board will complete a sworn affidavit override. There is an effective date of January 1, 2023.

Retention of Police Misconduct Records: Amends the Local Records Act, requiring that all public and nonpublic records related to complaints, investigations, and adjudications of police misconduct be permanently retained and may not be destroyed.

Officer Professional Conduct Database: Amends the Illinois Police Training Act to require law enforcement agencies to notify the Illinois Law Enforcement Training Standards Board of

misconduct or a violation of agency policy when an officer resigns during the course of an investigation based on any felony or sex offense. Previously, law enforcement agencies were required to notify the Board of any Class 2 felony or greater offense. Provides State's Attorneys with access to the officer professional conduct database.

Police Officer Training Requirements: Amends the Illinois Police Training Act. Requires crisis intervention training for probationary police officers, including: 12 hours of hands-on, scenario-based role playing; 6 hours of instruction on use of force techniques including de-escalation techniques; specific training on officer safety techniques; and 6 hours of training focused on high-risk traffic stops. Requires implicit bias and racial and ethnic sensitivity training as part of minimum in-service training an officer must complete every three years. Requires training on emergency medical response training and certification, crisis intervention training, and officer wellness and mental health to be completed as part of minimum in-service training an officer must complete annually (previously officer wellness and mental health training were required every three years). Requires 40 hours of crisis intervention training addressing specialized policing responses to people with mental illness. Requires the Illinois Law Enforcement Training Standards Board to adopt rules and minimum standards for in-service training requirements (mandatory training of 30 hours to be completed every three years) including on use of force and de-escalation techniques.

Crime Statistics Reporting: Amends the Uniform Crime Reporting Act to include monthly reports required from each law enforcement agency to be made available by the Department of State Police, in addition to compilations of annual crime statistics.

Limitations on Use of Force: Amends the Criminal Code of 2012, adding language regarding when a peace officer is justified in use of force when making an arrest: when the officer believes "based on the totality of the circumstances" that force is necessary to defend himself or another from bodily harm, or when an officer believes that force is necessary to prevent resistance or escape if the officer "reasonably believes the person to be apprehended cannot be apprehended at a later date and is likely to cause great bodily harm to another" and the person "just" committed or attempted a forcible felony involving bodily harm or is attempting to escape by use of a deadly weapon.

- Prohibits using deadly force against someone based on the danger that person poses to themselves if they do not pose an imminent threat of death or serious bodily injury to the officer or another person. Prohibits using deadly force against someone committing a property offense unless the offense is terrorism or unless deadly force is otherwise authorized by law.
- In addition to chokeholds, prohibits using restraint above the shoulders with risk of asphyxiation unless deadly force is justified.
- Law enforcement agencies are encouraged to adopt and develop policies designed to protect individuals with physical, mental health, developmental, or intellectual disabilities.
- Prohibits discharging kinetic impact projectiles (such as rubber bullets) in a manner that targets the head, pelvis or back, discharging firearms or kinetic impact projectiles indiscriminately into a crowd, or using chemical agents or irritants including pepper spray and tear gas prior to issuing an order to disperse, followed by sufficient time and space to allow for compliance with the order to disperse.
- Regarding use of force to prevent escape, a peace officer who has an arrested person in custody is justified in the use of force, but not deadly force, to prevent escape. Prohibits use of deadly force to prevent escape unless based on the totality of the circumstances, deadly force is necessary to prevent death or great bodily harm to an officer or another person.

- Creates a duty for all law enforcement officers to render medical aid and assistance as soon as reasonably practical, whether as a result of use of force or otherwise.
- Creates a duty for a peace officer to intervene to prevent another peace officer from using unauthorized force. The intervening peace officer must report the intervention within five days of the incident. Prohibits discipline or retaliation against a peace officer for intervening.

Law Enforcement Misconduct: Amends the Criminal Code of 2012, stating a law enforcement officer commits misconduct when he or she misrepresents facts, withholds knowledge, fails to comply with the officer-worn body camera act, or commits any other act with the intent to avoid culpability or liability for himself or another. Makes law enforcement misconduct a Class 3 felony.

Recommendation:

- The District should begin preparing to comply with all applicable requirements of the SAFE-T Act, such as by reviewing and revising its policies and procedures, planning for training needs, and adjusting records practices, for example. (Recommendation No. 4.)

SUCCESSION PLANNING

Within the next five years, the department may see the retirement of up to nine sworn employees. It is imperative that the department consider a structured succession plan, including mentoring of the next generation of department leaders. The plan must focus on the development of first-line supervisors. Exposure of all potential future leaders to a variety of administrative assignments and tasks is essential to prepare them for these future responsibilities.

An important role of succession planning for any police department is to provide professional development relevant to the job position and the developmental needs of the employees. For effective leadership in the District police, the position of sergeant is critical.

The Chief should review all performance evaluations for the rank of ranger police officer and ranger sergeant for the past three to five years, and work with the department's lieutenant to discuss performance observations of the officers and sergeants in an effort to identify deficiencies, and interview each sergeant to ascertain what he/she believes are needed areas for professional development. Research should be conducted to identify providers for applicable training and to determine the cost of needed training. Funding should be identified to support this leadership development initiative. Assignments of administrative tasks should be made with consideration as to how such assignments will best serve the individual sergeant and department's future leadership needs. This plan must also include the professional development of ranger police officers who show the interest and ability to develop the knowledge, skills, and abilities to be a supervisor.

Recommendation:

- Implement a succession plan that focuses on future leaders and the continued development of personnel in the rank of sergeant. (Recommendation No. 5.)

Lack of Interest in Promotions by Officers

Over the last two promotional process periods, two of the last three sergeant postings have been internal hires. Internal employees did apply each time but but no Tier 1 employees or long-term union members. The two internal promotions both had previously been command officers at previous departments but came to DuPage as patrol officers before having been promoted. Upon promotion officers do not lose or give up their pension -- it is retained. However they lose the ability to cash out sick time and apply it to the pension which seemed to be a concern during interviews with department members. Additionally, there have been three sergeants who have voluntarily resigned their rank and returned to the position of ranger police officer. While it is not unusual for some departments to experience an outside hire or a voluntary reduction in rank from time to time, the rate at which this has occurred in the District police is concerning.

Promoting employees is an effective way to develop an organization by giving top performers more responsibilities and, therefore, increased motivation and morale. Law enforcement agencies routinely rely on a competitive promotion process which involves employees proving their worth compared to other employees. This method focuses mostly on performance, productivity, skills, experience, knowledge, and other similar factors. The District utilizes this process to promote internal candidates. Unfortunately, the last two promotional process periods did not include any internal candidates. The department filled these positions with external candidates.

CPSM conducted interviews with a number of ranger police officers and none of them expressed any interest in seeking promotion. Each cited the reduction in pay and benefits they would experience as a major drawback to being promoted.

When a ranger police officer is promoted they give up pension and retention pay benefits, and are at the end of the line to pick their vacation time off after range police officers. The Board should work to resolve these issues so internal candidates would be more interested in promotional opportunities.

There are significant benefits to promoting current employees over external candidates.

- Recognizes and promotes employee performance, ambition, and morale.
- Sound understanding of the workflow.
- Clear understanding of department mission and vision on day one.
- Significantly reduces onboarding time.
- Encourages retention for employees who seek promotional opportunities.
- Subordinates have existing relationships with their new supervisor.
- Encourages employees to continue to develop their knowledge skills and abilities to perform in a role which involves greater responsibility and influence.

Range police officers who qualify to compete for promotion must have at least four years of law enforcement experience or an equivalent combination of training and experience. The years of service requirement enables the department's leadership team to see the employee's potential, subject matter knowledge, leadership abilities, and skills as a ranger police officer.

The true culture of a department can't always be defined in simple terms and is usually described by employees differently depending on their own core values and beliefs. Regardless of the department's stated values, oftentimes the true culture of a department is created by the

management team. The cultural outlook that supervisors project trickles through to their subordinates and defines the atmosphere in the workplace. The behaviors that a supervisor displays can affect everything from employee turnover to morale. The selection of first line supervisors is critical in any law enforcement agency.

The ranger police officer has an informed sense of what the rank of sergeant within the department entails. Due to such a candidate's knowledge about the people on the department and the culture of the organization they are more informed about the mission, vision, and operating philosophy. They also have a better understanding of how work flows through the department and they are familiar with the department's policy manual.

Promoting from within is an explicit way to demonstrate the department's practice of recognizing loyalty and its commitment to professional development. It is also more likely to retain employees who seek greater responsibility.

Internal promotions require significantly less onboarding because the employee already has a solid understand of how the organization functions and how things are done. Therefore, the rate of learning is accelerated and they require less training time. This results in the employee becoming more valuable in the new role quickly. External candidates require significant training and onboarding time. It's often difficult and time-consuming to bring an external hire into the department. Time must be set aside to for training, policy review, mentoring, and learning about department goals and objectives. However, promoting within means the candidate is already familiar with FPDDC goals and tasks associated with how success is measure. The onboarding process for an external candidate can take 1 to 2 years.

Current employees, and future employees, understand that there is a viable opportunity for promotion. Promotions set the tone that with hard work and a demonstration of the ability to do a higher level of work, all employees have the chance to grow within the organization.

Law enforcement is a profession which relies on trust among all members of the department. It is not unusual for police officers to take months or years to get comfortable working with each other in a stressful setting. Choosing to hire external candidates can upset the department culture, leading to breakdowns in team cohesion, efficiency, and an absence of trust, at least initially. Internal promotions, with qualified applicants, is a better and more efficient and effective way to develop department personnel.

Our review of the department's the pay and benefit scale revealed that 11 senior ranger police officers had a higher pay rate than three of the four sergeants. An examination of the pay scale shows a significant pay compression between ranger police officer and ranger sergeant. As noted earlier in this report, the pay compression is a complex issue because market studies show that the salary for sergeants at FPDDC are in line with that paid by others. Thus, the issue likely stems from recent contract negotiations and settlements with the rank and file which has significantly closed any gap between their salary levels and that of officers at FPDDC. In 2020, the difference in maximum salary between ranger police officer and ranger sergeant was approximately 3 percent, or $2,408. In 2021, the pay scale continues to compress, making the difference in maximum salary less than one percent, or $242. Currently, there is not a pay compression problem between the rank of ranger sergeant and ranger police lieutenant. Data shows the pay separation to be approximately 11 percent. The difference between ranger lieutenant and the chief of law enforcement is 19 percent.

The department, along with the Commission, should being addressing the pay compression issue between ranger police officer and ranger sergeant. It is not unusual for a first line supervisor to

be paid from 10 to 15 percent above the top pay for a police officer, not including overtime or other supplemental pay. This is not the case within the District.

An additional concern expressed by many ranger police officers was the fact that officers select time off before supervisors. This results in many supervisors not being able to utilize their benefit time during the summer months. This issue may be resolved by the hiring of the two open ranger police officer positions.

Recommendations:

- Address the issue of a lack of interest by internal employees to test for promotion. (Recommendation No. 6.)
- Address the pay compression issue between the rank of ranger police officer and ranger sergeant. (Recommendation No. 7.)
- Address the inability for ranger sergeants to utilize time off during the summer months. This may be addressed if the two open positions of ranger police officer are filled. (Recommendation No. 8.)

E-CITATION

The lack of seamless importing of information from electronic citation devices (e-citation) is an impediment to the department's efficiency. The department utilizes e-citations, but when a violation is written, ranger police officers must come to the station and make a copy of the citation for records purposes. This is done because not all e-citations are automatically transferred to the court. This issue needs to be addressed and resolved. The entire point of the of e-citations is to eliminate the handling of or creating of paper documents. While addressing this issue, the department should ensure the contact information of the violator is automatically uploaded into the department's records management system (RMS). Electronic ticketing devices eliminate the vast majority of that work through a simple download of data via swiping of the driver's license magnetic strip.

A solution to this issue would eliminate the need for officers to respond to the station to drop off and make copies of citations. This will result in increased patrol times and a reduction in unnecessary trips to the department.

While the department doesn't respond to a high number of motor vehicle crashes, the utilization of e-crash reports would further streamline the report writing process. The department should research the cost and benefits of transitioning to electronic crash reporting with automatic upload to the department's RMS.

Recommendations:

- Fully utilize the intended capabilities of e-citation to eliminate the necessity of photocopying violations. (Recommendation No. 9.)
- Explore the feasibility of utilizing e-crash reporting. (Recommendation No. 10.)

USE OF FORCE

The necessary and appropriate use of force in carrying out a police officer's duties, up to and including the taking of a human life, is among the most complex and critiqued actions of law enforcement. At no time in the past has it been looked at, examined, and judged as it is today. With the ease with which people are recording officers in the performance of their duties, including their use of force, it is essential and critical that the department have various options for deploying use of force. Providing relevant options and training for the use of force is critical for the department. The purpose of comprehensive training in the use of force and providing the correct options is to ensure employees are using proper and reasonable applications of force in the performance of their duties. With respect to the use of deadly force, no other responsibility of the commission or department has more importance.

One of the features distinguishing police from all other groups in society is their authority to apply coercive force when circumstances call for it. Police may be called on to use force when making an arrest, breaking up an altercation, dispersing an unruly crowd, or performing a myriad of other official activities during their daily routines. The force may range from simple presence to the use of a firearm.

Currently, the department trains officers to utilize their presence, verbal skills, physical strength and skills, chemical spray, impact weapon (baton), and firearms as use of force options. Law enforcement executives have to make important policy decisions on the types of force that will be authorized, technologies to deliver that force, and when and how often various types of force can be used. One of the key objectives in managing force is designing approaches to reduce incidents of police use of force and the injuries to suspects and officers. To better understand the various skills and tools provided to law enforcement here are some examples.

Officer Presence: No physical force or application of a tool is used. This is considered the best way to resolve a situation. The mere presence of a law enforcement officer oftentimes works to deter crime or diffuse a situation.

Verbalization: No physical force or application of a tool is used. Officers issue calm, nonthreatening commands, such as "Let me see your hands." Officers may increase their volume and shorten commands in an attempt to gain compliance when their initial instructions are ignored. Short commands might include "Stop," or "Don't move."

Empty-Hand Control: Officers use bodily force and skill to gain control of a situation.

- Soft technique. Officers use grabs, holds, and joint locks to restrain an individual.
- Hard technique. Officers use punches and kicks to regain control over an individual.

Less-Lethal Methods: Officers use less-lethal tools to gain control of a situation or individual.

- Blunt impact. Officers may use a baton or projectile to immobilize a combative person.
- Chemical. Officers may use chemical sprays to restrain or control an individual.
- Conducted Energy Devices (CEDs). Officers may use CEDs to immobilize an individual to gain control over them. CEDs discharge a high-voltage, low-amperage jolt of electricity at a distance.

Lethal Force: Officers use lethal weapons to gain control of a suspect.

In our examination of the various approaches and tools provided to ranger police officers, we found the option of utilizing a Conducted Energy Devices (CED), also commonly referred to as a Tasers, has not been made available. CED devices have become very popular and useful tools in law enforcement. It is reported that more than 11, 000 law enforcement agencies within the United States have provided their officers with this option.

The level of force an officer uses varies based on the situation. Because of this variation, guidelines for the use of force are based on many factors, including the officer's level of training or experience, their size and skill level, and the factors within the situation. An officer's goal is to regain control, as soon as possible, while protecting the community and reducing injuries to the suspect, citizens, and officers. Use of force is an officer's last option, but it may be a necessary course of action to restore safety in a community when other practices are ineffective or unreasonable.

The environment that range police officers work in requires that most enforcement actions and calls for service are handled by one officer. The geographic spread of the District puts officers in situations where a back-up officer may not be nearby. An additional challenge is officers frequently find themselves taking police action in an area far from where a motor vehicle would have access. This situation increases the length of time for any help to arrive. While the department utilizes neighboring agencies for additional assistance, frequently these officers have a difficult time locating the District officer due to unfamiliarity with the terrain. This delay could result in an officer having to confront a situation without the necessary additional resources to defuse it without the application of force.

To handle these situations, the officers should be provided with the highest level of training and the access to the tools to resolve the situation with the lowest level of force, while keeping the public safe, and preventing or reducing injuries to everyone involved.

Currently, the department issues chemical spray and an impact weapon as its less-lethal options. While these weapons can be effective they are not without their drawbacks. The department's chemical spray is comprised of oleoresin capsicum (OC). It is a hand-held aerosol spray containing an organic derivative of cayenne pepper. OC is classified as an inflammatory and an exposure should incapacitate the subject for several minutes. An OC exposure should work almost immediately causing symptomatic effects in the subject that may last up to 45 minutes. These symptomatic effects include burning and swelling of the eyes, inflammation of the mucous membrane, and shortness of breath.

This tool has the following acknowledged strengths: The cannisters are inexpensive. They are lightweight and easily carried. Extensive training is not required. There is no need for physical contact between the officer and the subject. Physical strength is not required for it to be effective.

Acknowledged weaknesses of chemical sprays include: Chemical agents are not effective on many individuals, especially the mentally disturbed, those who are intoxicated, and persons under the influence of certain drugs. It is less effective on a subject wearing a facemask and glasses/goggles. Some individuals may become more combative when they experience the discomfort associated with chemical irritants. There is a time lag between application and effect; they may not stop aggressive behavior rapidly enough. A person with a knife or blunt instrument who has impaired vision from the spray may lash out in an indiscriminate manner. Some individuals who suffer from pre-existing respiratory problems may experience serious medical problems. An additional concern is when the chemical is sprayed, other people in the area, including other law enforcement officers may be affected by the chemical. This occurs as a result of inaccurate dispersal, wind conditions, and the proximity of others to the intended

target. While there have been some deaths associated with the use of OC chemical spray, it is widely viewed as safe.

The department issues the ASP, 26-inch, collapsible baton as an impact weapon. This baton is a three-stage steel baton with hardened shafts that extend and lock by friction. It has a reinforced textured hard rubber or metal tip with a firm foam or rubber grip handle. The baton is designed to disrupt a subject's noncompliance by means of striking large muscle groups, pressure points, or close quarters contact areas sufficient to cause pain, immobilization, distraction, or displacement of balance to gain compliance.

The acknowledged strengths of this tool are: It is a lightweight weapon and inexpensive. The public is accustomed to seeing police officers routinely carry them. A properly placed blow can immobilize or interrupt a combative person allowing officer(s) time to gain control over the subject. A baton can be used in a non-offensive blocking fashion, to ward off blows or to push back an attacker.

The weaknesses of this tool include: They require sufficient strength and skill to deliver a blow that will interrupt or immobilize as subject. It is difficult or impossible to avoid head strikes in all cases, particularly in combative situations. Although intensive training minimizes this risk, it cannot entirely eliminate it. Paralysis or death may result, even days later, caused by subdural or bilateral hematoma. Facial strikes often cause lacerations and substantial blood loss. Departments must periodically retrain officers to maintain baton proficiency.

Currently, the department does not issue its officers a CED. The use of CEDs by law enforcement agencies has become a controversial issue. The main point of disagreement is to what extent should the use of CEDs be authorized. When deciding to utilize this tool there are a few aspects that all stakeholders must agree upon.

First, it is preferable to incapacitate a violent individual than to use deadly force. Second, the use of CEDs should be permitted to the extent that such use is necessary to protect an officer and the public while minimizing the risk of physical injury to suspect. Third, police officers should have some understanding of the effects that using a weapon is likely to have upon a suspect before deploying the weapon in question.

CEDs, such as Tasers, produce high voltage, but low amperage of electricity. The electricity is designed to stun and temporarily disable the subject by causing involuntary muscle contractions. This results in people being easier to control or arrest. CEDs use compressed nitrogen to fire two barbed probes which are attached by thin electrical wire to the main unit. Electricity travels along these wires attached to the probes. The electrical charge causes involuntary muscle contractions, these contractions cause people to fall. Some people have experienced head injuries or broken bones from the falls. The probes may cause puncture wounds or minor burns to the skin. Despite the dangers, most CED shocks produce no serious injuries.

The controversy around CEDs use is not unique. Law enforcement agencies found themselves in similar circumstances with chemical spray in the 1990s. Human rights groups such as Amnesty International questioned the safety and misuse of chemical spray as its use spread rapidly in American law enforcement agencies. The proper way to address these issues is for a department to properly regulate the use of this tool and for officers to receive regular and rigorous training.

In response to concerns expressed about CED-related deaths, the National Institute of Justice impaneled a group of expert medical professionals to study in-custody deaths related to CEDs. In its report, the panel said that while CED use is not risk free, there is no clear medical evidence

that shows a high risk of serious injury or death from the direct effects of CEDs. Field experience with CED use shows that exposure is usually safe. Therefore, law enforcement agencies need not avoid using CEDs provided they are used in line with accepted national guidelines.

The acknowledged strengths of this tool are; These devices are easily carried. They are lightweight and reasonably affordable. Extensive training is not required. They do not require physical strength to be successful. They may be more effective on persons under the influence of drugs and alcohol who do not respond to chemical sprays. They are especially useful for controlling noncriminal violent behavior, such as persons who are mentally impaired, or under the influence of mind-altering substances. It may be unnecessary to resort to firearms to control a person armed with a knife or blunt instrument, due to the range of the CED.

Commonly acknowledged weaknesses are: The electrical charge can cause a fire hazard if flammables are present. Hand-held devices have been misused to produce discomfort and pain by unethical officers. Both probes must strike a subject for an electrical charge to be delivered. The public has unreasonable expectations on when an officer should have used a CED instead of a firearm. Deaths have been associated with repeated long-term shocks. While the medical evidence in this area is not conclusive, it should be taken into consideration.

Recommendation:

- CPSM recommends the department purchase CEDs for its sworn personnel and develop policies and training for their use. (Recommendation No. 11.)

INVESTIGATIONS SECTION

The department does not have full-time investigators and/or a full-time supervisor of investigation on staff. This is due primarily to the low crime rate within the District's lands.

Criminal investigations are an important function in any law enforcement agency. The responsibility for conducting these investigations are secondary duties for ranger police officers. The primary responsibility of investigating a scene or criminal complaint rests with the officer who responded to the scene. If the scene is beyond the ability of the officer, the department has two ranger police officers and a ranger sergeant who have received advanced criminal investigation training. These personnel can respond to the scene or assist with the investigation. In the event of a significant incident, where additional assistance or expertise is needed, the department is a member of the Metropolitan Emergency Response and Investigative Team (MERIT). This countywide team is comprised of law enforcement officers from 36 communities. They provide major crime investigations, computer forensics, crisis negotiations, major crash reconstruction, and incident management assistance. This team is an important and valuable resource for the District.

The available investigators and supervisor have attended a wide variety of advance criminal investigation courses, including the State Death Investigation course, crime scene investigation, and suspect interviewing. These investigators would be utilized for death investigations, sexual assaults, and other crimes requiring immediate investigation.

Due to the low number of crimes experienced in the District, a separate case management system is not needed or utilized. Cases as assigned are tracked within the department's Hexagon RMS. This system tracks who the case is assigned to, whether it is active or closed, and any updated information input by the investigator. The department currently requires all cases be updated within 24 hours. On occasion, this can be a burdensome task when events are

unfolding quickly or there is a significant amount of follow-up needed. The department should consider extending the case report turn-around time to 48 hours when there are no significant updates or developments.

The department has found use of the RMS in case management to be a very efficient and effective system. It allows all personnel who have the appropriate access to track all updates, reports, and related attachments (photographs, crime lab report, etc.). The system records a time stamp each time the investor logs into the system. This ensures the investigation is proceeding in a timely manner. CPSM reviewed the system and it appears to be performing all of the necessary functions for the department. There are no recommendations for changes.

Recommendation:

- CPSM recommends the department extend case report turn-around time to 48 hours. (Recommendation No. 12.)

SECTION 5: WORKLOAD AND STAFFING

As noted in the Executive Summary, our work followed two tracks: (1) the operational assessment, and (2) a data analysis of workload, primarily related to patrol and patrol-related functions. In the following pages, which are focused on the Patrol Unit, we draw upon the data analysis report to assist in our operational assessment. The data analysis report, in full, can be found following the operational assessment and readers are encouraged to thoroughly review it. The data analysis is rich with information, only a portion of which is included in this segment of the report.

Using the data that has been forensically analyzed, we are able to create layers of analysis to determine whether the existing staffing is adequate to respond to the workload in the District.

WORKLOAD DEMAND ANALYSIS

Uniformed patrol is considered the "backbone" of American policing. Officers assigned to this important function are the most visible members of the department and command the largest share of resources committed by the department. Proper allocation of these resources is critical to have officers available to respond to calls for service and provide law enforcement services to the public.

Although some police administrators suggest that there are national standards for the number of officers per thousand residents that a department should employ, that is not the case. The International Association of Chiefs of Police (IACP) states that ready-made, universally applicable patrol staffing standards do not exist. Furthermore, ratios such as officers-per-thousand population are inappropriate to use as the basis for staffing decisions.

According to *Public Management* magazine, "A key resource is discretionary patrol time, or the time available for officers to make self-initiated stops, advise a victim in how to prevent the next crime, or call property owners, neighbors, or local agencies to report problems or request assistance. Understanding discretionary time, and how it is used, is vital. Yet most police departments do not compile such data effectively. To be sure, this is not easy to do and, in some departments may require improvements in management information systems."[1]

Essentially, "discretionary time" on patrol is the amount of time available each day where officers are not committed to handling CFS and workload demands from the public. It is "discretionary" and intended to be used at the discretion of the officers to address problems in the community and be available in the event of emergencies. When there is no discretionary time, officers are entirely committed to service demands, do not get the chance to address other community problems that do not arise through 911, and are not available in times of serious emergency. The lack of discretionary time indicates a department is understaffed. Conversely, when there is too much discretionary time, officers are idle. This may be an indication that the department is overstaffed.

Staffing decisions, particularly for patrol, must be based on actual workload as well as ensuring that sufficient staffing exists to respond to emergency situations involving the safety of the public and officers alike. Once the actual workload is determined, and the amount of discretionary

1. John Campbell, Joseph Brann, and David Williams, "Officer-per-Thousand Formulas and Other Policy Myths," *Public Management* 86 (March 2004): 22–27.

time is determined, then staffing decisions can be made consistent with the department's policing philosophy and the community's ability to fund services. The Forest Preserve District Of DuPage County police department is a full-service police department, and its philosophy is to address essentially all requests for service in a community policing style. It is necessary to look at workload to understand the impact of this style of policing in the context of community demand.

To understand actual workload (the time required to complete certain activities), it is critical to review total reported events within the context of how the events originated, such as through directed patrol, administrative tasks, officer-initiated activities, and citizen-initiated activities. Analysis of this type enables identification of activities that are really "calls" from those activities that are some other types of event.

Rule of 60

In general, a "Rule of 60" can be applied to evaluate patrol staffing. CPSM's team authored a paper that is regularly cited by accreditation agencies, the International Association of Chiefs of Police, and other consultants that is the origin of "The Rule of 60."

Our research determined that when police workload exceeds 60 percent of the allotted time, units tend to move from a posture of active and engaged to one of standby and wait.

This rule has two parts. The first part states that 60 percent of the sworn officers in a department should be dedicated to the patrol function (patrol staffing) and the second part states that no more than 60 percent of their time should be committed to calls for service. This commitment of 60 percent of their time is referred to as the Patrol Saturation Index.

The Rule of 60 is not a hard-and-fast rule, but rather a starting point for discussion on patrol deployment. Resource allocation decisions must be made from a policy and/or managerial perspective through which costs and benefits of competing demands are considered. The patrol saturation index indicates the percentage of time dedicated by police officers to public demands for service and administrative duties related to their jobs. Effective patrol deployment would exist at amounts where the saturation index was less than 60.

This Rule of 60 for patrol deployment does not mean the remaining 40 percent of time is downtime or break time. It reflects the extent to which patrol officer time is saturated by calls for service. The time when police personnel are not responding to calls should be committed to management-directed operations. This is a more focused use of time and can include supervised allocation of patrol officer activities toward proactive enforcement, crime prevention, community policing, and citizen safety initiatives. It will also provide ready and available resources in the event of a large-scale emergency.

From an organizational standpoint, it is important to have uniformed patrol resources available at all times of the day to deal with issues such as proactive enforcement, community policing, and emergency response. Patrol is generally the most visible and available resource in policing, and the ability to harness this resource is critical for successful operations.

Understanding the difference between the various types of police department events and the resulting staffing implications is critical to determining deployment needs. This portion of the study looks at the total deployed hours of the police department with a comparison to current time spent to provide services.

From an officer's standpoint, once a certain level of CFS activity is reached, the officer's focus shifts to a CFS-based reactionary mode. Once that threshold is reached, the patrol officer's

mindset begins to shift from one that looks for ways to deal with crime and quality-of-life conditions in the community to one that continually prepares for the next call. After saturation, officers cease proactive policing and engage in a reactionary style of policing. The outlook becomes, "Why act proactively when my actions are only going to be interrupted by a call?" Any uncommitted time is spent waiting for the next call.

For purposes of our analysis, we use computer-aided dispatch (CAD) records supplied by the district's 911/dispatch center. These records pertain to identifiable workload associated with specific units and are the most accurate, verifiable, and comprehensive records available.

Crime statistics for the District indicate a very low level of crime (compared to other Forest Preserve Districts), which can at least partly be attributed to proactive policing that deters criminals.

Prevention of crime and the apprehension of criminals are at the forefront of responsibilities for police departments but demands on police resources involve much more than crime. For most departments, criminal issues and traffic enforcement are the two primary drivers of activity for officers. For FPDDC, while traffic is important, the focus of officers is on enforcing general use regulation ordinances and the fish and wildlife code. Traffic enforcement, the efficient flow of traffic (all transportation modes) through the District, and maintaining peace and order are but a few of the many such noncrime activities that fall into the scope of work of FPDDC . As we examine workload demands we will explore all activities.

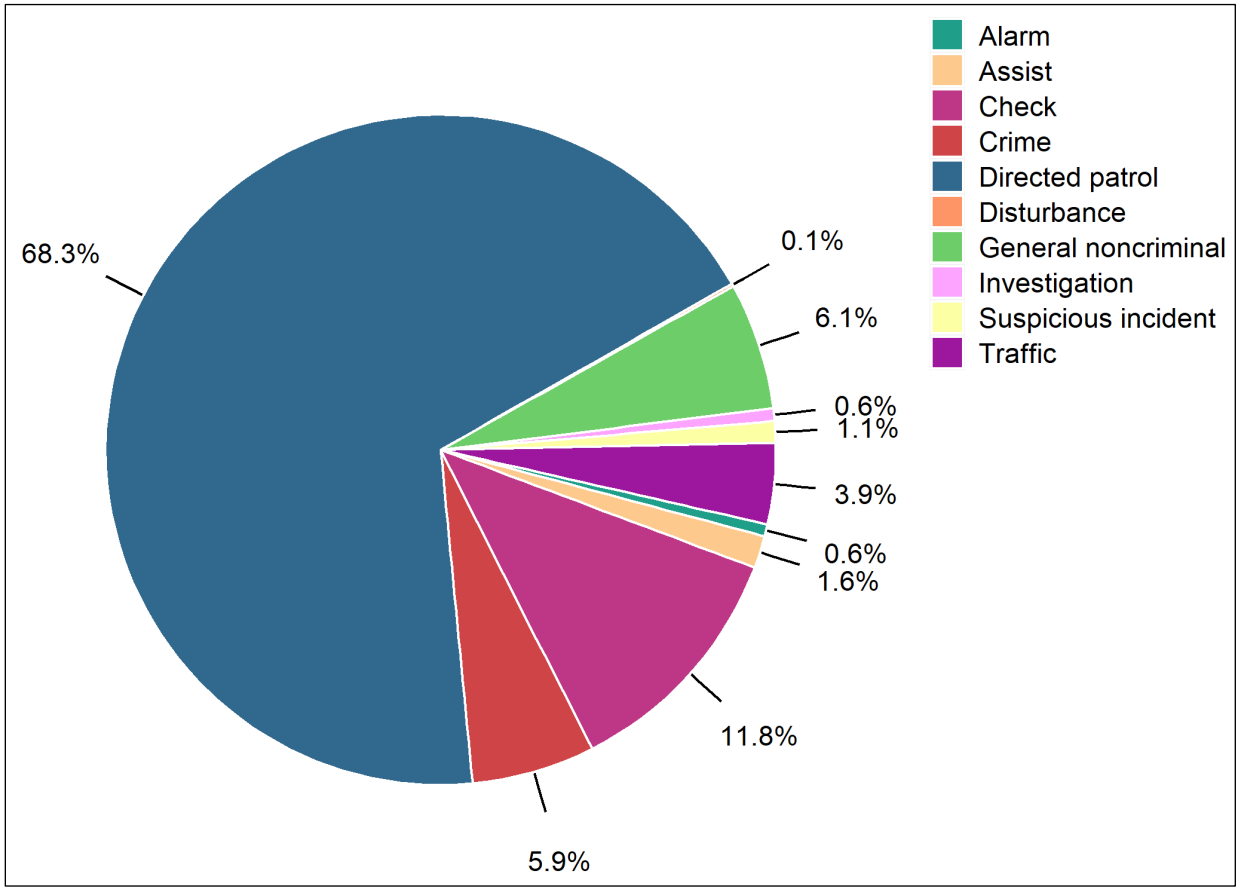
Workload Examined

In this section, we will present statistics on various aspects of patrol workload in the District.

The following figure and table present information on the main categories of calls for service the department handled during the study period of January 1, 2019 through December 31, 2019. As noted throughout the report, 68 percent of events were the result of directed patrols (officer generated) 12 percent of events were checks of District facilities and properties, six percent of events were noncriminal in nature, and six percent were criminal in nature.

§ § §

FIGURE 5-1: Percentage Events per Day, by Category



Note: The figure combines categories in the following table according to the description in Chart 8-1.

TABLE 5-1: Events per Day, by Category

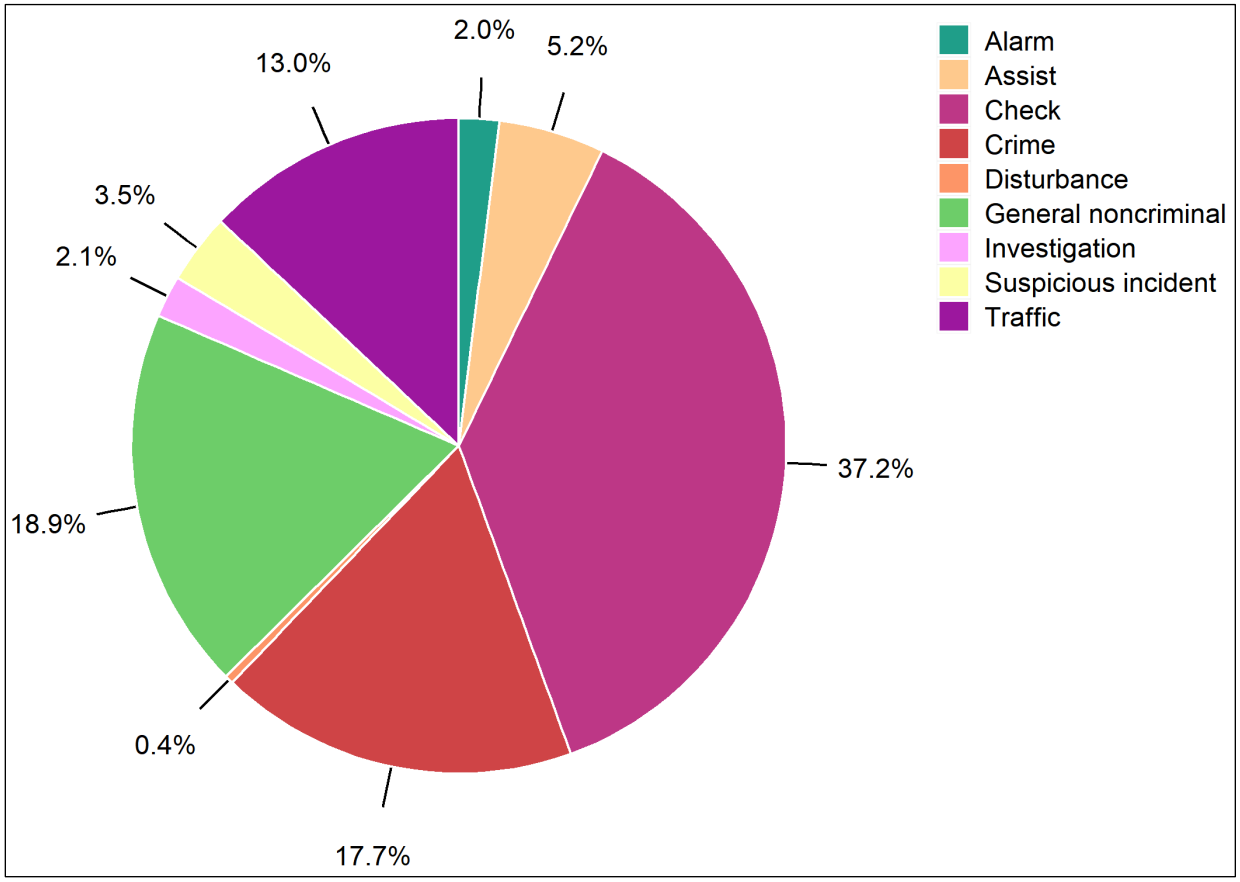
Category	No. of Events	Events per Day
Accident	51	0.1
Alarm	133	0.4
Animal	220	0.6
Assist other agency	351	1.0
Check	2,699	7.4
Crime–person	429	1.2
Crime–property	928	2.5
Directed patrol	15,574	42.7
Disturbance	30	0.1
Follow-up	42	0.1
Investigation	128	0.4
Juvenile	10	0.0
Miscellaneous	616	1.7
Permit	523	1.4
Suspicious incident	240	0.7
Traffic enforcement	837	2.3
Warrant	4	0.0
Total	**22,815**	**62.5**

Note: Observations below refer to events shown within the figure rather than the table.

Observations:

- The top four categories accounted for 92 percent of events.
- Directed patrol (and officer-generated or self-generated) activities represent the bulk of the events and consume most of the occupied time. District officers must be able to work throughout an expansive district and remain engaged without direct supervision.

FIGURE 5-2: Percentage Calls per Day, by Category



Note: The figure combines categories in the following table according to the description in Chart 8-1.

TABLE 5-2: Calls per Day, by Category

Category	No. of Calls	Calls per Day
Accident	48	0.1
Alarm	130	0.4
Animal	208	0.6
Assist other agency	340	0.9
Check	2,447	6.7
Crime–person	364	1.0
Crime–property	800	2.2
Disturbance	28	0.1
Follow-up	41	0.1
Investigation	126	0.3
Juvenile	10	0.0
Miscellaneous	573	1.6
Permit	421	1.2
Suspicious incident	227	0.6
Traffic enforcement	805	2.2
Warrant	4	0.0
Total	**6,572**	**18.0**

Note: The focus here is on recorded calls rather than recorded events. We removed 15,574 directed patrol activities and additional 669 events with zero time on events.

Observations:

- On average, there were 18.0 calls per day, or 1.1 per hour (from 7:00 a.m. to midnight).
- The top four categories accounted for 87 percent of calls:
  - 37 percent of calls were checks.
  - 19 percent of calls were general noncriminal calls.
  - 18 percent of calls were crimes.
  - 13 percent of calls were traffic-related.

FIGURE 5-3: Calls per Day, by Initiator and Month

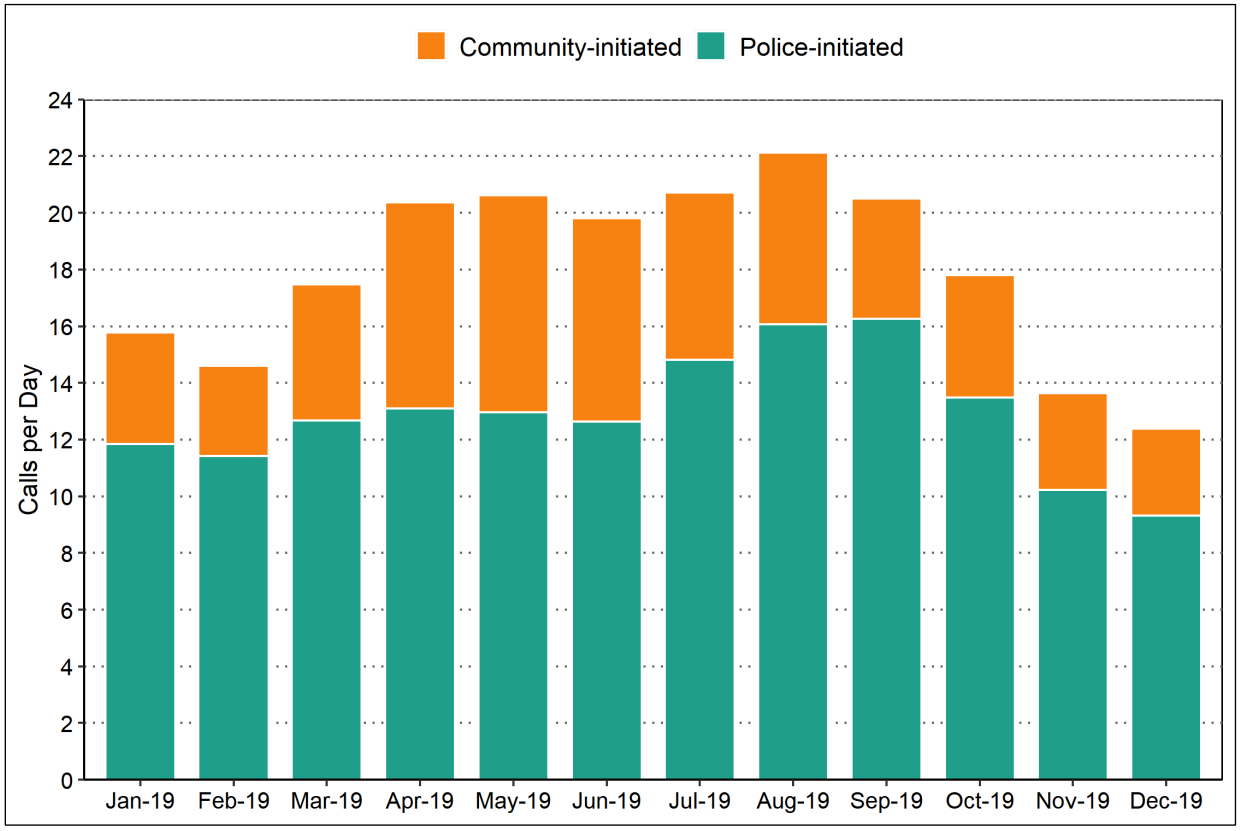


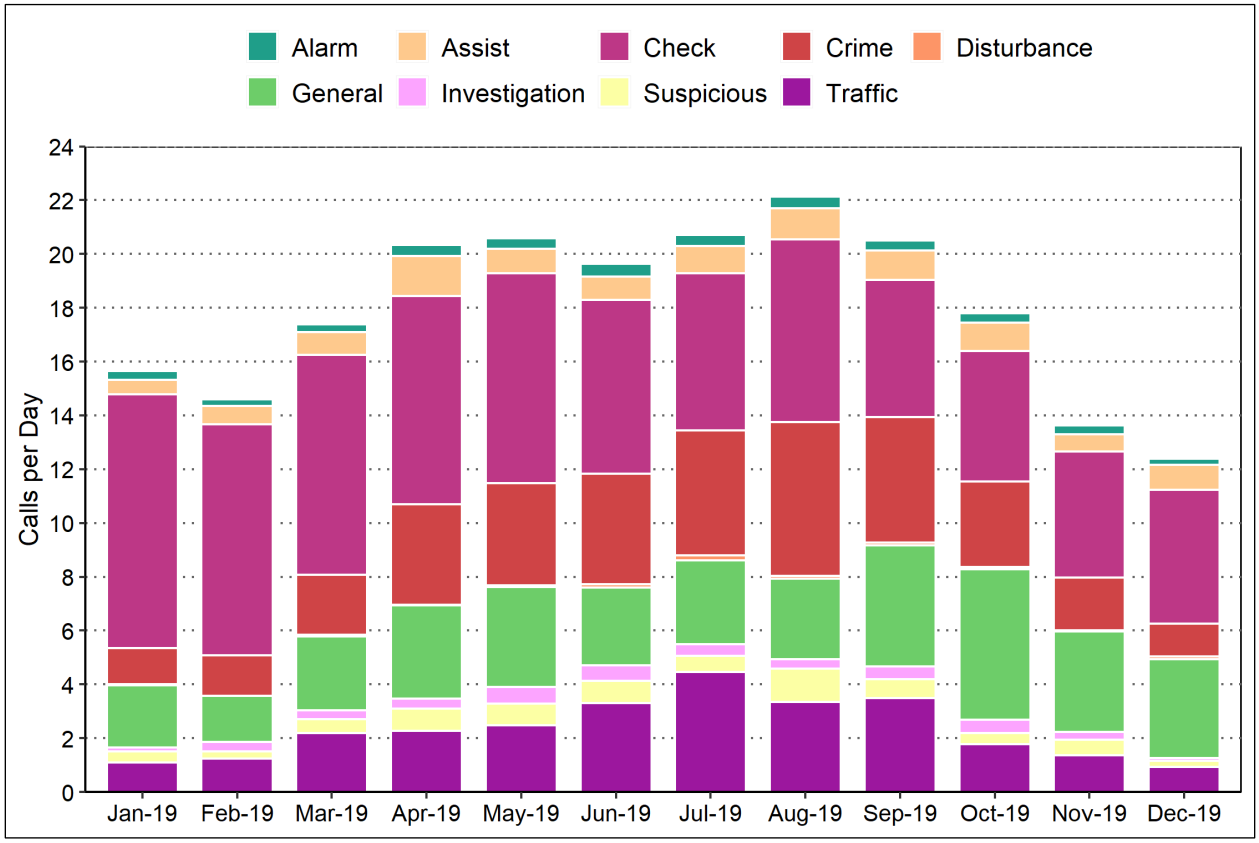
TABLE 5-3: Calls per Day, by Initiator and Month

Initiator	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Community-initiated	3.9	3.2	4.8	7.3	7.6	7.2	5.9	6.1	4.2	4.3	3.4	3.1
Police-initiated	11.8	11.4	12.7	13.1	13.0	12.6	14.8	16.1	16.3	13.5	10.2	9.3
Total	**15.8**	**14.6**	**17.5**	**20.4**	**20.6**	**19.8**	**20.7**	**22.1**	**20.5**	**17.8**	**13.6**	**12.4**

Observations:

- The number of calls per day was lowest in December.
- The number of calls per day was highest in August.
- The months with the most calls had 79 percent more calls than the months with the fewest calls.
- September had the most **police-initiated calls**, with 74 percent more than December, which had the fewest.
- May had the most **community-initiated calls**, with 149 percent more than December, which had the fewest.

FIGURE 5-4: Calls per Day, by Category and Month



Note: The figure combines categories in the following table according to the description in Chart 8-1.

TABLE 5-4: Calls per Day, by Category and Month

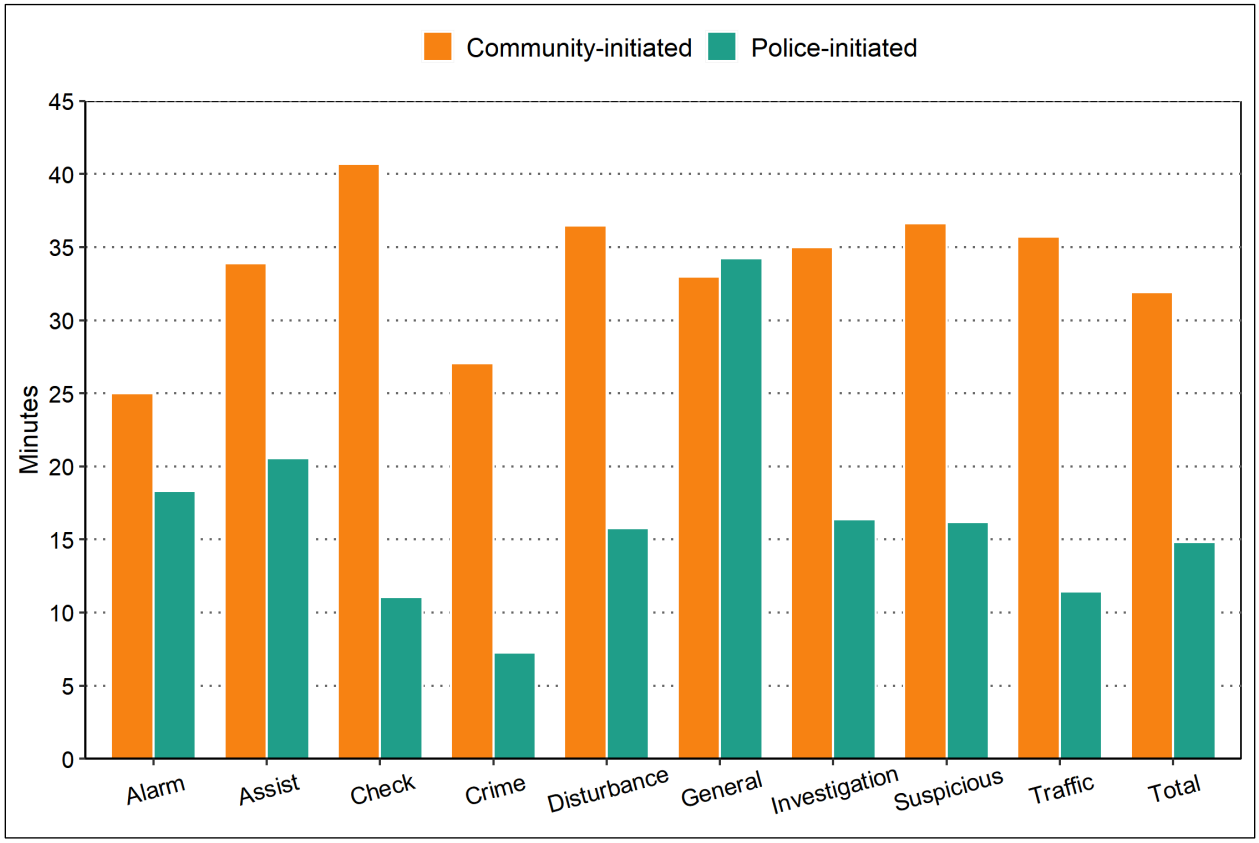
Category	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Accident	0.1	0.1	0.0	0.0	0.1	0.1	0.3	0.2	0.1	0.1	0.3	0.2
Alarm	0.4	0.2	0.3	0.4	0.4	0.5	0.4	0.4	0.4	0.4	0.3	0.2
Animal	0.3	0.3	0.5	0.7	0.9	0.9	0.6	0.6	0.5	0.5	0.5	0.5
Assist other agency	0.5	0.6	0.8	1.5	0.9	0.9	1.0	1.2	1.1	1.0	0.6	0.9
Check	9.5	8.6	8.2	7.7	7.8	6.5	5.8	6.8	5.1	4.8	4.7	5.0
Crime–person	0.3	0.5	0.7	0.7	1.3	1.1	2.2	2.0	1.8	0.6	0.4	0.4
Crime–property	1.0	1.0	1.5	3.0	2.5	3.0	2.5	3.7	2.9	2.5	1.6	0.9
Disturbance	0.0	0.0	0.1	0.0	0.1	0.1	0.2	0.1	0.1	0.1	0.0	0.1
Follow-up	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.5	0.1	0.3
Investigation	0.1	0.4	0.3	0.3	0.5	0.5	0.4	0.3	0.5	0.5	0.3	0.0
Juvenile	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1
Miscellaneous	1.4	0.8	1.1	1.5	1.3	0.9	0.8	0.9	2.1	3.5	2.2	2.4
Permit	0.7	0.6	1.2	1.2	1.5	1.2	1.6	1.3	1.8	1.1	0.9	0.5
Suspicious incident	0.4	0.2	0.5	0.8	0.8	0.8	0.6	1.2	0.7	0.4	0.6	0.2
Traffic enforcement	1.0	1.2	2.2	2.3	2.4	3.2	4.2	3.2	3.4	1.7	1.1	0.7
Warrant*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	**15.8**	**14.6**	**17.5**	**20.4**	**20.6**	**19.8**	**20.7**	**22.1**	**20.5**	**17.8**	**13.6**	**12.4**

Note: Calculations were limited to calls rather than events. * There were only 4 warrant calls in 2019.

Observations:

- The top four categories averaged between 85 and 91 percent of calls throughout the year:
  - Check calls averaged between 4.7 and 9.5 calls per day throughout the year.
  - General noncriminal calls averaged between 1.7 and 5.6 calls per day throughout the year.
  - Crime calls averaged between 1.2 and 5.7 calls per day throughout the year.
  - Traffic calls averaged between 0.9 and 4.5 calls per day throughout the year.
- **Crime calls accounted for 9 to 26 percent of total calls.**

FIGURE 5-5: Primary Unit's Average Occupied Times, by Category and Initiator



Note: The figure combines categories using weighted averages from the following table according to the description in Chart 8-1. For this graph and the following Table 5-5, we removed six calls with an inaccurate busy time.

CPSM analyzed what the primary unit assigned to a call consumed in available time according to various call types. This figure demonstrates that police-initiated calls engage officers much of the time.

TABLE 5-5: Primary Unit's Average Occupied Times, by Category and Initiator

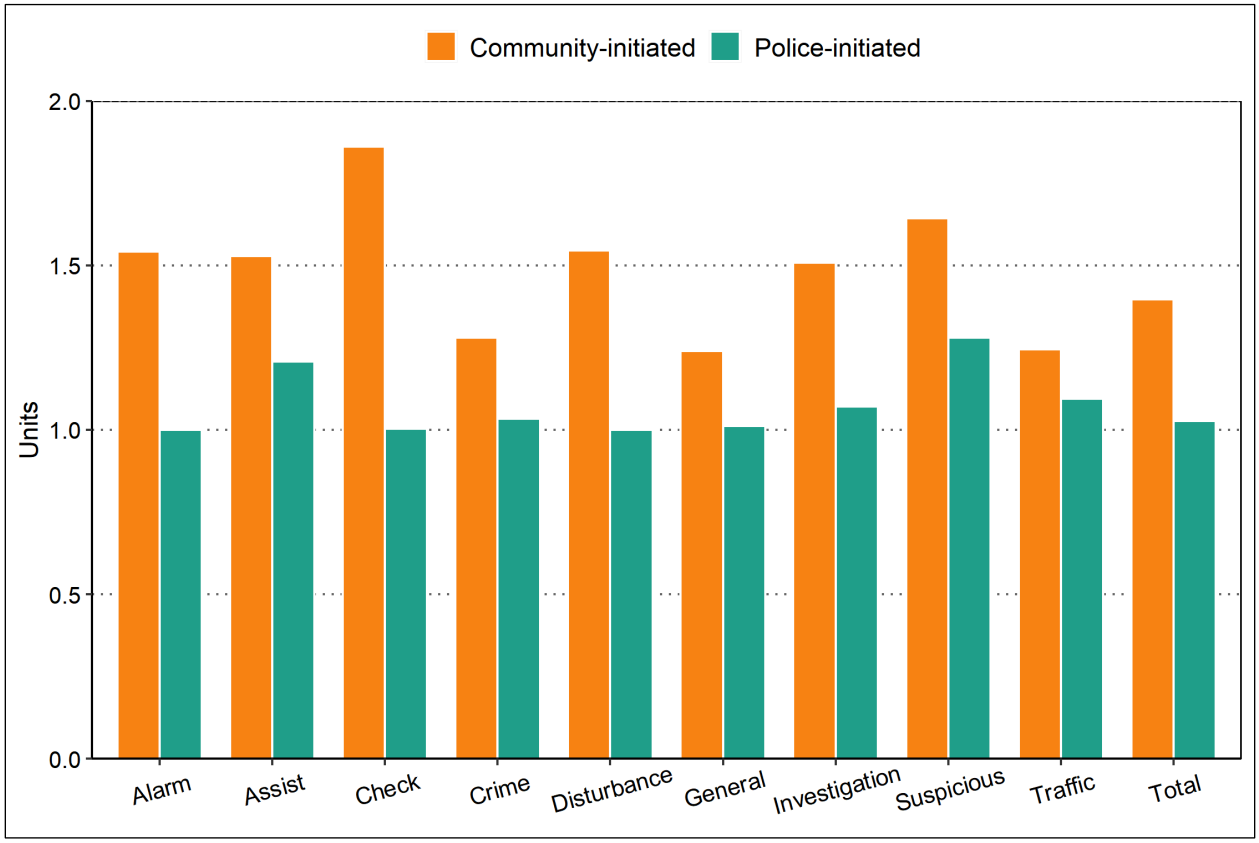
Category	Community-Initiated		Police-Initiated	
	Minutes	Calls	Minutes	Calls
Accident	46.2	43	49.5	5
Alarm	25.0	129	18.3	1
Animal	38.5	178	9.0	30
Assist other agency	33.8	289	18.4	51
Check	40.7	43	11.1	2,404
Crime–person	31.4	160	8.5	204
Crime–property	25.1	346	6.7	454
Disturbance	36.5	22	15.8	6
Follow-up	11.8	2	29.6	39
Investigation	36.2	112	16.4	14
Juvenile	22.3	10	NA	0
Miscellaneous	31.6	190	68.4	377
Permit	13.9	35	3.3	386
Suspicious incident	36.6	202	16.2	25
Traffic enforcement	31.0	96	11.2	709
Warrant	51.6	2	74.5	2
Weighted Average/Total Calls	**31.9**	**1,859**	**14.8**	**4,707**

Note: The information in Figure 5-5 and Table 5-5 is limited to calls and excludes all events that show zero time on scene. A unit's occupied time is measured as the time from when the unit was dispatched until the unit becomes available again. The times shown are the average occupied minutes per call for the primary unit, rather than the total occupied minutes for all units assigned to a call. Observations below refer to times shown within the figure rather than the table.

Observations:

- A unit's average time spent on a call ranged from 7 to 41 minutes overall.
- The longest average times were for community-initiated check calls.
- The average time spent on crime calls was 27 minutes for community-initiated calls and 7 minutes for police-initiated calls.

FIGURE 5-6: Number of Responding Units, by Initiator and Category



Note: The figure combines categories using weighted averages from the following table according to the description in Chart 8-1.

One of the characteristics of a well-run and supervised department is that of the number of units responding to various calls for service. In unsupervised or departments that are not well run, all available units often respond to all calls received even when those numbers are not required.

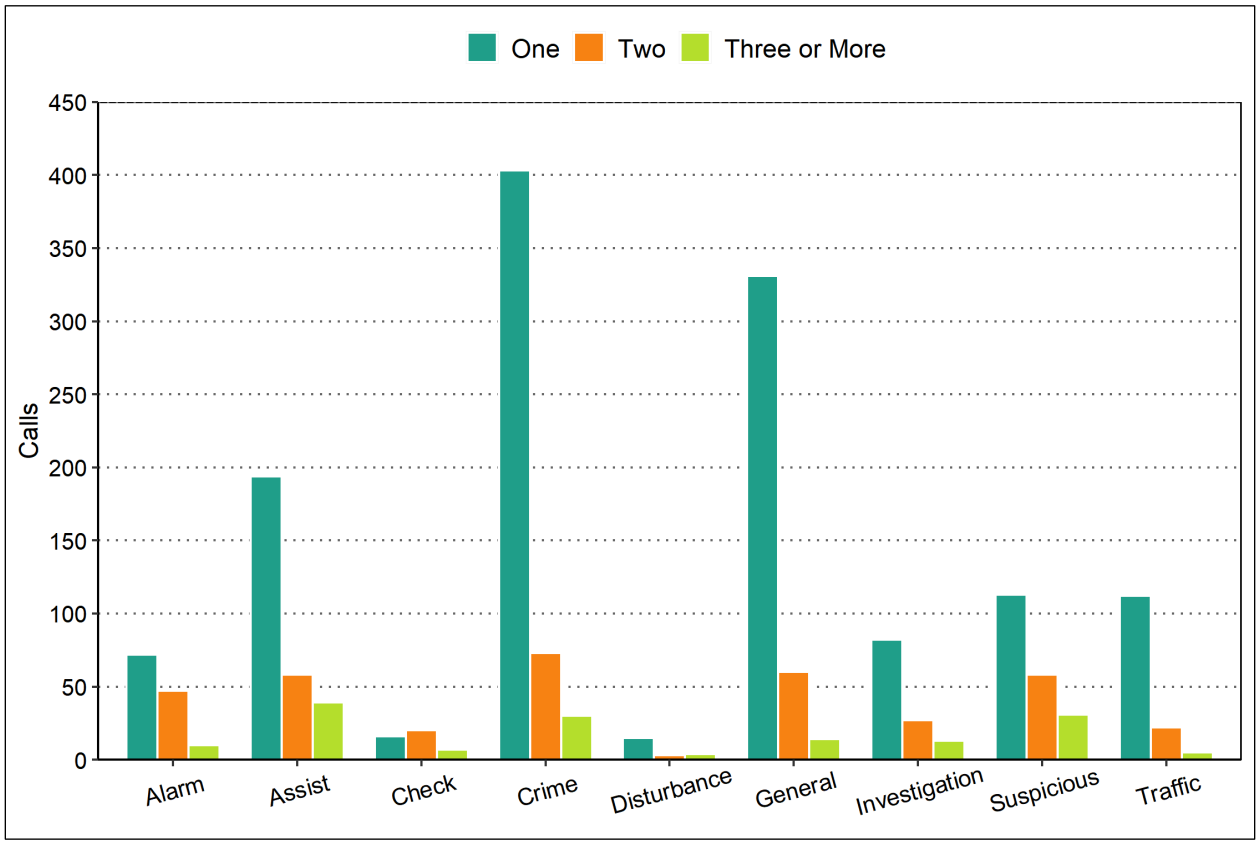
In looking at the units that responded to calls in our study, calls for crimes and checks of persons or property received higher levels of response, which is expected in a well-managed department.

TABLE 5-6: Average Number of Responding Units, by Initiator and Category

Category	Community-Initiated		Police-Initiated	
	No. of Units	Calls	No. of Units	Calls
Accident	1.4	43	1.8	5
Alarm	1.5	129	1.0	1
Animal	1.2	178	1.0	30
Assist other agency	1.5	289	1.2	51
Check	1.9	43	1.0	2,404
Crime–person	1.5	160	1.1	204
Crime–property	1.2	346	1.0	454
Disturbance	1.5	22	1.0	6
Follow-up	1.5	2	1.2	39
Investigation	1.5	112	1.1	14
Juvenile	1.3	10	NA	0
Miscellaneous	1.3	190	1.0	383
Permit	1.1	35	1.0	386
Suspicious incident	1.6	202	1.3	25
Traffic enforcement	1.2	96	1.1	709
Warrant	2.5	2	2.5	2
Weighted Average/Total Calls	**1.4**	**1,859**	**1.0**	**4,713**

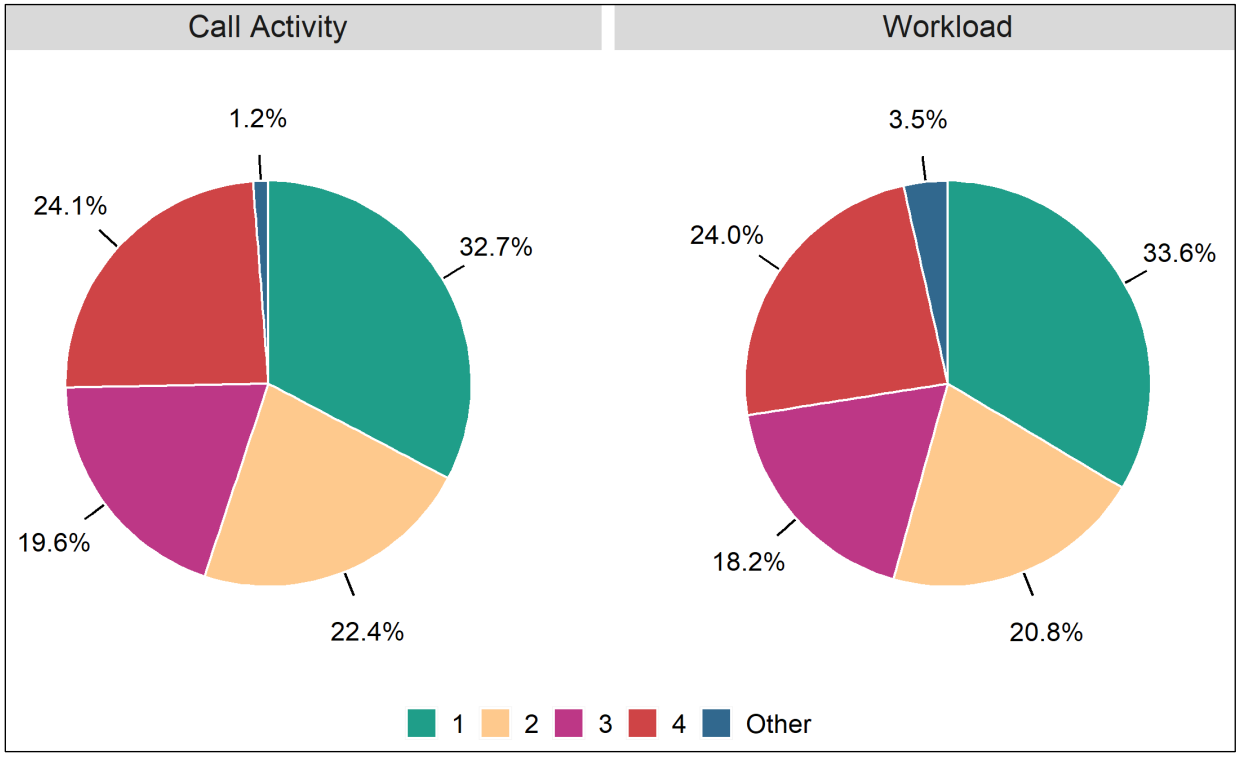
Note: The information in Figure 5-6 and Table 5-6 is limited to calls and excludes all events that show zero time on scene. Observations refer to the number of responding units shown within the figure rather than the table.

FIGURE 5-7: Number of Responding Units, by Category, Community-initiated Calls



Note: The figure combines categories using weighted averages from the following table according to the description in Chart 8-1.

FIGURE 5-8: Percentage Calls and Work Hours, by Sector



Note: The "Other" category included 44 calls at department headquarters and 40 calls that could not be identified to a sector.

TABLE 5-7: Calls and Work Hours by Top Locations, By Sector, per Day

Locations	Per Day	
	Calls	Work Hours
Blackwell	2.5	0.7
Danada	0.8	0.7
Herrick Lake	0.6	0.2
Springbrook Prairie	0.7	0.2
St James Farm	0.5	0.1
Miscellaneous	0.7	0.4
Sector 1 Total	**5.9**	**2.4**
Hawk Hollow	0.3	0.1
Mallard Lake	0.8	0.3
Pratts Wayne Woods	0.6	0.2
Timber Ridge	0.7	0.2
West Branch	0.9	0.3
Miscellaneous	0.8	0.5
Sector 2 Total	**4.0**	**1.5**
Churchill Woods	0.8	0.3
East Branch	0.8	0.2
Oak Meadows	0.3	0.1
Songbird Slough	0.2	0.1
Wood Dale Grove	0.2	0.1
Miscellaneous	1.0	0.5
Sector 3 Total	**3.5**	**1.3**
Fullersburg Woods	0.7	0.2
Greene Valley	1.2	0.4
Hidden Lake	0.3	0.1
Mayslake	0.5	0.2
Waterfall Glen	0.9	0.4
Miscellaneous	0.8	0.4
Sector 4 Total	**4.3**	**1.7**
HQ	0.1	0.2
Unknown	0.1	0.0
Total	**18.0**	**7.2**

Note: This table included the top five most popular locations for each sector, with other lower frequency locations grouped within each sector as a miscellaneous category.

Observations:

- The District uses sectors to track calls for service and the information tracked by dispatch. The analysis showed that the sectors were well balanced when comparing workload. When setting up sectors, precincts, or districts, the ideal is to achieve approximately the same workload and time demands for each so that staff do not burn out when assigned to one or find themselves with more workload than available time.

- Sector 1 had the most calls (5.9 per day) and workload (2.4 hours per day), and it accounted for 33 percent of total calls and 34 percent of total workload.
- Excluding the "other" category, an even distribution would allot 4.4 calls and 1.7 work hours per sector.

FIGURE 5-9: Percentage Calls and Work Hours, by Category, Winter 2019

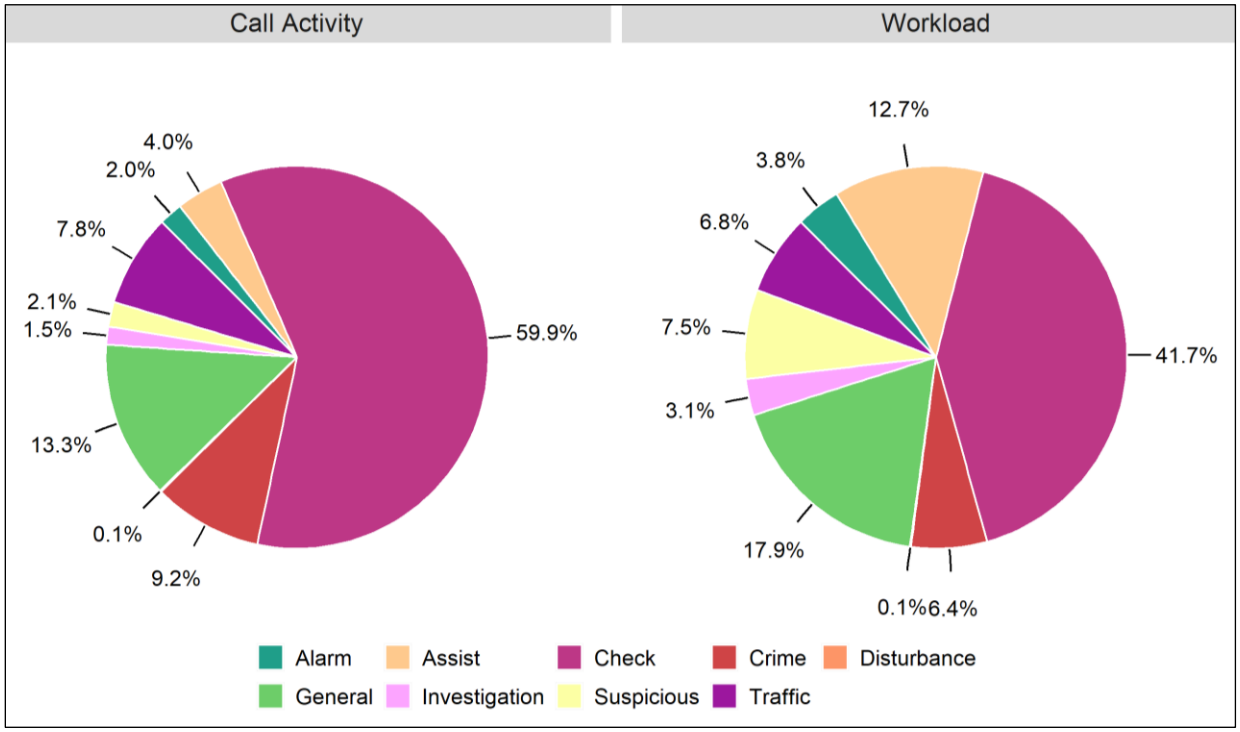


TABLE 5-8: Calls and Work Hours per Day, by Category, Winter 2019

Category	Per Day	
	Calls	Work Hours
Accident	0.1	0.1
Alarm	0.3	0.2
Animal	0.3	0.1
Assist other agency	0.6	0.5
Check	9.2	1.7
Crime–person	0.4	0.1
Crime–property	1.0	0.2
Disturbance	0.0	0.0
Investigation	0.2	0.1
Miscellaneous	1.1	0.6
Permit	0.7	0.0
Suspicious incident	0.3	0.3
Traffic enforcement	1.1	0.2
Warrant*	0.0	0.0
Total	**15.3**	**4.0**

Note: Workload calculations focused on calls rather than events.
*There was only one warrant call in winter 2019.

Observations, Winter:

- Total calls averaged 15 per day, or 0.9 per hour (from 7:00 a.m. to midnight).
- Total workload averaged 4 hours per day, meaning that on average 0.2 officers per hour were busy responding to calls.
- Check calls constituted 60 percent of calls and 42 percent of workload.
- General noncriminal calls constituted 13 percent of calls and 18 percent of workload.
- Crime calls constituted 9 percent of calls and 6 percent of workload.
- Traffic calls constituted 8 percent of calls and 7 percent of workload.
- These top four categories constituted 90 percent of calls and 73 percent of workload.

FIGURE 5-10: Percentage Calls and Work Hours, by Category, Summer 2019

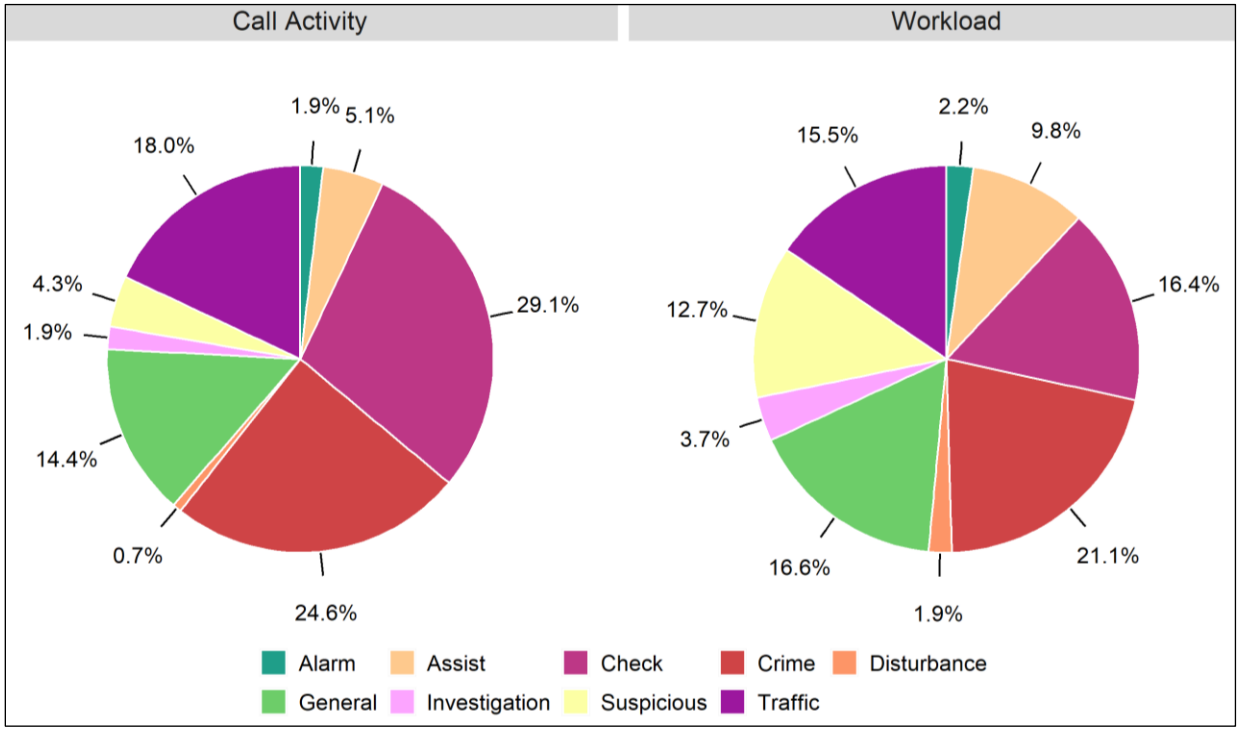


TABLE 5-9: Calls and Work Hours per Day, by Category, Summer 2019

Category	Per Day	
	Calls	Work Hours
Accident	0.2	0.3
Alarm	0.4	0.2
Animal	0.6	0.4
Assist other agency	1.1	0.7
Check	6.3	1.3
Crime–person	2.1	0.9
Crime–property	3.2	0.8
Disturbance	0.2	0.2
Follow-up	0.1	0.1
Investigation	0.4	0.3
Juvenile	0.0	0.0
Miscellaneous	0.9	0.8
Permit	1.5	0.1
Suspicious incident	0.9	1.0
Traffic enforcement	3.7	0.9
Warrant*	0.0	0.0
Total	**21.7**	**8.0**

Note: Workload calculations focused on calls rather than events.
* There was only one warrant call in summer 2019.

Observations, Summer:

- The average number of calls per day and the average daily workload was higher in summer than in winter.
- Total calls averaged 22 per day, or 1.3 per hour (from 7:00 a.m. to midnight).
- The total workload averaged 8 hours per day, meaning that on average 0.5 officers per hour were busy responding to calls.
- Check calls constituted 29 percent of calls and 16 percent of workload.
- General noncriminal calls constituted 14 percent of calls and 17 percent of workload.
- Crime calls constituted 25 percent of calls and 21 percent of workload.
- Traffic calls constituted 18 percent of calls and 15 percent of workload.
- These top four categories constituted 86 percent of calls and 70 percent of workload.

Out-of-Service Activities and Directed Patrol Calls

In the period from January 1, 2019, through December 31, 2019, the dispatch center recorded activities that were not assigned a call number. We focused on those activities that involved a patrol unit. We also limited our analysis to noncall activities that occurred during shifts where the same patrol unit was also responding to calls for service. Each record only indicates one unit per activity. There were a few problems with the data provided and we made assumptions and decisions to address these issues:

- We excluded activities that lasted less than 30 seconds. These are irrelevant and contribute little to the overall workload.
- Another portion of the recorded activities lasted more than eight hours. As an activity is unlikely to last more than eight hours, we assumed that these records were inaccurate.
- After these exclusions, 21,980 activities remained. These activities had an average duration of 24.8 minutes.

In this section, we report out-of-service activities and workload by type of activity. In the next section, we include these activities in the overall workload when comparing the total workload against available personnel in winter and summer.

Also, directed patrol events were a significant portion (68 percent) of CAD records in 2019. They were excluded from the bulk of our earlier analysis as they are nearly always police-initiated and include only a single responding unit. Directed patrol record keeping increased dramatically when CAD systems were switched. The latter portion of this section provides a basic analysis of directed patrol events.

CPSM analyzes this information to determine if there is an inordinate amount of time spent on activities that are outside normal police ranges. For purposes of this analysis, CPSM found activities tracked and within ranges. Again, the District police force has duties unlike most municipal departments, with a high level of interaction and patrol to ensure user safety.

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TABLE 5-10: Activities and Occupied Times by Description

CAD	Status	Description	Occupied Time	Count
Motorola	US06	Busy unless urgent	47.7	104
	US07	Out of service	31.2	92
	USAD	Administrative duties	52.8	551
	USBP	Bike patrol	26.7	176
	USCD	Civil disturbance	4.1	3
	USCL	Closing(park)	13.4	3,142
	USCT/ USLC	Court/ Local court	81.6	42
	USCW	Car wash	10.3	114
	USDT	Detail	83.4	22
	USEM	Equipment maintenance	19.6	256
	USFO	Follow-up	29.6	49
	USFP	Foot patrol	27.6	1,267
	USHQ	At station	63.1	590
	USLC	Local court	27.2	1
	USLU	Lunch/dinner	28.1	380
	USMG	Meeting	94.4	63
	USOV	Out of vehicle	30.9	186
	USPC	Premise check	17.6	2
	USRC	Roll call	83	85
	USRG	Range	109.4	52
	USRR	Railroaded	4.6	2
	USSA	Special assignment	47	63
	USTC	Traffic control	11.8	1
	USTN	Training	113.2	70
	USVM	Vehicle maintenance	16.5	572
	USVP	Vehicle patrol	21.8	11,252
	USVW	Vehicle wash	8.5	9
	USWC	Wheaton court	60.5	6
	USWS	Warrant service	27.1	1
	Subtotal		**24.6**	**19,153**
Hexagon	OS	Administrative*	39.7	105
	OS	At station	31.3	122
	OS	Break	24.6	40
	OS	Miscellaneous location	20.2	364
	OS	Special assignment**	39.5	48
	OS	No details	26.4	2,148
	Subtotal		**26.5**	**2,827**
Weighted Average/Total Activities			**24.8**	**21,980**

**Note: ***Administrative category included activities such as meeting, training, report writing, and court-related activities. **Special assignment category included activities such as follow-up, special event, range, and deer program activities.

FIGURE 5-11: Activities per Day, by Month and System

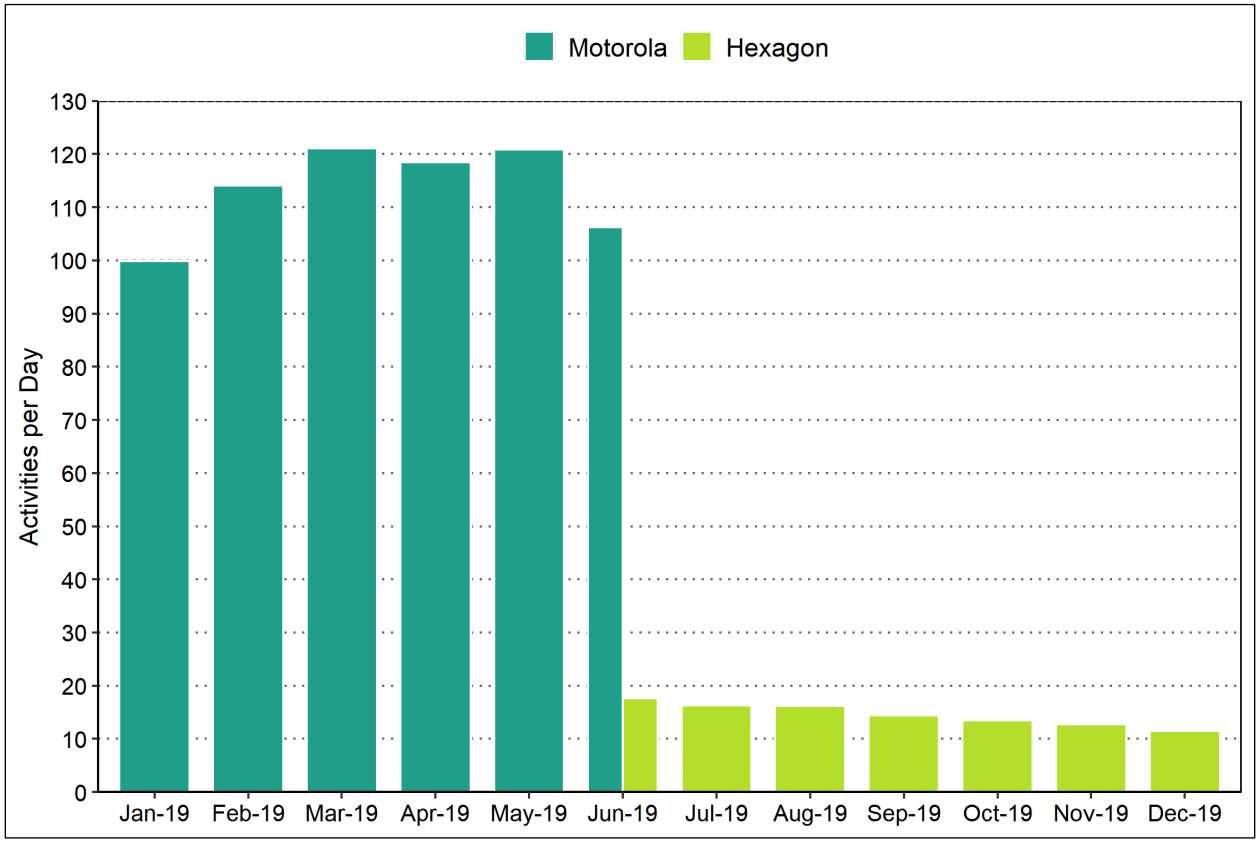

TABLE 5-11: Activities per Day, by Month

Month	Jan	Feb	Mar	Apr	May	Jun-M	Jun-H	Jul	Aug	Sep	Oct	Nov	Dec
Activities per Day	99.9	114.1	121.1	118.5	120.9	106.3	17.6	16.3	16.2	14.5	13.5	12.8	11.5
Hours per Day	44.5	47.6	47.5	48.6	47.6	42.5	6.6	6.2	7.2	7.3	5.8	6.1	5.4

Note: The first 17 days of June are included in "Jun-M" and the last 13 days are included in "Jun-H."

Observations:

- Before June 18, 2019, the most common out of service activity was vehicle patrol.
- From June 18, 2019, the most common out of service code was "OS" without additional detail.
- Before June 18, 2019, the average time spent per activity was 24.6 minutes.
- From June 18, 2019, the average time spent per activity was 26.5 minutes.
- The number of activities per day was lowest in December.
- The number of activities per day was highest in March.

TABLE 5-12: Directed Patrol Calls and Occupied Times by Description

CAD Type	Description	Occupied Time	Count
Motorola	DIRECTED PATROL	15.8	1,304
	FOOT PATROL	58.3	4
	Subtotal	**16.0**	**1,308**
Hexagon	ATV PATROL	65.1	97
	BIKE PATROL	28.2	358
	BOAT PATROL	59.1	3
	BUILDING CHECK	19.0	165
	CLOSING PARKS	26.7	2,080
	FOOT PATROL	32.8	1,621
	GANG ENFORCEMENT PATROL	0.6	1
	PARKS CHECK	21.2	1,188
	TRAFFIC ENFORCEMENT	22.1	14
	VEHICLE PATROL	26.8	8,555
	Subtotal	**27.2**	**14,082**
Total		**26.2**	**15,390**

Note: We removed 184 zero time on scene events from a total of 15,574 directed patrol calls.

Observations:

- CPSM analyzed and quantified activities related to directed patrol. For municipal departments, these are often lumped into "Community Oriented Policing" and are not tracked. The District records these activities, which is a best practice.
- Before June 18, 2019,
  - The Motorola CAD system recorded 7.8 calls per day.
  - The average time spent per directed patrol call was 16.0 minutes.
  - The directed patrol workload averaged 2.1 hours per day.
- From June 18, 2019,
  - The Hexagon CAD system recorded 71.5 calls per day.
  - The average time spent per directed patrol call was 27.2 minutes.
  - The directed patrol workload averaged 32.4 hours per day. This means that an average of 1.9 officers were busy on directed patrol during a 17-hour day.

FIGURE 5-12: Directed Patrol Calls per Day, by Month

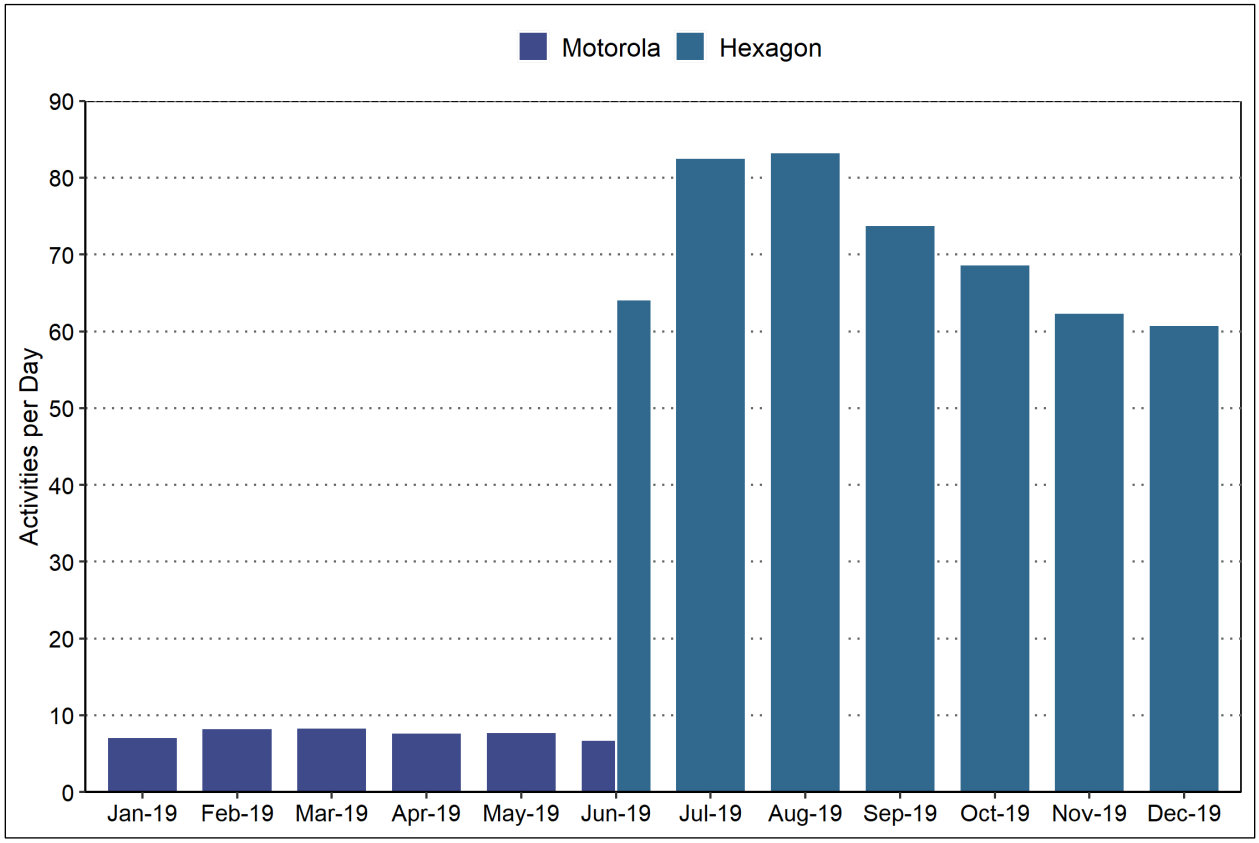

TABLE 5-13: Directed Patrol Calls and Work per Day, by Month

Month	Jan	Feb	Mar	Apr	May	Jun-M	Jun-H	Jul	Aug	Sep	Oct	Nov	Dec
Calls per Day	7.2	8.4	8.4	7.7	7.8	6.8	64.2	82.6	83.3	73.9	68.7	62.4	60.8
Hours per Day	1.9	2.2	2.2	2.1	2.1	1.8	27.0	36.0	38.5	33.3	31.4	29.4	28.0

Note: The first 17 days of June are included in "Jun-M" and the last 13 days are included in "Jun-H."

Observations:

- The number of recorded directed patrol calls per day was much higher after switching CAD systems.
- The number of directed patrol calls per day was highest in July and August.

DEPLOYMENT

For this study, we examined deployment information for eight weeks in winter (January 4 through February 28, 2019) and eight weeks in summer (July 7 through August 31, 2019). The department's main patrol force consists of patrol officers, patrol sergeants, and training/special assignment officers. During 2019, they operated on two shifts. The first shift starts at 7:00 a.m. and ends at 3:00 p.m., while the second shift starts at 2:00 p.m. and ends at midnight. The police department's main patrol force deployed an average of 4.8 units per hour during the 24-hour day in winter 2019 and an average of 5.7 units per hour in summer 2019.

In this section, we describe the deployment and workload in distinct steps, distinguishing between summer and winter and between weekdays (Monday through Friday) and weekends (Saturday and Sunday):

- First, we focus on patrol deployment alone.
- Next, we compare "all" workload, which includes community-initiated calls, police-initiated calls, directed patrol, and out-of-service activities.
- Finally, we compare the workload against deployment by percentage.

Comments follow each set of four figures, with separate discussions for winter and summer.

CPSM takes the analyzed information in the section preceding this and converts the information into "workload." For instance, if one car and one officer are assigned or respond to a call for an hour, that creates one hour of workload out of the total available.

Therefore, for the next calculations, the workload, available time, and out of service times must be compared to determine what is the deployed levels; how does it compare to the "Rule of 60" which guides departments on staffing; and are there scheduling issues.

The District does not staff 24 hours per day. This creates some unique available time displays because of the overlap of the shifts. However, because of the expansiveness of the District and relatively small staff, there are not ways to further minimize this overlap capacity.

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FIGURE 5-13: Deployed Units, Weekdays, Winter 2019

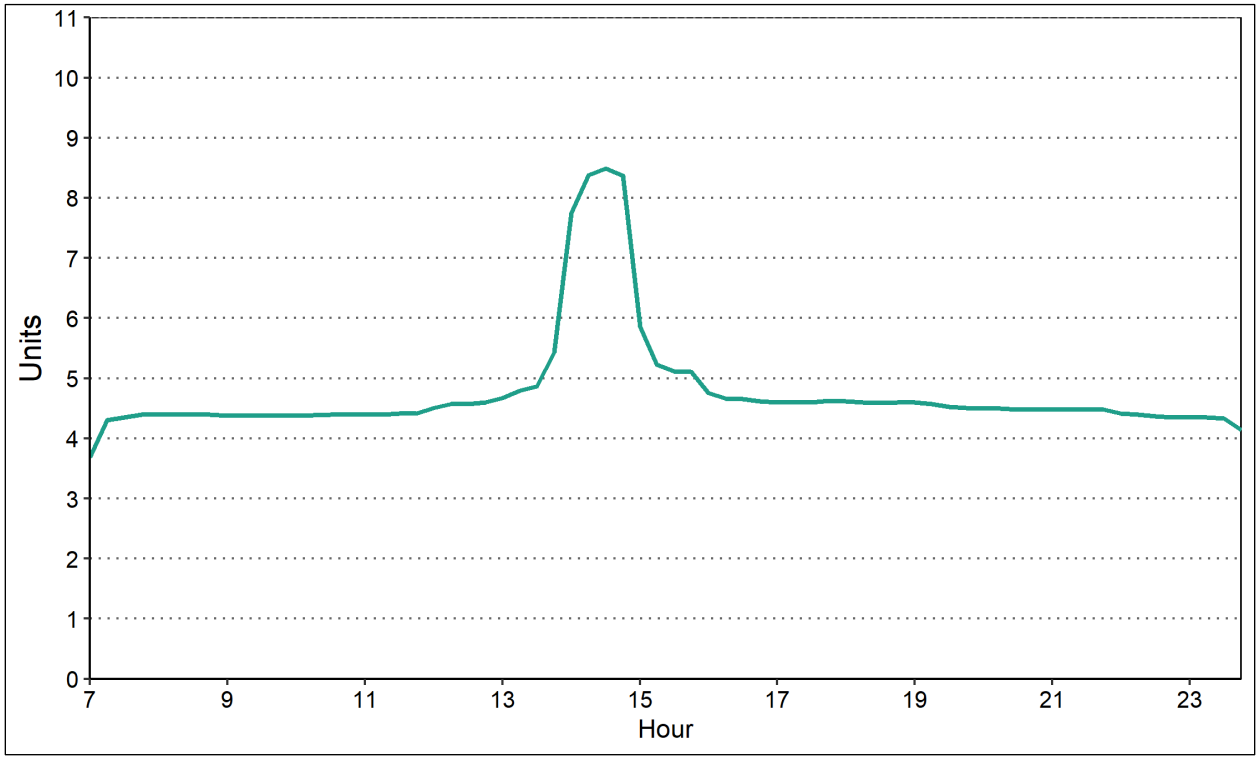


FIGURE 5-14: Deployed Units, Weekends, Winter 2019

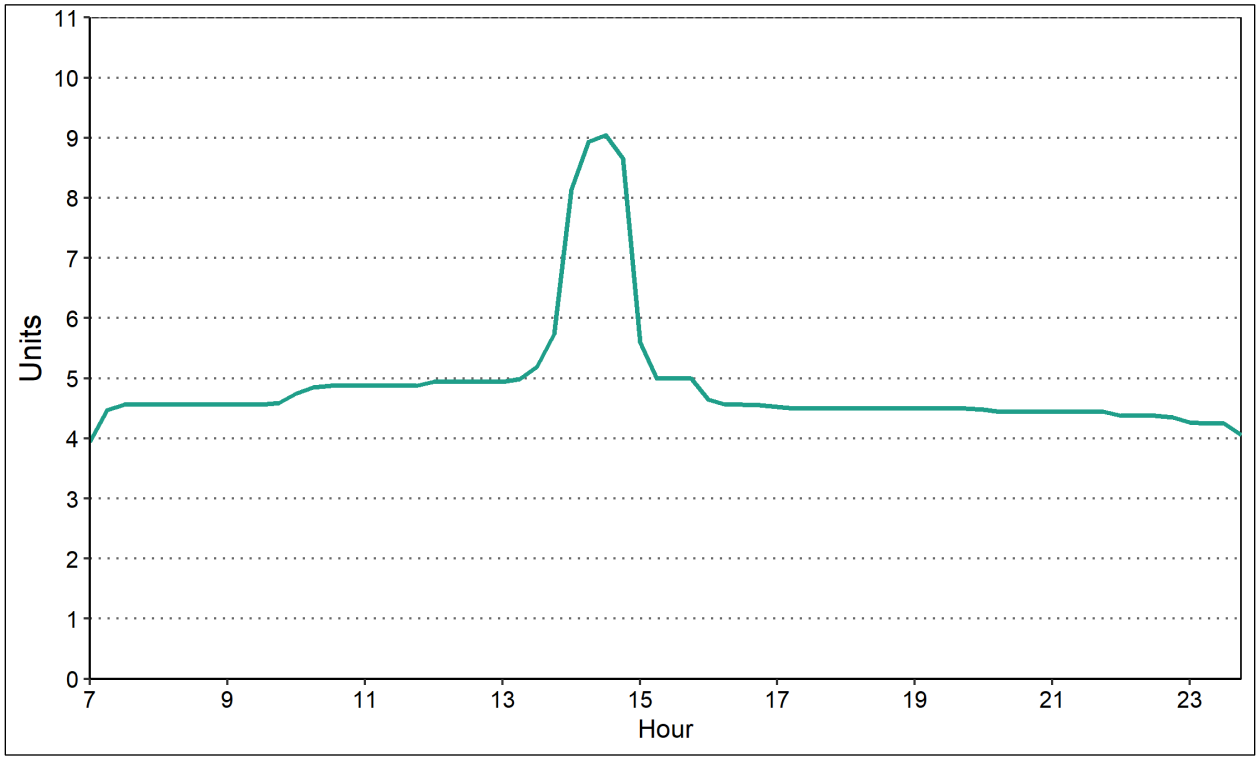


FIGURE 5-15: Deployed Units, Weekdays, Summer 2019

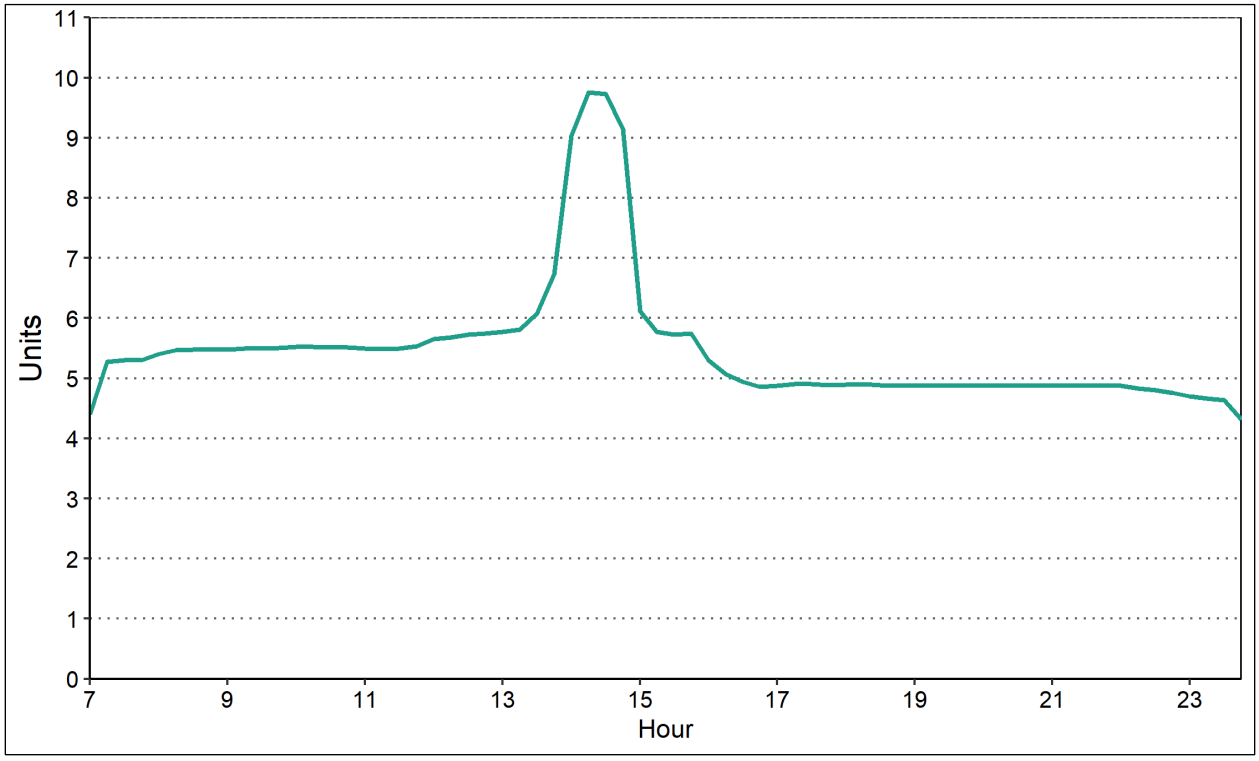
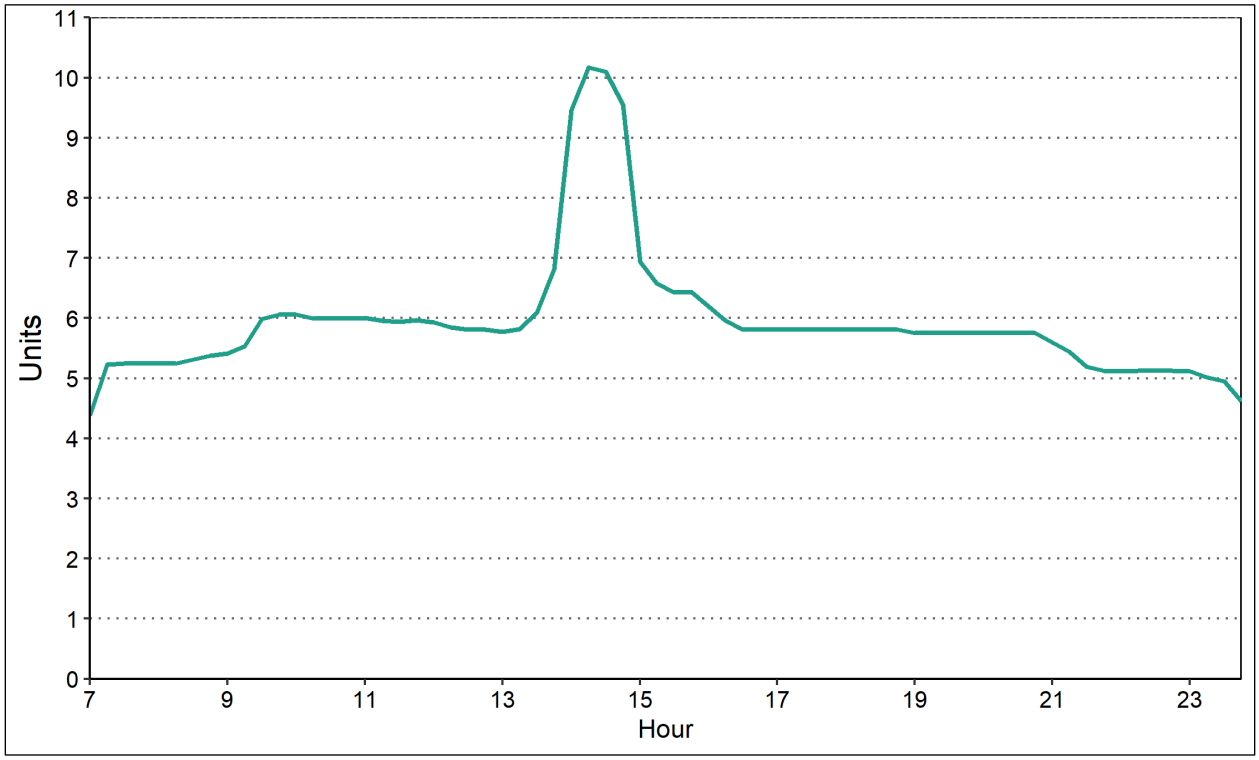


FIGURE 5-16: Deployed Units, Weekends, Summer 2019



Observations:

- For Winter (January 4 through February 28, 2019):
  - The average deployment was 4.8 units per hour during the week and 4.9 units per hour on the weekend.
  - Average deployment varied from 3.7 to 8.5 units per hour on weekdays and 3.9 to 9.1 units per hour on weekends.
- For Summer (July 7 through August 31, 2019):
  - The average deployment was 5.5 units per hour during the week and 5.9 units per hour on the weekend.
  - Average deployment varied from 4.3 to 9.8 units per hour on weekdays and 4.4 to 10.2 units per hour on weekends.

FIGURE 5-17: Deployment and All Workload, Weekdays, Winter 2019

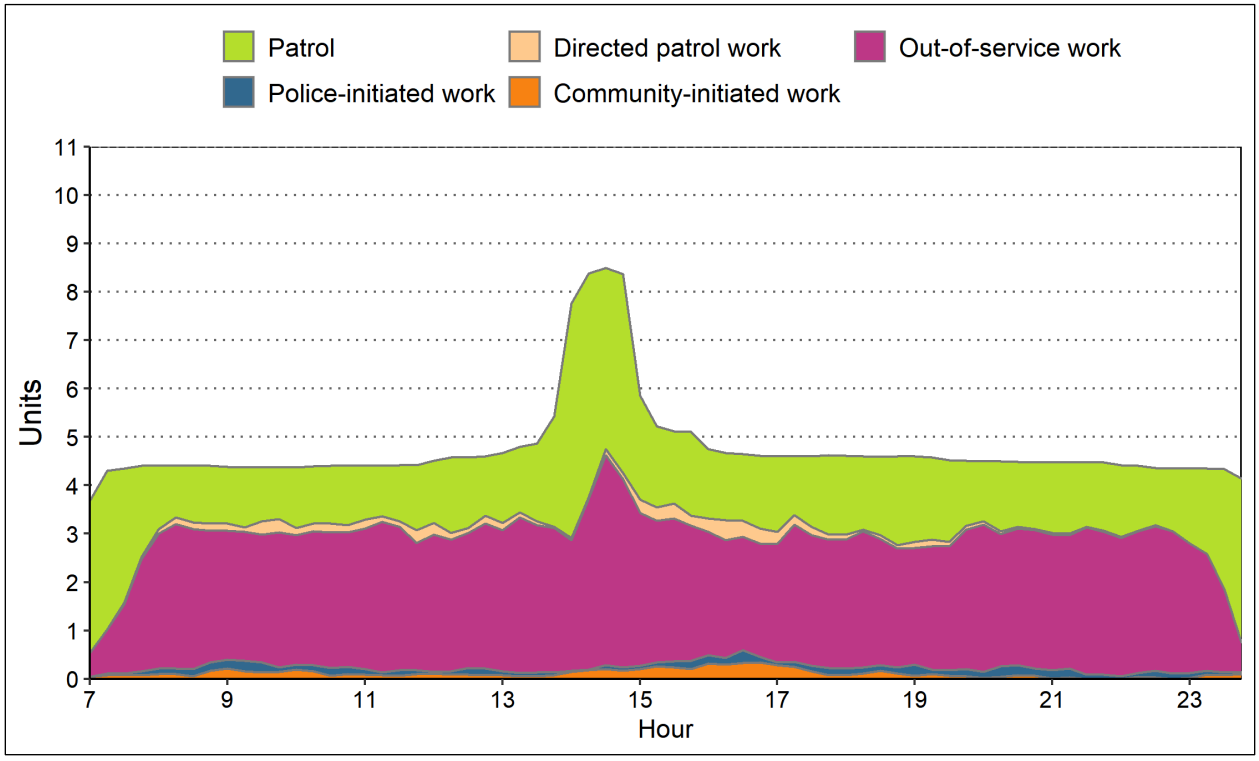


FIGURE 5-18: Deployment and All Workload, Weekends, Winter 2019

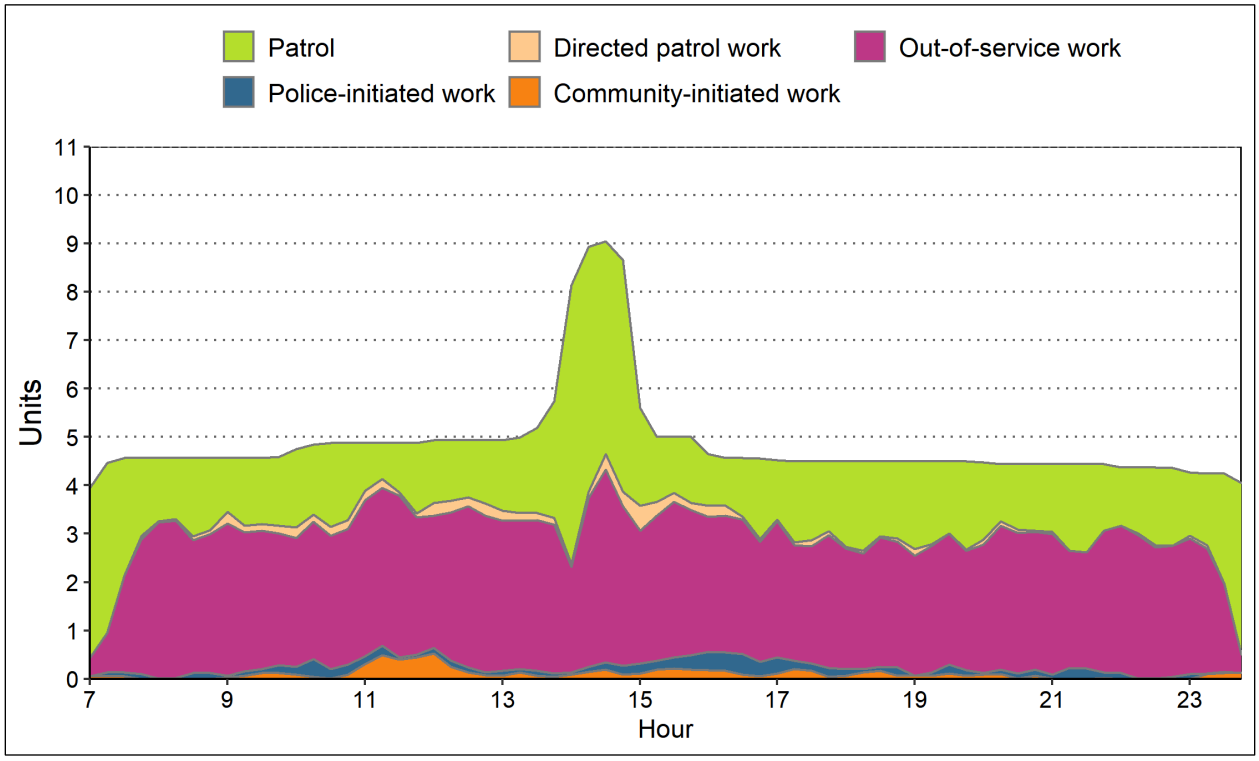


FIGURE 5-19: Deployment and All Workload, Weekdays, Summer 2019

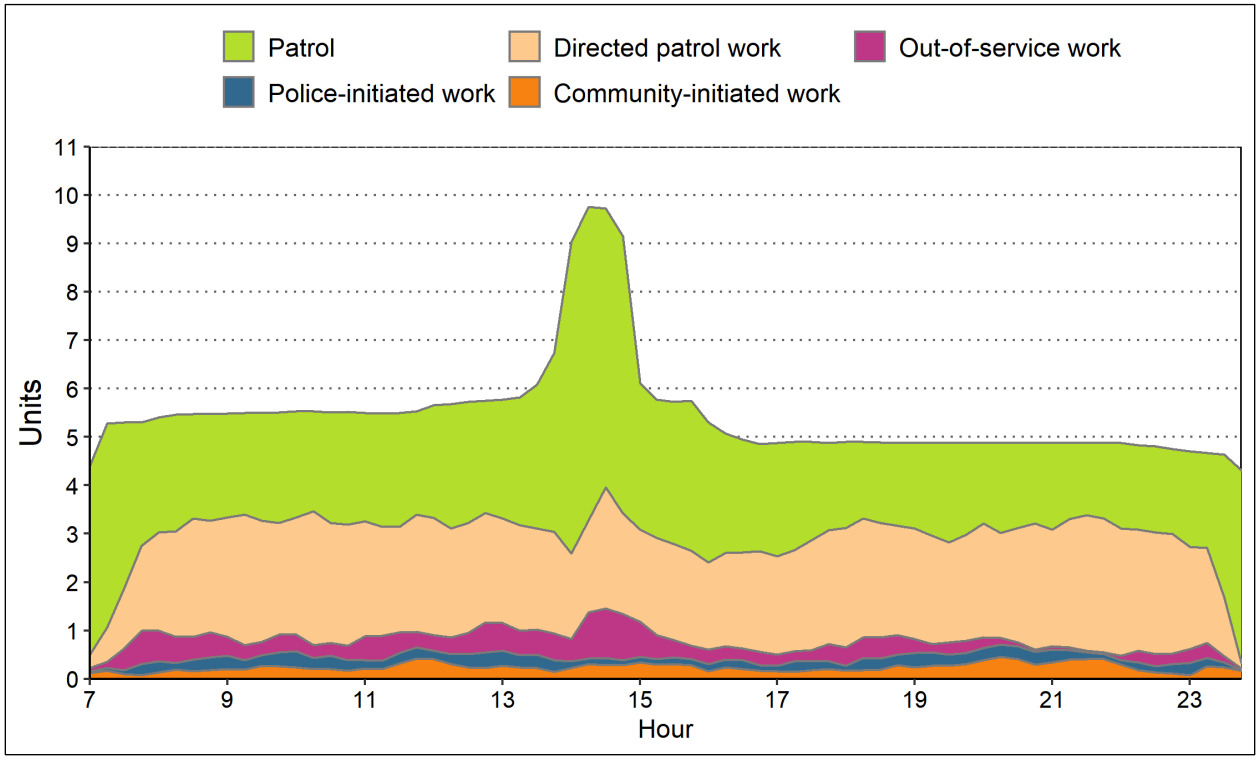
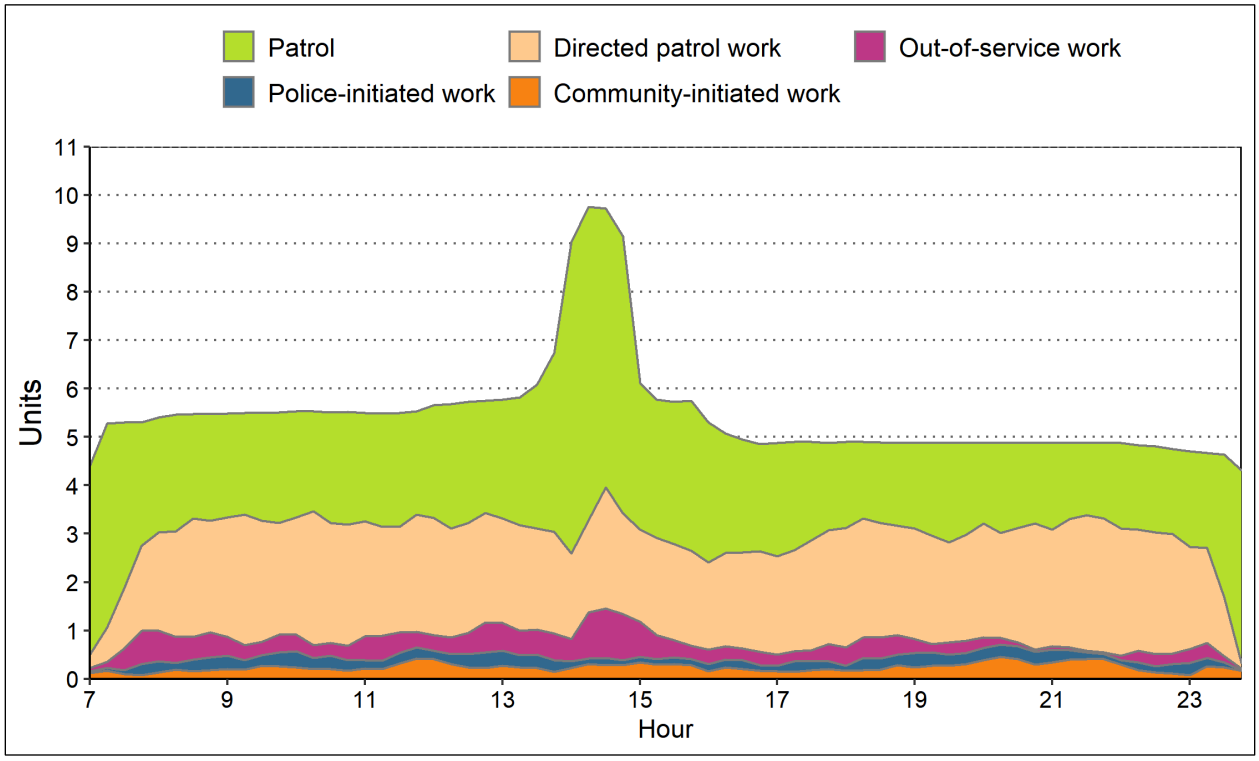


FIGURE 5-20: Deployment and All Workload, Weekends, Summer 2019



Note: Figures 5-17 to 5-20 show deployment along with all workload from community-initiated calls, police-initiated calls, out-of-service work, and directed patrol work.

Observations:

Winter:

- Community-initiated work:
  - Average community-initiated workload was 0.1 units per hour during the week and on weekends.
  - This was approximately 2 percent of hourly deployment during the week and on weekends.
- All work:
  - Average workload was 3.0 units per hour during the week and 3.1 units per hour on weekends.
  - This was approximately 64 percent of hourly deployment during the week and 64 percent of hourly deployment on weekends.

Summer:

- Community-initiated work:
  - Average community-initiated workload was 0.2 units per hour during the week and 0.4 units per hour on weekends.
  - This was approximately 4 percent of hourly deployment during the week and 6 percent of hourly deployment on weekends.
- All work:
  - Average workload was 2.9 units per hour during the week and 3.3 units per hour on weekends.
  - This was approximately 54 percent of hourly deployment during the week and 56 percent of hourly deployment on weekends.

FIGURE 5-21: Percentage of Workload, Weekdays, Winter 2019

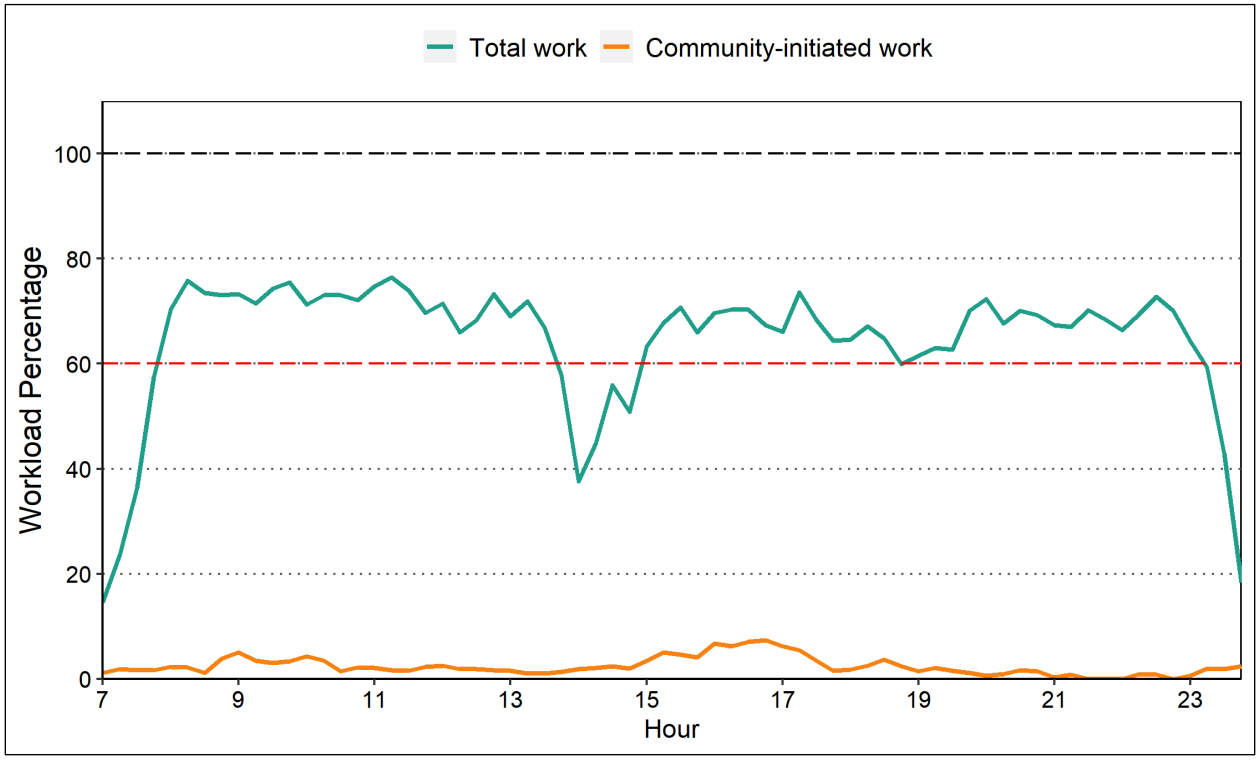


FIGURE 5-22: Percentage of Workload, Weekends, Winter 2019

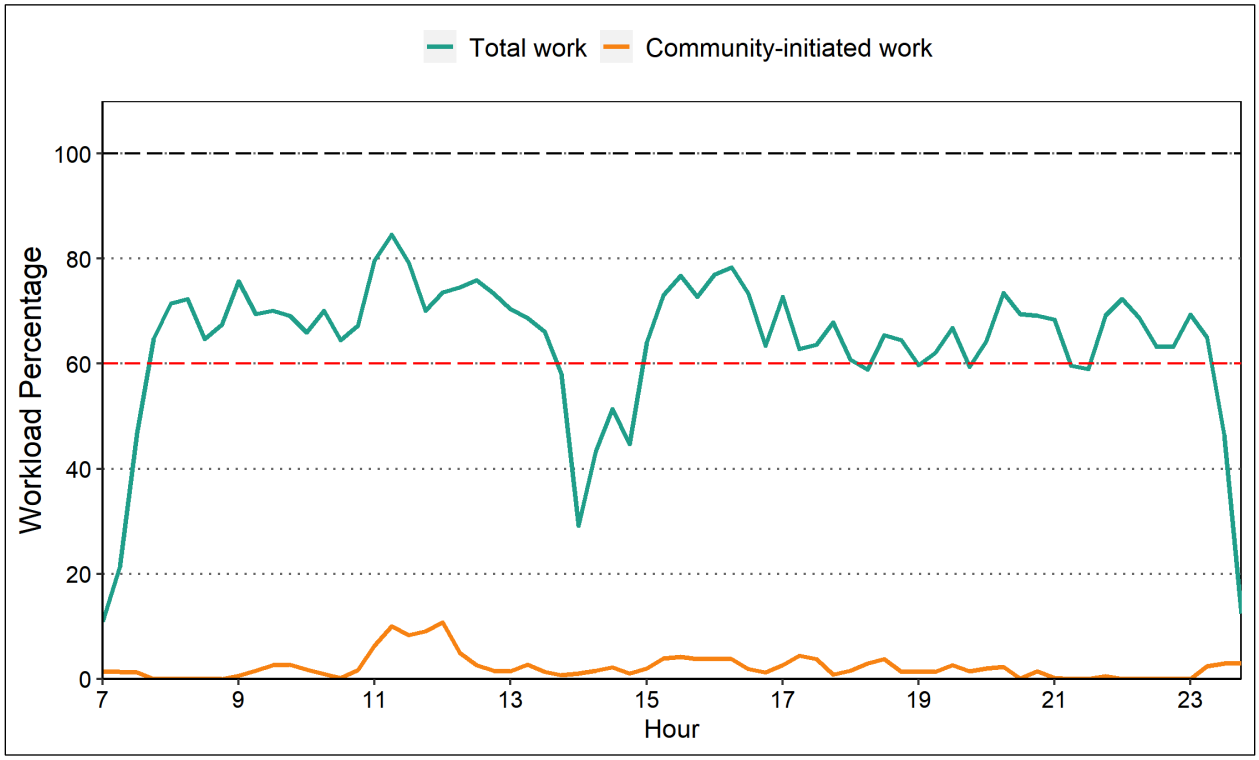


FIGURE 5-23: Percentage of Workload, Weekdays, Summer 2019

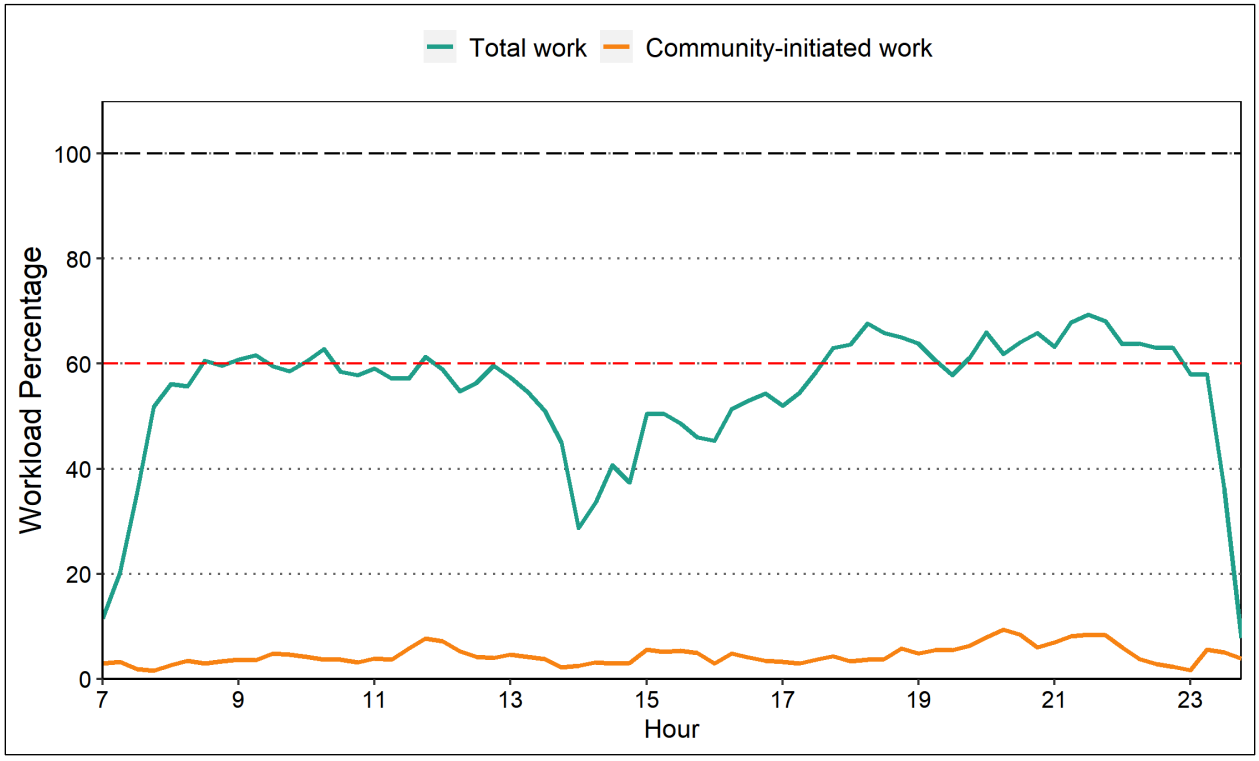
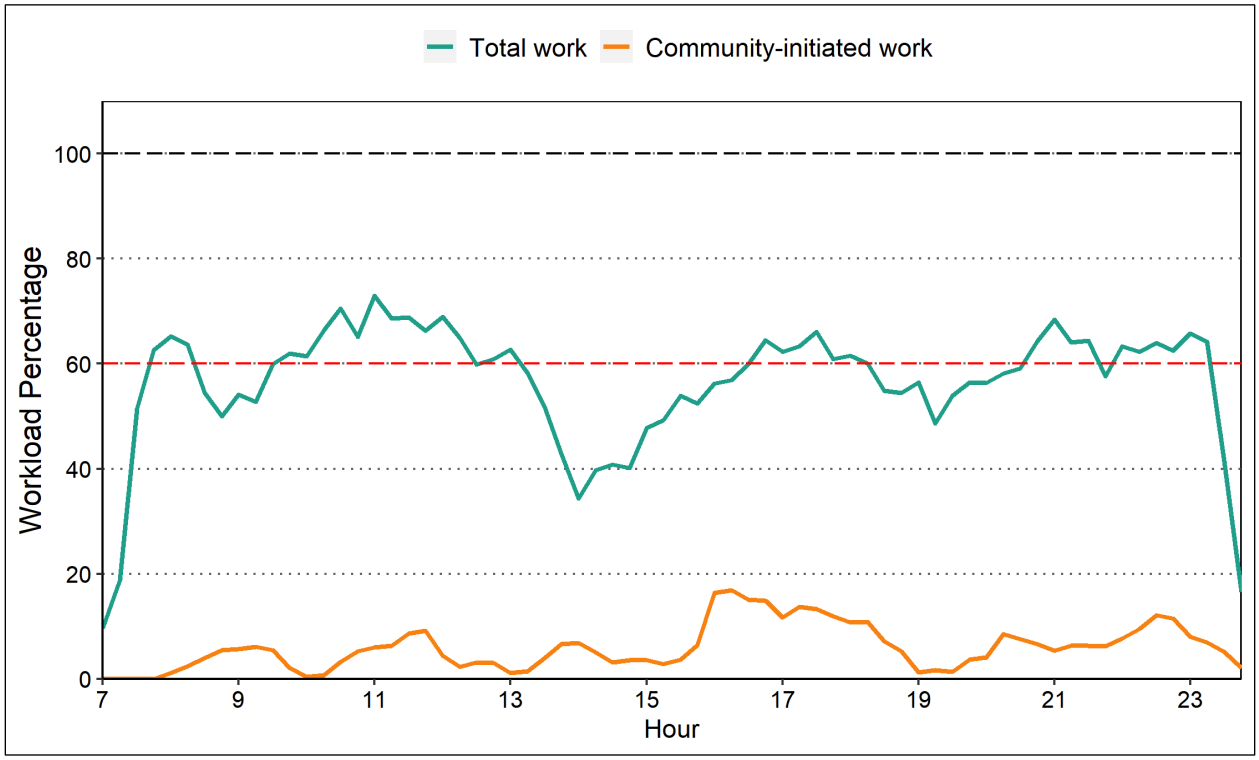


FIGURE 5-24: Percentage of Workload, Weekends, Summer 2019



When using the "Rule of 60" developed by CPSM's Subject Matter Expert team, the preceding graphs show that the 60 percent workload threshold was often exceeded. There could be two options to address this:

- Cut down on officer-generated and officer-initiated complaints, patrols, and assignments.
- Add staffing.

CPSM has recommended filling the vacancies in the staff for the District, which should return a more favorable balance to the workload and staffing levels.

Observations:

Winter:

- Community-initiated work:
  - During the week, workload reached a maximum of 7 percent of deployment between 4:45 p.m. and 5:00 p.m.
  - On weekends, workload reached a maximum of 11 percent of deployment between noon and 12:15 p.m.
- All work:
  - During the week, workload reached a maximum of 76 percent of deployment between 11:15 a.m. and 11:30 a.m.
  - On weekends, workload reached a maximum of 85 percent of deployment between 11:15 a.m. and 11:30 a.m.

Summer:

- Community-initiated work:
  - During the week, workload reached a maximum of 9 percent of deployment between 8:15 p.m. and 8:30 p.m.
  - On weekends, workload reached a maximum of 17 percent of deployment between 4:15 p.m. and 4:30 p.m.
- All work:
  - During the week, workload reached a maximum of 70 percent of deployment between 9:30 p.m. and 9:45 p.m.
  - On weekends, workload reached a maximum of 73 percent of deployment between 11:00 a.m. and 11:15 a.m.

RESPONSE TIMES

We analyzed the response times to various types of calls, separating the duration into dispatch delay and travel time, to determine whether response times varied by call type. Response time is measured as the difference between when a call is received and when the first unit arrives on scene. This is further divided into dispatch delay and travel time. Dispatch delay is the time between when a call is received and when the first unit is dispatched. Travel time is the remaining time until the first unit arrives on scene.

We begin the discussion with statistics that include all calls combined. We started with 3,031 calls from the Motorola CAD system and 3,541 calls from the Hexagon CAD system. We limited our analysis to community-initiated calls, which amounted to 960 calls from the Motorola system and 899 calls from the Hexagon system. Also, we removed a few calls lacking a recorded arriving unit and excluded calls located at the department's headquarters. We were left with 774 calls from the Motorola system and 766 calls from the Hexagon system for our analysis. For the entire year, we began with 6,572 calls, and limited our analysis to 1,859 community-initiated calls. With similar exclusions, we were left with 1,540 calls.

Our initial analysis does not distinguish calls based on priority; instead, it examines the difference in response to all calls by time of day and compares by periods. We then present a brief analysis of response time by priority.

For law enforcement, response times are critical when responding to crimes in progress, assaults in progress, or serious accidents. For most calls, response time is not as critical for law enforcement as for fire/EMS.

National standards created by the National Fire Protection Association and APCO (dispatch) establish that call answering and processing should occur within 1 minute and 20 seconds 95 percent of the time. However, for noncriminal or noncritical calls, this is not necessary and may depend on the workload at the dispatch center. A well-run dispatch center communicates the critical calls at the most rapid rate while queuing calls that are less critical when capacity is available.

Dispatch times for District response for accidents and calls of a more serious nature appear to be near nationally established times.

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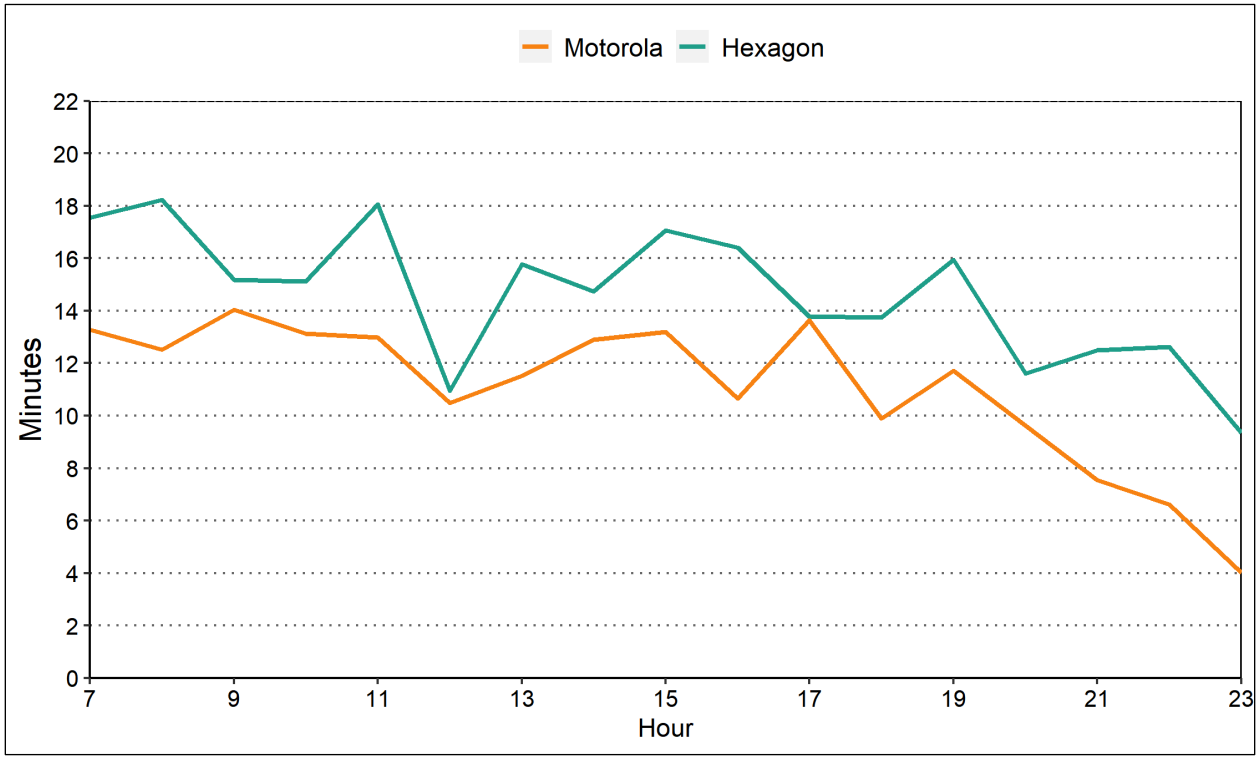
All Calls

This section looks at all calls without considering their priorities. In addition to examining the differences in response times by both time of day and period (before vs. after switching CAD systems), we show differences in response times by category.

FIGURE 5-25: Average Response Time and Dispatch Delays, by Hour of Day



Observations:

- Before June 18, 2019 (Motorola), the longest response times were between 9:00 a.m. and 10:00 a.m., with an average of 14.0 minutes.
- Before June 18, 2019 (Motorola), the shortest response times were between 11:00 p.m. and midnight, with an average of 4.0 minutes.
- From June 18, 2019 (Hexagon), the longest response times were between 8:00 a.m. and 9:00 a.m., with an average of 18.2 minutes.
- From June 18, 2019 (Hexagon), the shortest response times were between 11:00 p.m. and midnight, with an average of 9.3 minutes.

FIGURE 5-26: Average Response Time by Category, Motorola CAD

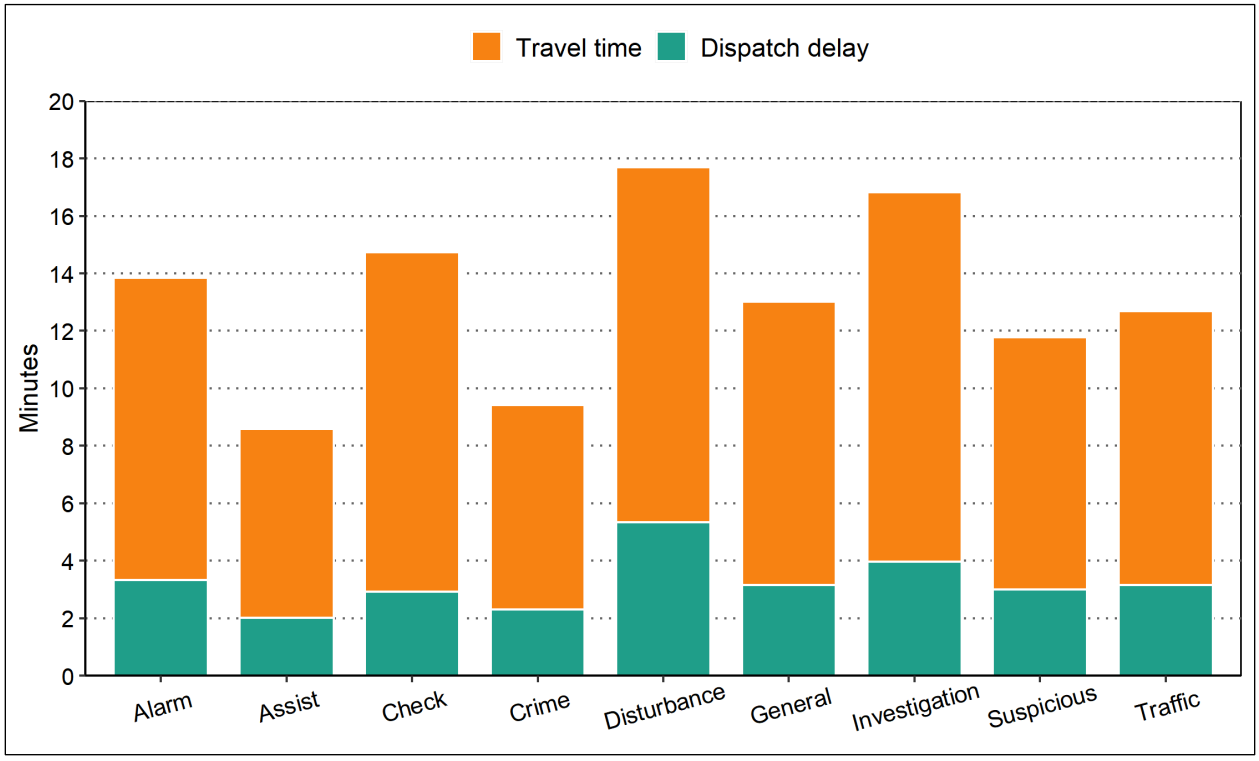


FIGURE 5-27: Average Response Time by Category, Hexagon CAD

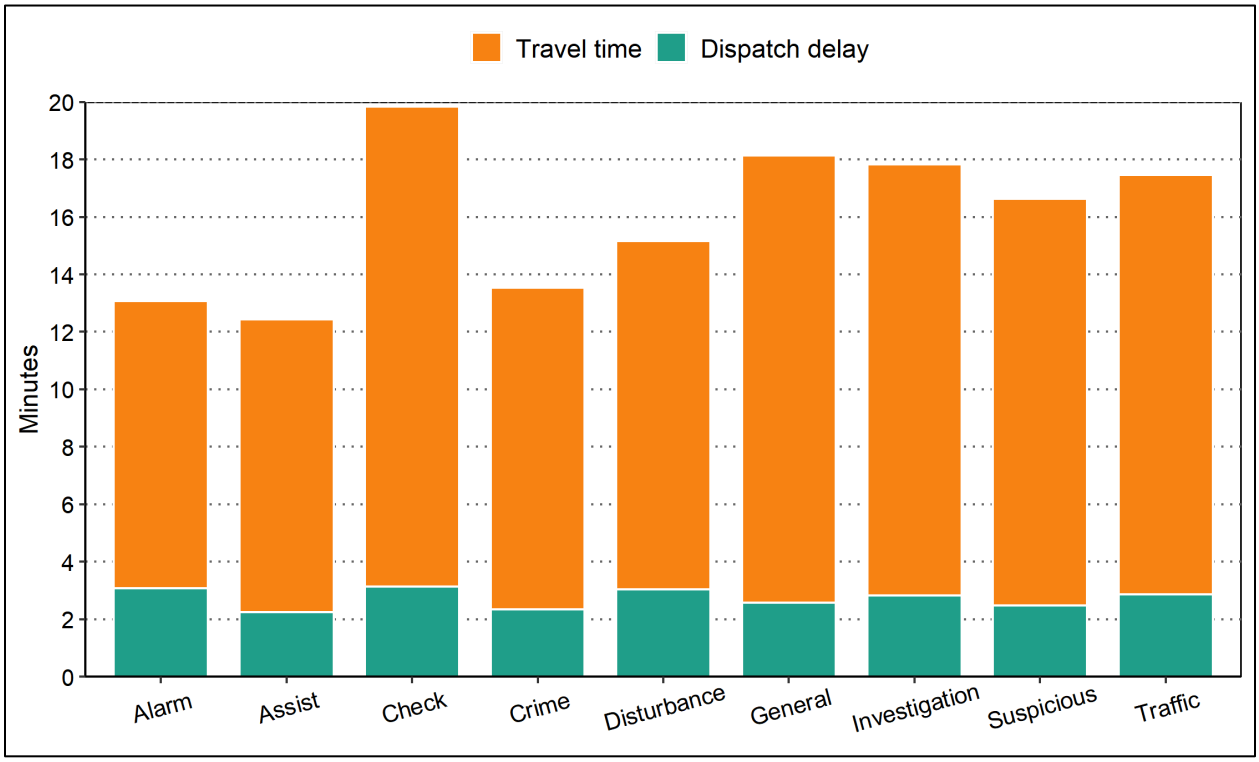


TABLE 5-14: Average Response Time Components, by Category

Category	Motorola CAD				Hexagon CAD			
	Time, Minutes			Count	Time, Minutes			Count
	Dispatch	Travel	Response		Dispatch	Travel	Response	
Accident	1.3	10.0	11.3	9	2.3	15.1	17.4	27
Alarm	3.3	10.5	13.8	52	3.1	10.0	13.1	64
Animal	4.6	13.9	18.5	73	2.5	15.0	17.5	85
Assist other agency	2.0	6.7	8.7	126	2.2	10.2	12.4	124
Check	2.9	11.8	14.7	16	3.1	16.7	19.8	25
Crime–person	1.6	5.6	7.2	57	1.5	8.9	10.4	68
Crime–property	2.6	7.8	10.4	127	2.8	12.4	15.2	124
Disturbance	5.3	12.4	17.7	6	3.0	12.1	15.2	13
Follow-up	NA	NA	NA	0	0.6	15.1	15.7	2
Investigation	4.0	13.3	17.4	46	3.0	15.1	18.1	50
Juvenile	3.3	8.4	11.6	5	1.1	13.7	14.8	5
Miscellaneous	2.5	7.9	10.3	124	2.7	16.6	19.3	41
Permit	1.8	6.7	8.5	15	3.4	15.5	19.0	7
Suspicious incident	3.0	8.8	11.8	84	2.5	14.2	16.6	92
Traffic enforcement	3.7	9.4	13.1	32	3.3	14.3	17.5	39
Warrant	0.6	0.1	0.6	2	NA	NA	NA	0
Total Average	**2.8**	**8.8**	**11.7**	**774**	**2.6**	**12.8**	**15.4**	**766**

Note: The total average is weighted according to the number of calls per category.

Observations:

- Before June 18, 2019,
  - The average response time for most categories was between 9 minutes and 17 minutes.
  - The average response time was as short as 9 minutes (for assists) and as long as 18 minutes (for disturbances).
  - The average response time for crimes was 9 minutes.
- From June 18, 2019,
  - The average response time for most categories was between 12 minutes and 18 minutes.
  - The average response time was as short as 12 minutes (for assists) and as long as 20 minutes (for checks).
  - The average response time for crimes was 14 minutes.

TABLE 5-15: Average Response Time Components, by Sector

Locations	Time, Minutes			Calls
	Dispatch	Travel	Response	
Blackwell	2.5	6.7	9.2	157
Danada	2.8	8.8	11.7	64
Herrick Lake	3.4	7.7	11.0	64
Springbrook Prairie	4.4	18.1	22.5	55
St James Farm	3.4	7.7	11.1	42
Miscellaneous	2.2	7.0	9.2	130
Sector 1 Total	**2.8**	**8.5**	**11.3**	**512**
Hawk Hollow	3.8	14.1	17.9	23
Mallard Lake	1.9	9.7	11.6	45
Pratts Wayne Woods	1.6	8.4	10.0	54
Timber Ridge	2.0	12.3	14.3	24
West Branch	3.2	7.1	10.3	44
Miscellaneous	2.3	9.4	11.7	111
Sector 2 Total	**2.4**	**9.5**	**11.9**	**301**
Churchill Woods	3.8	11.0	14.7	47
East Branch	2.4	11.4	13.9	53
Oak Meadows	3.9	13.2	17.0	25
Songbird Slough	2.5	12.1	14.5	21
Wood Dale Grove	2.4	12.0	14.4	29
Miscellaneous	2.6	10.9	13.5	139
Sector 3 Total	**2.8**	**11.3**	**14.2**	**314**
Fullersburg Woods	2.7	18.9	21.6	44
Greene Valley	2.8	12.6	15.4	87
Hidden Lake	2.9	14.2	17.1	23
Mayslake	3.0	12.2	15.3	40
Waterfall Glen	3.1	15.7	18.7	100
Miscellaneous	2.2	14.4	16.6	106
Sector 4 Total	**2.7**	**14.6**	**17.3**	**400**
Other	0.4	3.7	4.1	13
Total	**2.7**	**10.8**	**13.5**	**1,540**

Note: This table included the top five most popular locations for each sector, with other lower frequency locations grouped within a miscellaneous category.

Observations:

- Four sectors share a similar dispatch delay time, between 2.4 and 2.8 minutes.
- Sector 1 had the shortest average response time.
- Sector 4 had the longest average response time.

Response Time by Priority

The department assigned priorities to calls, using priority 1 to 4. The following table shows average and 90th percentile response times by priority.

TABLE 5-16: Average and 90th Percentile Response Times, by Priority

Priority	Dispatch Delay	Travel Time	Response Time	Calls	90th Percentile Response Time
1	1.6	11.9	13.5	38	26.8
2	2.5	11.0	13.5	427	28.6
3	2.1	8.6	10.7	546	28.0
4	3.5	12.8	16.4	529	34.0
Total	**2.7**	**10.8**	**13.5**	**1,540**	**30.7**

Note: The total average is weighted according to the number of calls within each priority level.

Observations:

- Priority 1 calls had an average response time of 13.5 minutes which is the same as the overall average for all calls.
- Average dispatch delay was 1.6 minutes for priority 1 calls, compared to 2.7 minutes overall.
- When compared with national standards, priority calls should be 1 minute 20 seconds (1.3 minutes) thus dispatch is processing priority calls efficiently and effectively.

SECTION 6. SPECIAL UNITS

DISASTER EXERCISE PLANNING/EMERGENCY PREPAREDNESS

During an emergency, the primary goal is to ensure public safety, minimizing injury and property damage, while after an emergency the focus shifts to recovery and restoring services back to normal. Within the District this function falls to the Chief of Law Enforcement, who acts as the emergency services coordinator. He is responsible for the development of emergency response procedures, training for staff and any volunteers, and achieving compliance with state and federal emergency response and disaster mitigation programs.

During our review, it was noted that the department does not conduct regular or annual training with other departments within the Forest Preserve District.

Mothers, fathers, business owners, even children, will look to the leaders of their community for peace of mind and reassurance that everything that can be done to protect them from or successfully resolve an unexpected crisis, whether manmade or natural, has been done. To meet this challenge, the department should conduct regular training, disaster exercise drills and simulations, including but not limited to tabletop exercises.

Despite the frequency of stories seen on the news that prove the devastation of unexpected natural disasters or local violence, some local government agencies struggle to properly prepare for these incidents. The optimistic hope is that an unexpected disaster will never impact their area of responsibility. The goal of preparedness is to maximize preparation and employee awareness of the importance of proactive planning and encourage participation in disaster preparedness activities.

While the areas under the District's jurisdiction include very few residences and the nighttime population is very limited, if a disaster event were to occur during the day, the law enforcement department could be overwhelmed quickly. Relying on outside or neighboring jurisdictions may or may not be an option. In a disaster or other significant emergency, the department should prepare to utilize the internal resources it has, that is, other Forest Preserve District employees who are properly trained.

While the likelihood of a significant natural or manmade disaster may be perceived as minimal, there is a significant chance a smaller, but no less important event could, and probably has occurred. Imagine this situation. It is a busy holiday weekend. The parents of a five-year-old girl report that she is missing. They believe she may have wondered off into a wooded area, but she may have also walked down to the lake. Assume the department is fully staffed with eight officers and two sergeants working. Utilizing all these officers is an option, but one must consider that other calls for service will still be coming in. To effectively search the area will require significantly more personnel. Calling officers in from home is an option, but it would take some time for them to arrive on the scene. The department may be able to get a few personnel from neighboring jurisdictions to assist, but they would probably not be familiar the park or its geography. As a parent, would not you expect law enforcement to respond with all available resources and summon additional assistance?

The ability to utilize other on-duty District employees would be an extremely valuable resource and an almost immediate force multiplier. An additional advantage would be their knowledge of the area and access to a radio system with which they could communicate with law

enforcement. With prior planning and training the group could work efficiently and effectively to handle emergency situations.

Recommendation:

- CPSM recommends that all departments within the Forest Preserve District, but most importantly departments that conduct their work in the field, participate in training and disaster exercise simulations. The exercise could involve actual simulations or tabletop exercises. (Recommendation No. 13.)

A tabletop exercise should be a scenario-based discussion designed to simulate an emergency. Under the guidance of a facilitator, which should not necessarily be the Chief of Law Enforcement, employees will be led through an exercise to identify emergency incident response and recovery procedures and ensure all necessary parties are trained and familiar with the roles, procedures, and responsibilities following a significant event. Often, agencies design exercises that are not realistic or are overly complex. Organizations that are not familiar with disaster response or working together should start with less complex situations.

It is important to remember that the exercise must be conducted in a "no-fault" environment and should be informal and stress-free. While employees should take the process seriously, the exercise should be thought of as a learning experience and not a test. The exercise can be broad or narrow in scope. For example, perhaps the District would want to test its emergency notification system. On a larger scale, the exercise could simulate a natural disaster response such as a fire or tornado. Each exercise should have three to five objectives and it should conclude within a two-hour period. The facilitator should put together an after-action report that sums up the exercise and includes lessons learned, discussion topics, and areas for improvement.

In our review of the department's level of emergency preparedness, it was noted that the department has two trained FAA certified Unmanned Aircraft System (UAS)operators. UAS are rapidly becoming a valuable law enforcement tool. This tool makes the work of law enforcement easier and significantly safer. They are changing the way agencies respond to a wide range of criminal and noncriminal incidents.

A UAS can get to an area quickly, keep officers out of danger, provide valuable intelligence and information. UAS have become an essential tool in search and rescue operations, traffic crash investigations, tracking and locating suspects, and assessing dangerous situations. They are also utilized in disaster response and recovery efforts.

UAS require specific skills and abilities to operate in lawful, skilled, and effective manner. Regular training on the set-up, operation, and legal requirements should be conducted. The ability to efficiently operate a UAS is a perishable skill. Currently, the department does not utilize a formal training schedule for the operator. At a minimum, quarterly UAS training should be scheduled. This training could be done while the operators are on their regularly scheduled shift. The training should be designed to have specific goals and objectives. This training also provides an opportunity for the operators to access the UAS operational capabilities.

Recommendation:

- CPMS recommends incorporating an annual emergency preparedness exercise for all departments within the Forest Preserve District. (Recommendation No. 14.)
- CPSM recommends regularly scheduled quarterly training for all UAS operators. (Recommendation No. 15.)

PROPERTY UNIT

The intake, processing, storage, and disposal of evidence and property are important functions of any law enforcement agency. It is especially true for weapons, narcotics and dangerous drugs, currency, and valuable jewelry. Police agencies across the country have faced too frequently the consequences of mismanaged property and evidence sections. This has resulted in terminations and arrests of police employees, from janitors to police chiefs, for thefts of narcotics, cash, jewelry, guns, and other items of value. In some cases, audits that revealed unaccounted-for property and evidence led to the termination of police executives, though they were not suspected of being implicated in the theft/loss of the evidence. Controlling access to the property and evidence areas, inventory control, and regular audits are critical to the effective management of the property and evidence function.

The property and evidence function falls under the direction of the ranger police lieutenant. Day-to-day operations are managed by one police records/evidence coordinator. She splits her time between records functions and managing the property and evidence room

The coordinator has completed 80 hours of training from Northeast Multi-Regional Police Academy. The property and evidence functions are in line with this training, and the Illinois State Records Act. The department also adheres to CALEA standards. As such, the department is well positioned to be current with the best practices for such units.

Intake

The intake process is as follows. Officers seizing property and/or evidence transport the items to the department. There, they utilize a property and evidence tracking software program referred to as Safe Tracker to enter the evidence into the tracking system. This includes information such as the investigative case number, ownership information if available, booking officer, etc. As well, Safe Tracker prints a bar code, identifying the item, which is attached thereto once the item is packaged (when applicable). Upon completion of this process, the property/evidence is placed in a property locker. Once the property/evidence is secured in the locker, access is no longer available from outside of the property room.

The evidence coordinator subsequently collects the property/evidence from the other side of the locker within the secured Property and Evidence room. She assigns the item to a storage location, utilizing the bar code for tracking, until further action relative to the property/evidence is required.

Facilities

There are multiple property and evidence lockers in use by the department. Once intake is complete the items are assigned a storage area based upon the nature of the item collected. For instance, firearms are stored in one secured area; drugs, money, and other valuables are stored in a safe; and general property in another area. The property room and safe are of sufficient size to handle all of the department's needs.

The property room is secured by electronic locks that record access to the facility by date and time, and identify the employee accessing the site. The only employees who have access are the police records/evidence coordinator, ranger police lieutenant, and the Chief of Law Enforcement. There is an alarm on the door and video camera in the hallway leading to the room, and an additional camera inside the property room. Security on the exterior and within the property and evidence room is consistent with best practices.

Inventory Control

Items should be held by the department only until such time as they are no longer required to be retained. At that point, items not retained by the court through proceedings should be released to the owner, destroyed, or auctioned. The evidence coordinator handles this process in an efficient and effect manner. All items which are returned to their owner, destroyed, donated, or auctioned require two-person verification that the process was completed and the disposition of the property is noted in Safe Tracker.

Audit Process

Staff reports that regular audits of the property room are conducted. Annually, a complete audit is performed on all currency, valuable items, narcotics, and firearms. The scheduling of the audit is determined by the evidence coordinator. She selects another employee, generally a ranger police sergeant, to verify all items are accounted for. At the completion of the audit, a report, authored by the assisting employee, is forwarded to the Chief of Law Enforcement. The audits have not uncovered any lost or missing property. Additionally, an audit of the entire property room is triggered if a new evidence coordinator takes over responsibility. This has not occurred within the past five years.

CPSM recommends conducting more frequent partial audits. As well, biannual audits should be unannounced, involve a command member from an outside agency, and the ranger police lieutenant. Unannounced audits allow the evaluators to determine the current status of the property room without giving employees time to prepare.

The outside agency command member should select 10 items from the property room records from each of the following categories: firearms, narcotics, money, and random pieces of evidence. The evidence coordinator should locate those items and present them for inspection. The items should be properly tagged according to department policy. If any irregularities exist they should be noted in the final report.

Next, 10 items from each of the above categories should be selected from the shelves. The property technician must then produce the property record from the Safe Tracker system. This shows that the item belongs in the property room and was stored in the correct location. If any irregularities exist they should be noted in the final report.

At the conclusion of the audit a report should be generated. It should be reviewed and signed by everyone who participated in the audit. The memo should be forwarded to the Director and retained.

Recommendation:

- Conduct unannounced property room audits utilizing a command staff member from an outside agency. (Recommendation No. 16.)

SECTION 7. SUCCESSION PLANNING

As we noted in the Executive Summary, within the next four years the department will see the retirement of most of if not all its upper-level command staff. It is imperative that the department consider a structured succession plan, including mentoring of the next generation of department leaders. While the plan must focus on command-level positions, the development of future mid-management and first-line supervisors must be considered as well. Exposure of all potential future leaders to a variety of administrative assignments and tasks is essential to prepare them for these future responsibilities.

Recommendation:

- It is imperative that efforts be made to develop the future leaders of the department. In addition to formal educational opportunities, assignment of administrative tasks and to specialized units should be part of this plan. Finally, this cannot be an informal process, but must be a carefully develop and written strategic plan. (Recommendation No. 17.)

SECTION 8. DATA ANALYSIS

This data analysis on police patrol operations for the Forest Preserve District of DuPage County police department focuses on three main areas: workload, deployment, and response times. These three areas are related almost exclusively to patrol operations, which constitute a significant portion of the police department's personnel and financial commitment.

All information in this report was developed using data from the Addison Consolidated Dispatch Center's computer-aided dispatch (CAD) system.

CPSM collected data for one year from January 1, 2019, through December 31, 2019. The majority of the first section of the report, concluding with Table 8-9, uses call data for one year. For the detailed workload analysis, we use two eight-week sample periods. The first period is from January 4 through February 28, 2019, or winter, and the second period is from July 7 through August 31, 2019, or summer. It is worth noting that the communications center switched CAD systems (from Motorola to Hexagon) on June 18, 2019. It is possible that some trends indicating a change in behavior before and after June may reflect the new method of recordkeeping rather than a modified patrol practice.

WORKLOAD ANALYSIS

When CPSM analyzes a set of dispatch records, we go through a series of steps:

We first process the data to improve accuracy. For example, we remove duplicate patrol units recorded on a single event as well as records that do not indicate an actual activity. We also remove incomplete data, as found in situations where there is not enough time information to evaluate the record.

At this point, we have a series of records that we call "events." We identify these events in three ways:

- We distinguish between patrol and nonpatrol units.
- We assign a category to each event based upon its description.
- We indicate whether the call is "zero time on scene" (i.e., patrol units spent less than 30 seconds on scene), "police-initiated," or "community-initiated."

We then remove all records that do not involve a patrol unit to get a total number of patrol-related events.

At important points during our analysis, we focus on a smaller group of events designed to represent actual calls for service. This excludes events with no unit time spent on scene and directed patrol activities.

In this way, we first identify a total number of records, then limit ourselves to patrol events, and finally focus on calls for service.

As with similar cases around the country, we encountered several issues when analyzing Forest Preserve District dispatch data. We made assumptions and decisions to address these issues:

- 853 events (about 4 percent) involved patrol units spending zero time on scene.

- 6 calls lacked accurate busy times. We excluded these calls when evaluating busy times and work hours.
- The computer-aided dispatch (CAD) system used approximately 208 different event descriptions, which we condensed into 17 categories for our tables and 10 categories for our figures (as shown in Chart 8-1). Table 8-21 in the appendix shows how each call description was categorized.

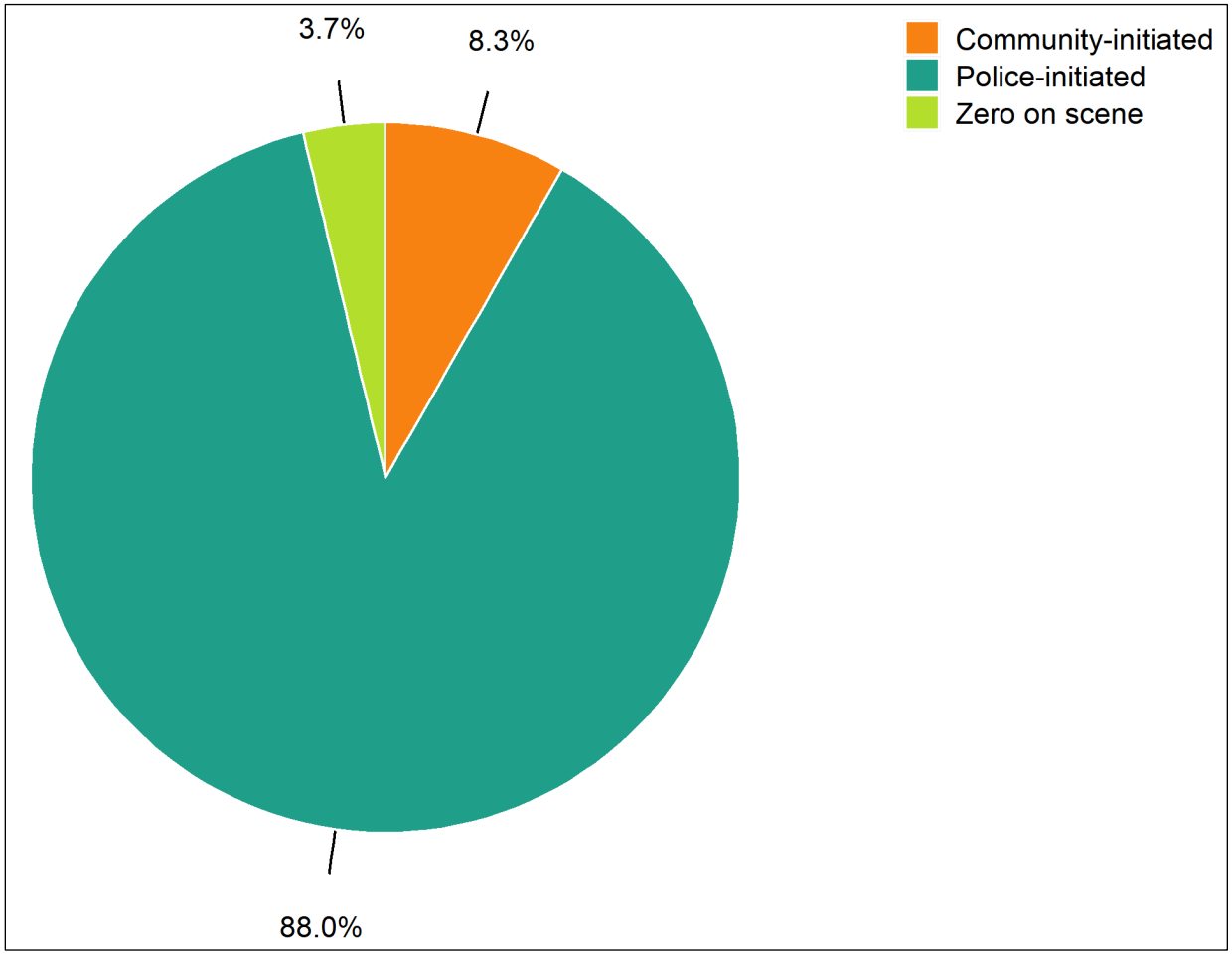
Between January 1, 2019, and December 31, 2019, the communications center recorded approximately 22,815 events involving a responding patrol unit. When measured daily, the department was dispatched to an average of 63 patrol-related events per day, approximately 4 percent of which (two per day) had fewer than 30 seconds spent on the call.

In the following pages, we show two types of data: activity and workload. The activity levels are measured by the average number of calls per day, broken down by the type and origin of the calls, and categorized by the nature of the calls (crime, traffic, etc.). Workloads are measured in average work hours per day.

CHART 8-1: Event Descriptions for Tables and Figures

Table Category	Figure Category
Alarm	Alarm
Assist other agency	Assist
Warrant	
Check	Check
Crime–person	Crime
Crime–property	
Directed patrol	Directed patrol
Disturbance	Disturbance
Animal	General noncriminal
Follow-up	
Miscellaneous	
Permit	
Investigation	Investigation
Juvenile	
Suspicious incident	Suspicious incident
Accident	Traffic
Traffic enforcement	

FIGURE 8-1: Percentage Events per Day, by Initiator



Note: Percentages are based on a total of 22,815 events.

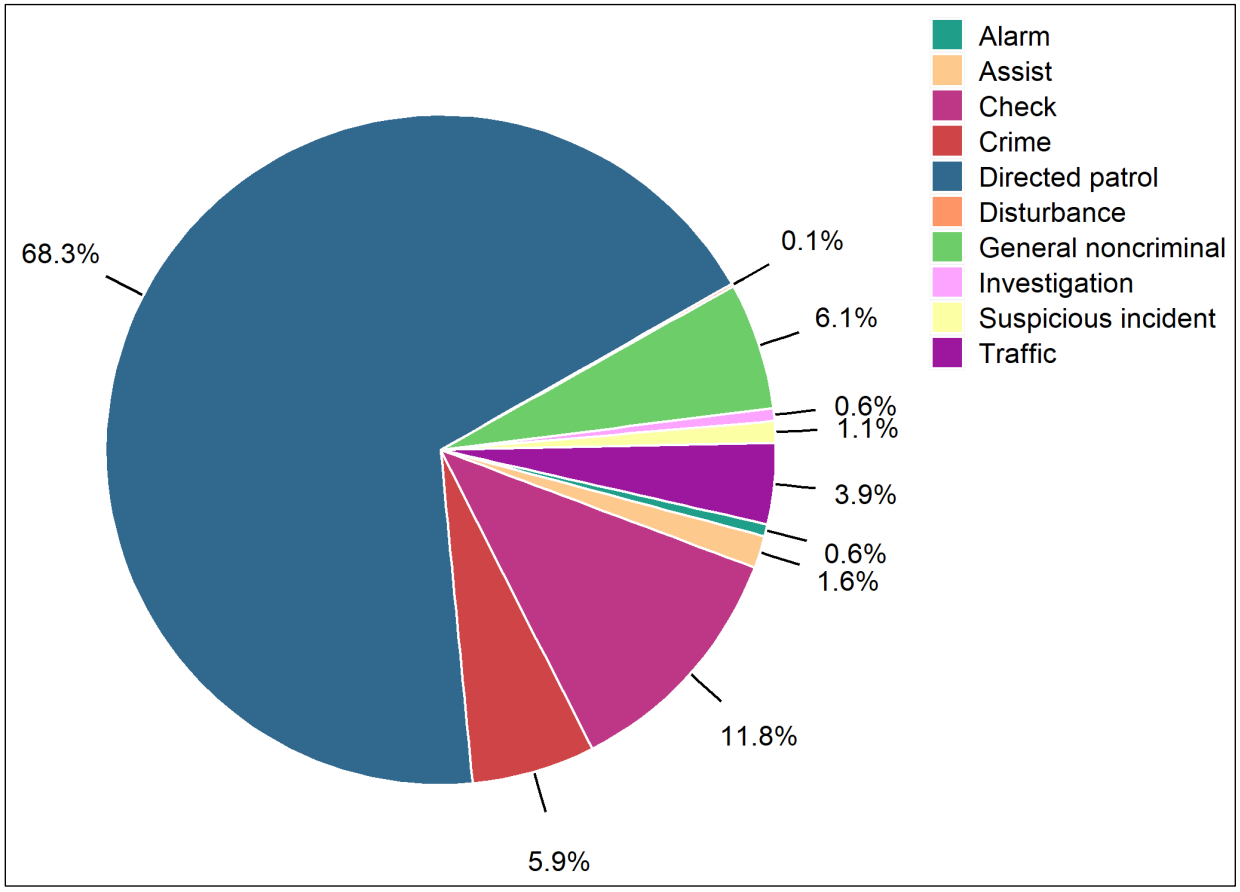
TABLE 8-1: Events per Day, by Initiator

Initiator	No. of Events	Events per Day
Community-initiated	1,887	5.2
Police-initiated	20,075	55.0
Zero on scene	853	2.3
Total	**22,815**	**62.5**

Observations:

- 8 percent of all events were community-initiated.
- 88 percent of all events were police-initiated.
- 4 percent of the events had zero time on scene.
- On average, there were 63 events per day, or 3.7 per hour (from 7:00 a.m. to midnight).

FIGURE 8-2: Percentage Events per Day, by Category



Note: The figure combines categories in the following table according to the description in Chart 8-1.

TABLE 8-2: Events per Day, by Category

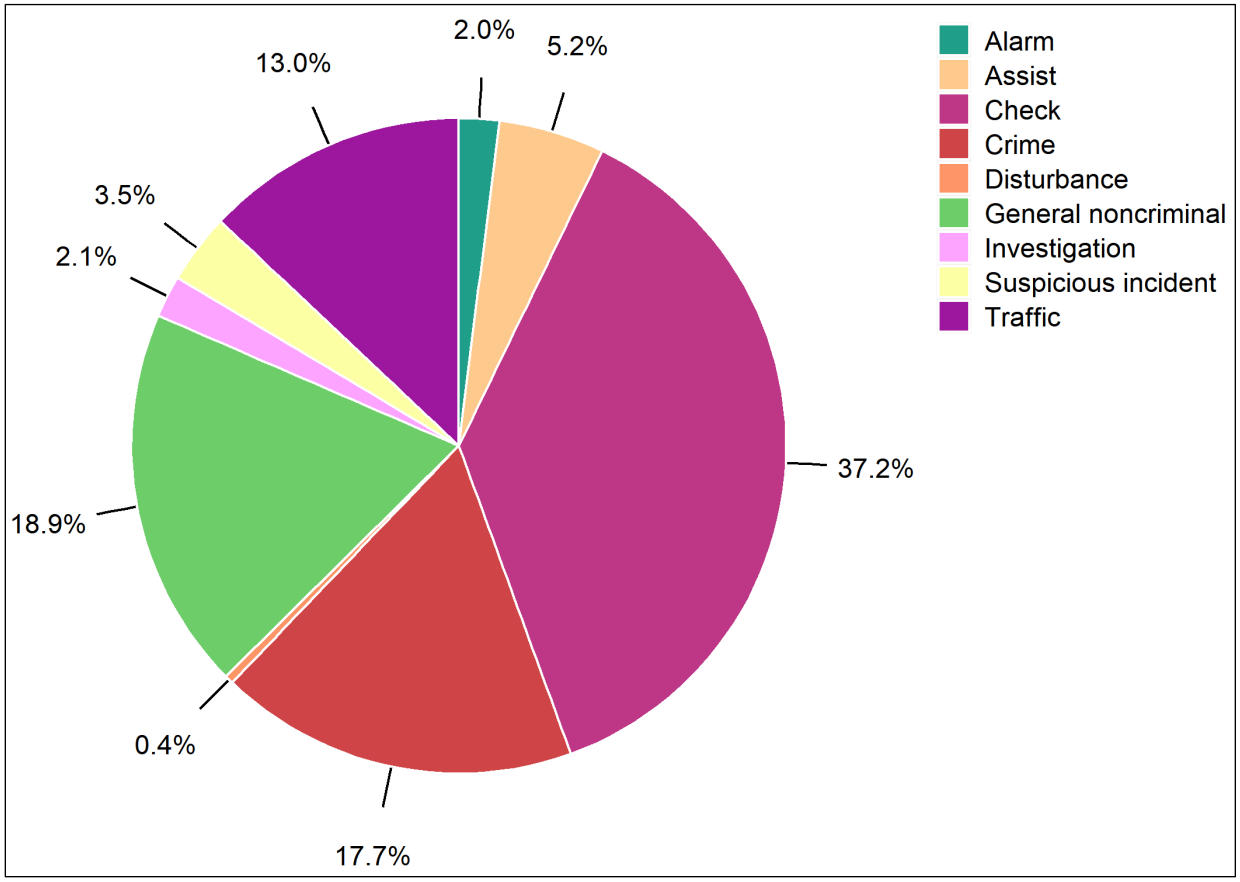
Category	No. of Events	Events per Day
Accident	51	0.1
Alarm	133	0.4
Animal	220	0.6
Assist other agency	351	1.0
Check	2,699	7.4
Crime–person	429	1.2
Crime–property	928	2.5
Directed patrol	15,574	42.7
Disturbance	30	0.1
Follow-up	42	0.1
Investigation	128	0.4
Juvenile	10	0.0
Miscellaneous	616	1.7
Permit	523	1.4
Suspicious incident	240	0.7
Traffic enforcement	837	2.3
Warrant	4	0.0
Total	**22,815**	**62.5**

Note: Observations below refer to events shown within the figure rather than the table.

Observations:

- The top four categories accounted for 92 percent of events.
  - 68 percent of events were directed patrols.
  - 12 percent of events were checks.
  - 6 percent of events were general noncriminal events.
  - 6 percent of events were crimes.

FIGURE 8-3: Percentage Calls per Day, by Category



Note: The figure combines categories in the following table according to the description in Chart 8-1.

TABLE 8-3: Calls per Day, by Category

Category	No. of Calls	Calls per Day
Accident	48	0.1
Alarm	130	0.4
Animal	208	0.6
Assist other agency	340	0.9
Check	2,447	6.7
Crime–person	364	1.0
Crime–property	800	2.2
Disturbance	28	0.1
Follow-up	41	0.1
Investigation	126	0.3
Juvenile	10	0.0
Miscellaneous	573	1.6
Permit	421	1.2
Suspicious incident	227	0.6
Traffic enforcement	805	2.2
Warrant	4	0.0
Total	**6,572**	**18.0**

Note: The focus here is on recorded calls rather than recorded events. We removed 15,574 directed patrol activities and additional 669 events with zero time on events.

Observations:

- On average, there were 18.0 calls per day, or 1.1 per hour (from 7:00 a.m. to midnight).
- The top four categories accounted for 87 percent of calls:
  - 37 percent of calls were checks.
  - 19 percent of calls were general noncriminal calls.
  - 18 percent of calls were crimes.
  - 13 percent of calls were traffic-related.

FIGURE 8-4: Calls per Day, by Initiator and Month

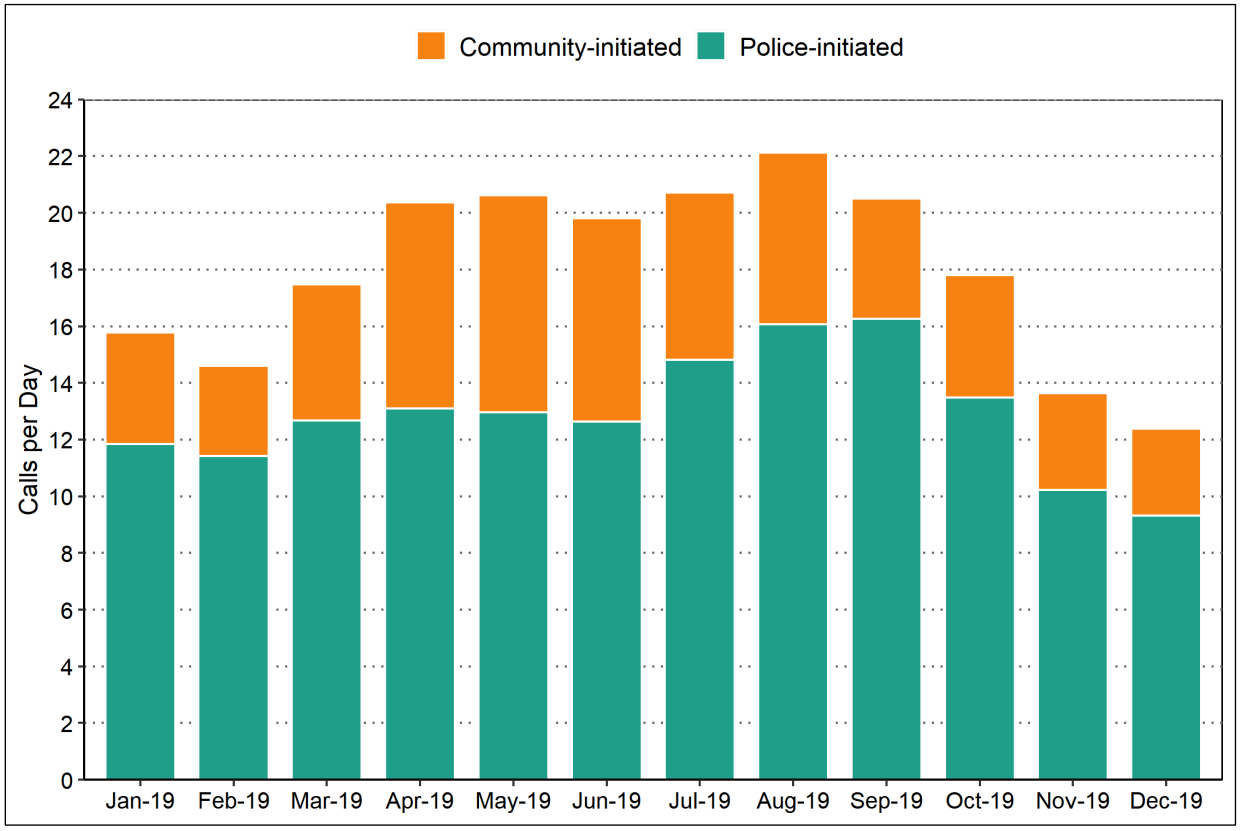


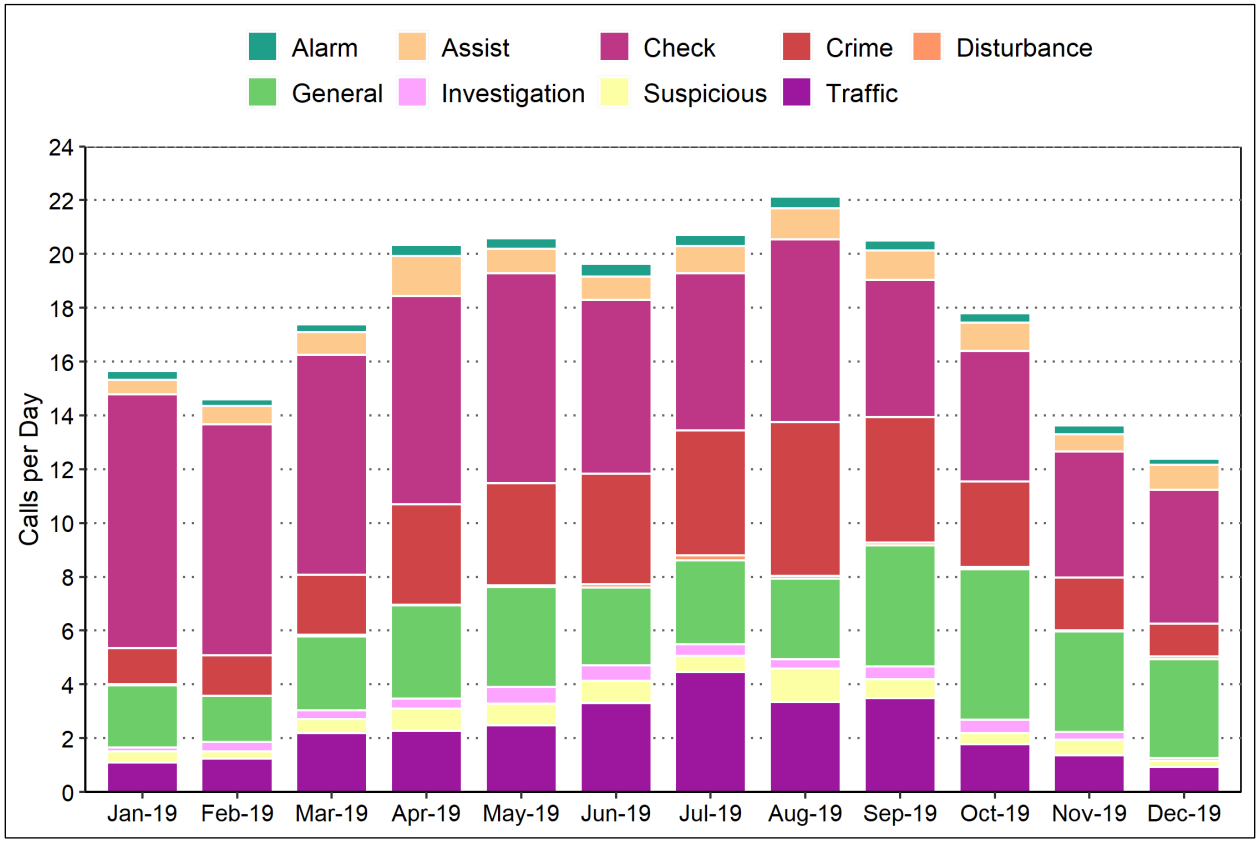
TABLE 8-4: Calls per Day, by Initiator and Months

Initiator	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Community-initiated	3.9	3.2	4.8	7.3	7.6	7.2	5.9	6.1	4.2	4.3	3.4	3.1
Police-initiated	11.8	11.4	12.7	13.1	13.0	12.6	14.8	16.1	16.3	13.5	10.2	9.3
Total	**15.8**	**14.6**	**17.5**	**20.4**	**20.6**	**19.8**	**20.7**	**22.1**	**20.5**	**17.8**	**13.6**	**12.4**

Observations:

- The number of calls per day was lowest in December.
- The number of calls per day was highest in August.
- The months with the most calls had 79 percent more calls than the months with the fewest calls.
- September had the most police-initiated calls, with 74 percent more than December, which had the fewest.
- May had the most community-initiated calls, with 149 percent more than December, which had the fewest.

FIGURE 8-5: Calls per Day, by Category and Month



Note: The figure combines categories in the following table according to the description in Chart 8-1.

TABLE 8-5: Calls per Day, by Category and Month

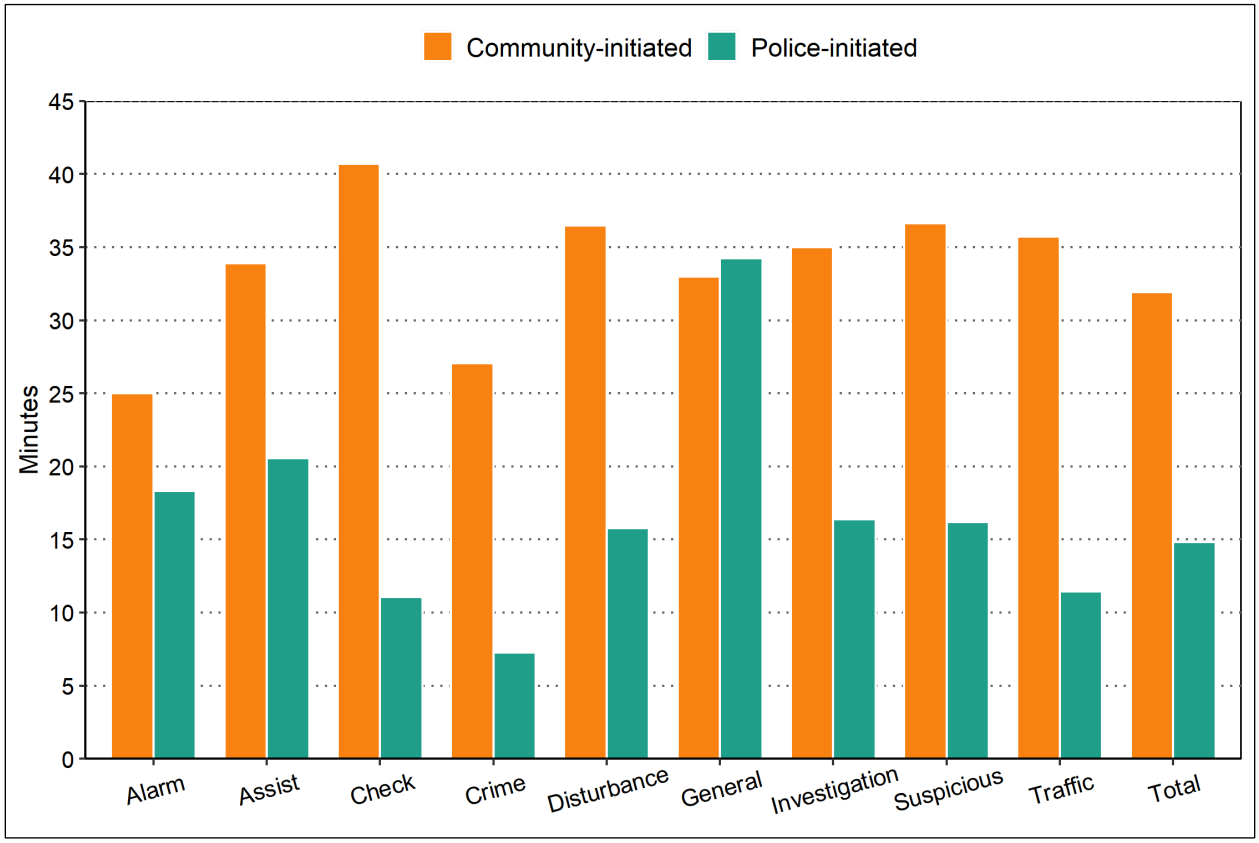
Category	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Accident	0.1	0.1	0.0	0.0	0.1	0.1	0.3	0.2	0.1	0.1	0.3	0.2
Alarm	0.4	0.2	0.3	0.4	0.4	0.5	0.4	0.4	0.4	0.4	0.3	0.2
Animal	0.3	0.3	0.5	0.7	0.9	0.9	0.6	0.6	0.5	0.5	0.5	0.5
Assist other agency	0.5	0.6	0.8	1.5	0.9	0.9	1.0	1.2	1.1	1.0	0.6	0.9
Check	9.5	8.6	8.2	7.7	7.8	6.5	5.8	6.8	5.1	4.8	4.7	5.0
Crime–person	0.3	0.5	0.7	0.7	1.3	1.1	2.2	2.0	1.8	0.6	0.4	0.4
Crime–property	1.0	1.0	1.5	3.0	2.5	3.0	2.5	3.7	2.9	2.5	1.6	0.9
Disturbance	0.0	0.0	0.1	0.0	0.1	0.1	0.2	0.1	0.1	0.1	0.0	0.1
Follow-up	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.5	0.1	0.3
Investigation	0.1	0.4	0.3	0.3	0.5	0.5	0.4	0.3	0.5	0.5	0.3	0.0
Juvenile	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1
Miscellaneous	1.4	0.8	1.1	1.5	1.3	0.9	0.8	0.9	2.1	3.5	2.2	2.4
Permit	0.7	0.6	1.2	1.2	1.5	1.2	1.6	1.3	1.8	1.1	0.9	0.5
Suspicious incident	0.4	0.2	0.5	0.8	0.8	0.8	0.6	1.2	0.7	0.4	0.6	0.2
Traffic enforcement	1.0	1.2	2.2	2.3	2.4	3.2	4.2	3.2	3.4	1.7	1.1	0.7
Warrant*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	**15.8**	**14.6**	**17.5**	**20.4**	**20.6**	**19.8**	**20.7**	**22.1**	**20.5**	**17.8**	**13.6**	**12.4**

Note: Calculations were limited to calls rather than events. There were only four warrant calls in 2019.

Observations:

- The top four categories averaged between 85 and 91 percent of calls throughout the year:
  - Check calls averaged between 4.7 and 9.4 calls per day throughout the year.
  - General noncriminal calls averaged between 1.7 and 5.6 calls per day throughout the year.
  - Crime calls averaged between 1.2 and 5.7 calls per day throughout the year.
  - Traffic calls averaged between 0.9 and 4.5 calls per day throughout the year.
- Crime calls accounted for 9 to 26 percent of total calls.

FIGURE 8-6: Primary Unit's Average Occupied Times, by Category and Initiator



Note: The figure combines categories using weighted averages from the following table according to the description in Chart 8-1. For this graph and the following Table 8-6, we removed six calls with an inaccurate busy time.

TABLE 8-6: Primary Unit's Average Occupied Times, by Category and Initiator

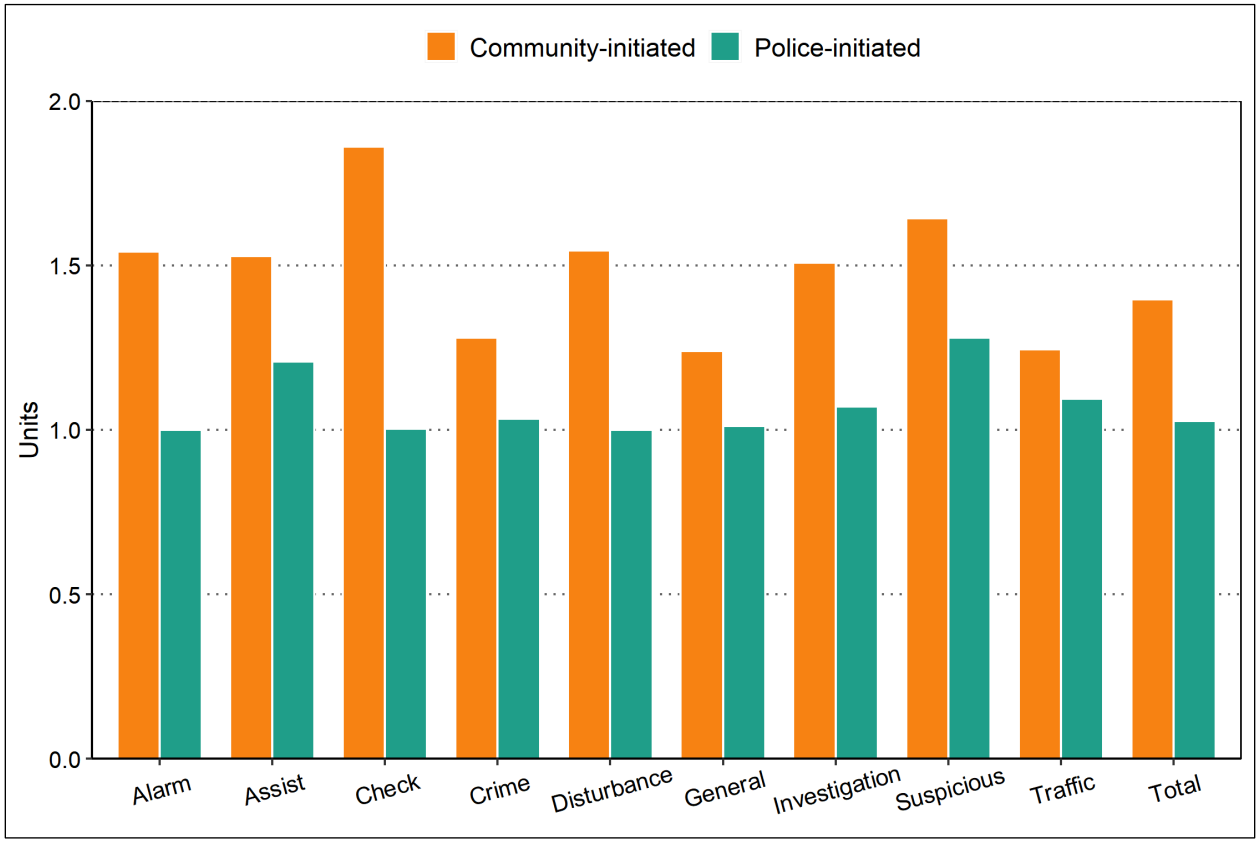
Category	Community-Initiated		Police-Initiated	
	Minutes	Calls	Minutes	Calls
Accident	46.2	43	49.5	5
Alarm	25.0	129	18.3	1
Animal	38.5	178	9.0	30
Assist other agency	33.8	289	18.4	51
Check	40.7	43	11.1	2,404
Crime–person	31.4	160	8.5	204
Crime–property	25.1	346	6.7	454
Disturbance	36.5	22	15.8	6
Follow-up	11.8	2	29.6	39
Investigation	36.2	112	16.4	14
Juvenile	22.3	10	NA	0
Miscellaneous	31.6	190	68.4	377
Permit	13.9	35	3.3	386
Suspicious incident	36.6	202	16.2	25
Traffic enforcement	31.0	96	11.2	709
Warrant	51.6	2	74.5	2
Weighted Average/Total Calls	**31.9**	**1,859**	**14.8**	**4,707**

Note: The information in Figure 8-6 and Table 8-6 is limited to calls and excludes all events that show zero time on scene. A unit's occupied time is measured as the time from when the unit was dispatched until the unit becomes available again. The times shown are the average occupied minutes per call for the primary unit, rather than the total occupied minutes for all units assigned to a call. Observations below refer to times shown within the figure rather than the table.

Observations:

- A unit's average time spent on a call ranged from 7 to 41 minutes overall.
- The longest average times were for community-initiated check calls.
- The average time spent on crime calls was 27 minutes for community-initiated calls and 7 minutes for police-initiated calls.

FIGURE 8-7: Number of Responding Units, by Initiator and Category



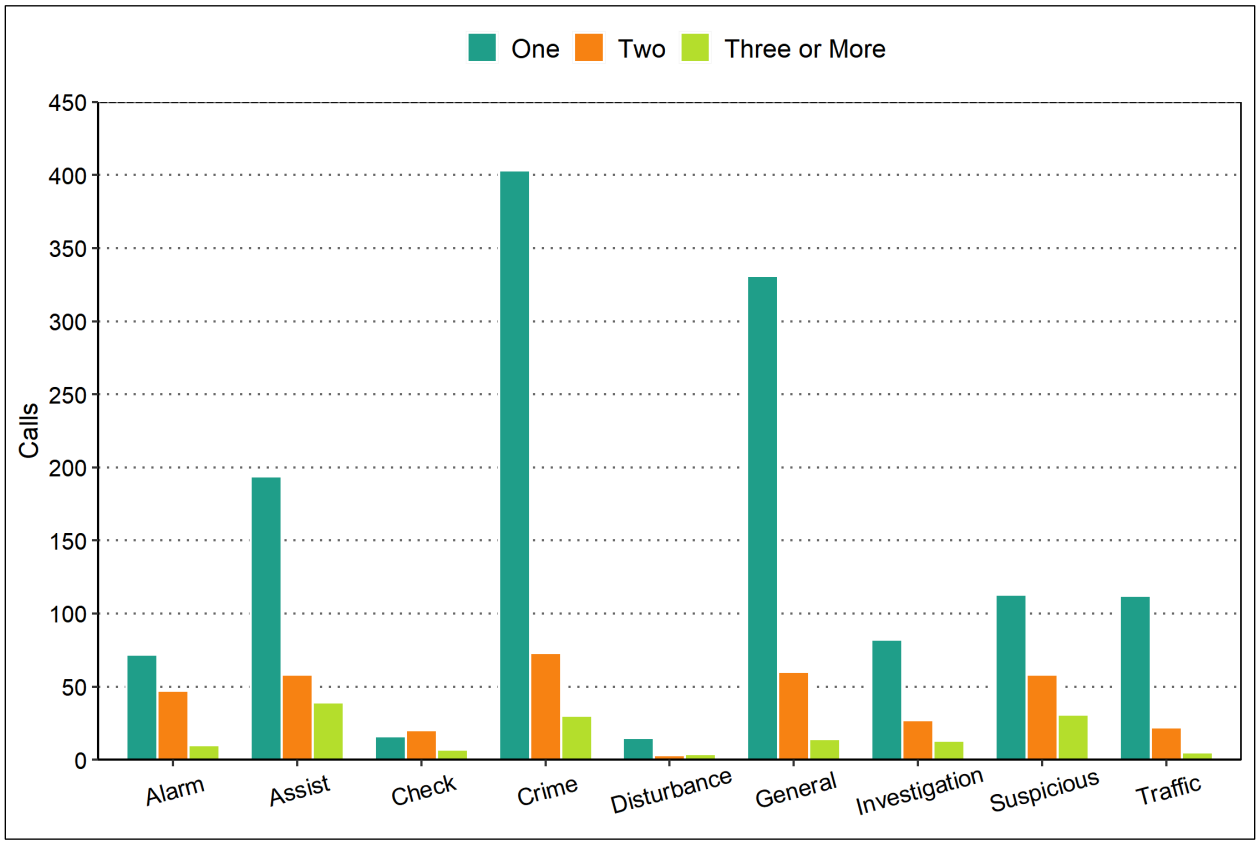
Note: The figure combines categories using weighted averages from the following table according to the description in Chart 8-1.

TABLE 8-7: Average Number of Responding Units, by Initiator and Category

Category	Community-Initiated		Police-Initiated	
	No. of Units	Calls	No. of Units	Calls
Accident	1.4	43	1.8	5
Alarm	1.5	129	1.0	1
Animal	1.2	178	1.0	30
Assist other agency	1.5	289	1.2	51
Check	1.9	43	1.0	2,404
Crime–person	1.5	160	1.1	204
Crime–property	1.2	346	1.0	454
Disturbance	1.5	22	1.0	6
Follow-up	1.5	2	1.2	39
Investigation	1.5	112	1.1	14
Juvenile	1.3	10	NA	0
Miscellaneous	1.3	190	1.0	383
Permit	1.1	35	1.0	386
Suspicious incident	1.6	202	1.3	25
Traffic enforcement	1.2	96	1.1	709
Warrant	2.5	2	2.5	2
Weighted Average/Total Calls	**1.4**	**1,859**	**1.0**	**4,713**

Note: The information in Figure 8-7 and Table 8-7 is limited to calls and excludes all events that show zero time on scene. Observations refer to the number of responding units shown within the figure rather than the table.

FIGURE 8-8: Number of Responding Units, by Category, Community-initiated Calls



Note: The figure combines categories using weighted averages from the following table according to the description in Chart 8-1.

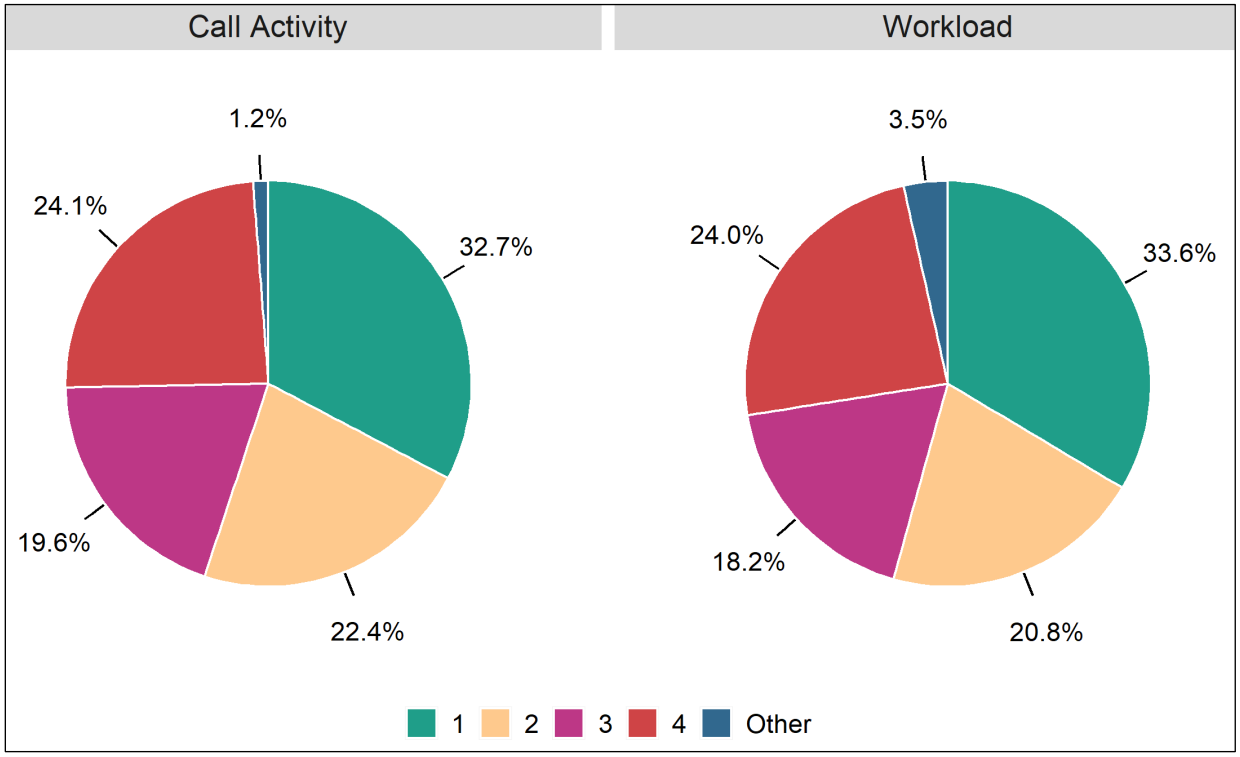
TABLE 8-8: Number of Responding Units, by Category, Community-initiated Calls

Category	Responding Units		
	One	Two	Three or More
Accident	31	10	2
Alarm	72	47	10
Animal	146	28	4
Assist other agency	194	57	38
Check	16	20	7
Crime–person	108	32	20
Crime–property	295	41	10
Disturbance	15	3	4
Follow-up	1	1	0
Investigation	75	24	13
Juvenile	7	3	0
Miscellaneous	153	27	10
Permit	31	4	0
Suspicious incident	113	58	31
Traffic enforcement	81	12	3
Warrant	0	1	1
Total	**1,338**	**368**	**153**

Observations:

- The overall mean number of responding units was 1.0 for police-initiated calls and 1.4 for community-initiated calls.
- The mean number of responding units was as high as 1.9 for check calls that were community-initiated.
- 72 percent of community-initiated calls involved one responding unit.
- 20 percent of community-initiated calls involved two responding units.
- 8 percent of community-initiated calls involved three or more responding units.
- The largest group of calls with three or more responding units involved assists.

FIGURE 8-9: Percentage Calls and Work Hours, by Sector



Note: The "Other" category included 44 calls at department headquarter and 40 calls could not be identified to a sector.

TABLE 8-9: Calls and Work Hours by Top Locations, By Sector, per Day

Locations	Per Day	
	Calls	Work Hours
Blackwell	2.5	0.7
Danada	0.8	0.7
Herrick Lake	0.6	0.2
Springbrook Prairie	0.7	0.2
St James Farm	0.5	0.1
Miscellaneous	0.7	0.4
Sector 1 Total	**5.9**	**2.4**
Hawk Hollow	0.3	0.1
Mallard Lake	0.8	0.3
Pratts Wayne Woods	0.6	0.2
Timber Ridge	0.7	0.2
West Branch	0.9	0.3
Miscellaneous	0.8	0.5
Sector 2 Total	**4.0**	**1.5**
Churchill Woods	0.8	0.3
East Branch	0.8	0.2
Oak Meadows	0.3	0.1
Songbird Slough	0.2	0.1
Wood Dale Grove	0.2	0.1
Miscellaneous	1.0	0.5
Sector 3 Total	**3.5**	**1.3**
Fullersburg Woods	0.7	0.2
Greene Valley	1.2	0.4
Hidden Lake	0.3	0.1
Mayslake	0.5	0.2
Waterfall Glen	0.9	0.4
Miscellaneous	0.8	0.4
Sector 4 Total	**4.3**	**1.7**
HQ	0.1	0.2
Unknown	0.1	0.0
Total	**18.0**	**7.2**

Note: This table included the top five most popular locations for each sector, with other lower frequency locations grouped within each sector as a miscellaneous category.

Observations:

- Sector 1 had the most calls (5.9 per day) and workload (2.4 hours per day), and it accounted for 33 percent of total calls and 34 percent of total workload.
- Excluding the "other" category, an even distribution would allot 4.4 calls and 1.7 work hours per sector.

FIGURE 8-10: Percentage Calls and Work Hours, by Category, Winter 2019

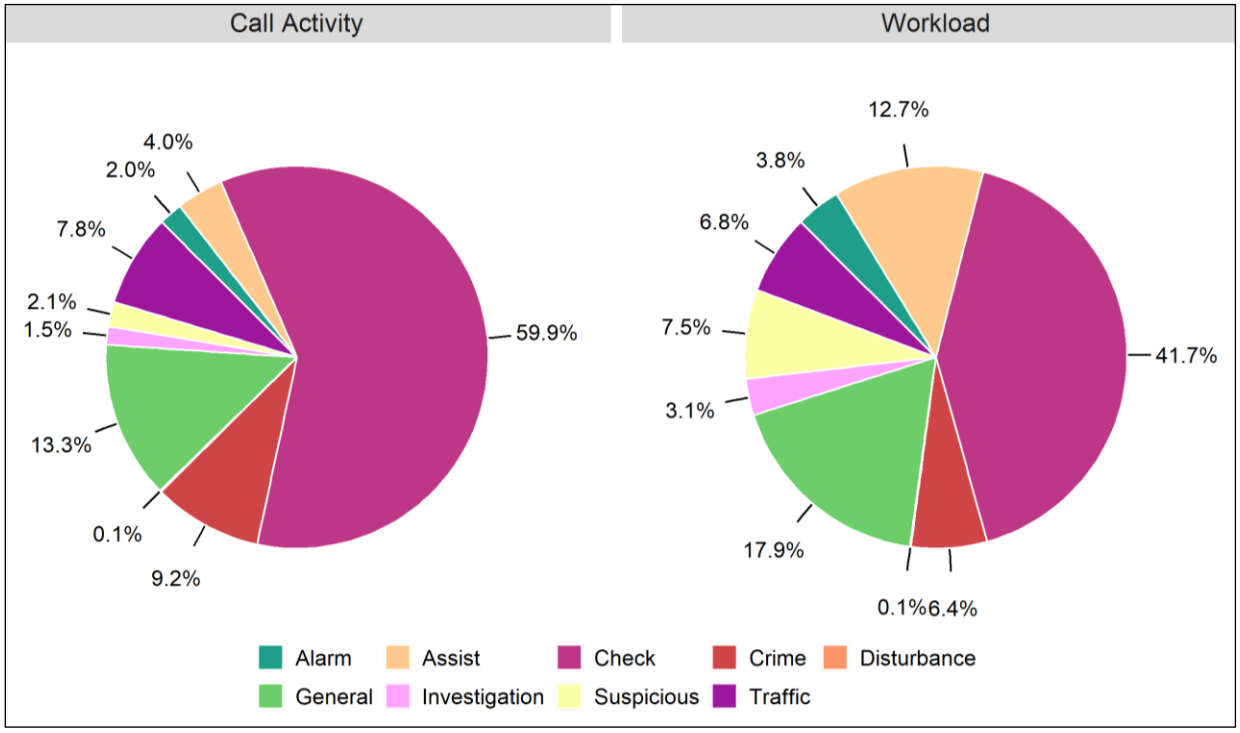


TABLE 8-10: Calls and Work Hours per Day, by Category, Winter 2019

Category	Per Day	
	Calls	Work Hours
Accident	0.1	0.1
Alarm	0.3	0.2
Animal	0.3	0.1
Assist other agency	0.6	0.5
Check	9.2	1.7
Crime–person	0.4	0.1
Crime–property	1.0	0.2
Disturbance	0.0	0.0
Investigation	0.2	0.1
Miscellaneous	1.1	0.6
Permit	0.7	0.0
Suspicious incident	0.3	0.3
Traffic enforcement	1.1	0.2
Warrant*	0.0	0.0
Total	**15.3**	**4.0**

Note: Workload calculations focused on calls rather than events. There was only one warrant call in winter 2019.

Observations, Winter:

- Total calls averaged 15 per day, or 0.9 per hour (from 7:00 a.m. to midnight).
- Total workload averaged 4 hours per day, meaning that on average 0.2 officers per hour were busy responding to calls.
- Check calls constituted 60 percent of calls and 42 percent of workload.
- General noncriminal calls constituted 13 percent of calls and 18 percent of workload.
- Crime calls constituted 9 percent of calls and 6 percent of workload.
- Traffic calls constituted 8 percent of calls and 7 percent of workload.
- These top four categories constituted 90 percent of calls and 73 percent of workload.

FIGURE 8-11: Percentage Calls and Work Hours, by Category, Summer 2019

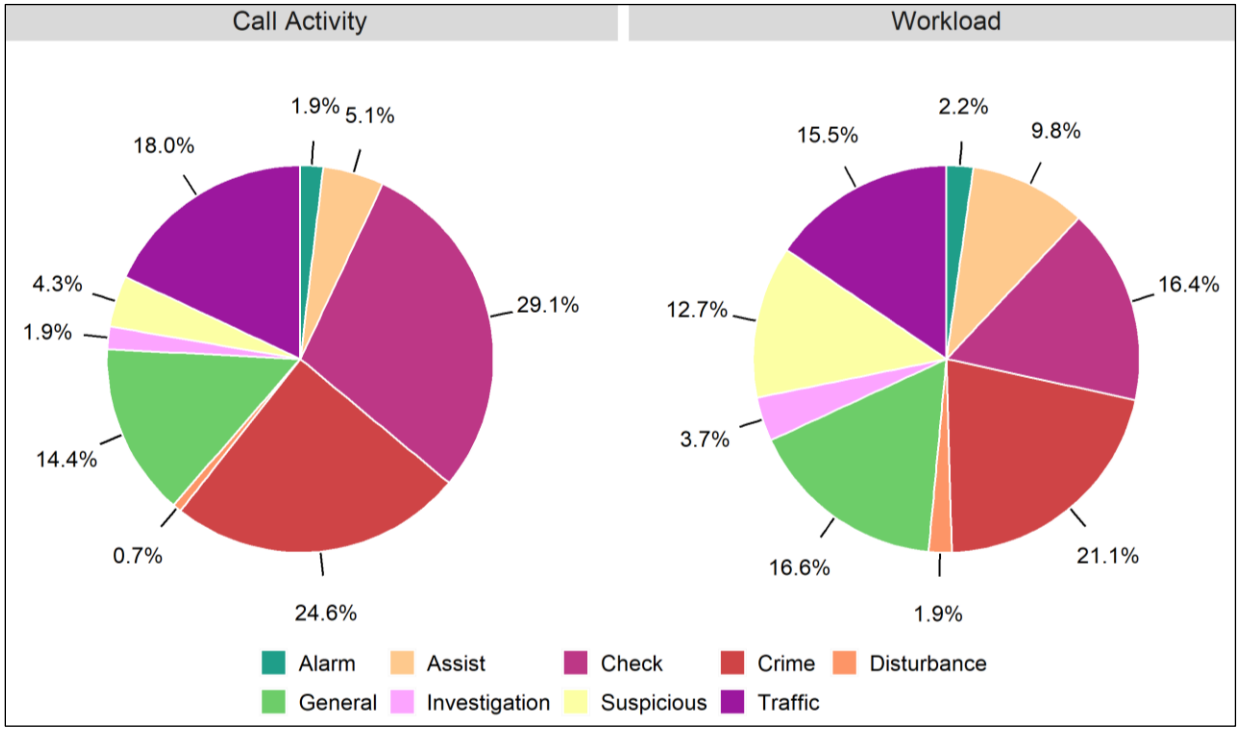


TABLE 8-11: Calls and Work Hours per Day, by Category, Summer 2019

Category	Per Day	
	Calls	Work Hours
Accident	0.2	0.3
Alarm	0.4	0.2
Animal	0.6	0.4
Assist other agency	1.1	0.7
Check	6.3	1.3
Crime–person	2.1	0.9
Crime–property	3.2	0.8
Disturbance	0.2	0.2
Follow-up	0.1	0.1
Investigation	0.4	0.3
Juvenile	0.0	0.0
Miscellaneous	0.9	0.8
Permit	1.5	0.1
Suspicious incident	0.9	1.0
Traffic enforcement	3.7	0.9
Warrant*	0.0	0.0
Total	**21.7**	**8.0**

Note: Workload calculations focused on calls rather than events. There was only one warrant call in summer 2019.

Observations, Summer:

- The average number of calls per day and the average daily workload was higher in summer than in winter.
- Total calls averaged 22 per day, or 1.3 per hour (from 7:00 a.m. to midnight).
- The total workload averaged 8 hours per day, meaning that on average 0.5 officers per hour were busy responding to calls.
- Check calls constituted 29 percent of calls and 16 percent of workload.
- General noncriminal calls constituted 14 percent of calls and 17 percent of workload.
- Crime calls constituted 25 percent of calls and 21 percent of workload.
- Traffic calls constituted 18 percent of calls and 15 percent of workload.
- These top four categories constituted 86 percent of calls and 70 percent of workload.

OUT-OF-SERVICE ACTIVITIES AND DIRECTED PATROL CALLS

In the period from January 1, 2019, through December 31, 2019, the dispatch center recorded activities that were not assigned a call number. We focused on those activities that involved a patrol unit. We also limited our analysis to noncall activities that occurred during shifts where the same patrol unit was also responding to calls for service. Each record only indicates one unit per activity. There were a few problems with the data provided and we made assumptions and decisions to address these issues:

- We excluded activities that lasted less than 30 seconds. These are irrelevant and contribute little to the overall workload.
- Another portion of the recorded activities lasted more than eight hours. As an activity is unlikely to last more than eight hours, we assumed that these records were inaccurate.
- After these exclusions, 21,980 activities remained. These activities had an average duration of 24.8 minutes.

In this section, we report out-of-service activities and workload by type of activity. In the next section, we include these activities in the overall workload when comparing the total workload against available personnel in winter and summer.

Also, directed patrol events were a significant portion (68 percent) of CAD records in 2019. They were excluded from the bulk of our earlier analysis as they are nearly always police-initiated and include only a single responding unit. Directed patrol recordkeeping increased dramatically when CAD systems were switched. This latter portion of this section provides a basic analysis of directed patrol events.

TABLE 8-12: Activities and Occupied Times by Description

CAD	Status	Description	Occupied Time	Count
Motorola	US06	Busy unless urgent	47.7	104
	US07	Out of service	31.2	92
	USAD	Administrative duties	52.8	551
	USBP	Bike patrol	26.7	176
	USCD	Civil disturbance	4.1	3
	USCL	Closing(park)	13.4	3,142
	USCT/ USLC	Court/ Local court	81.6	42
	USCW	Car wash	10.3	114
	USDT	Detail	83.4	22
	USEM	Equipment maintenance	19.6	256
	USFO	Follow-up	29.6	49
	USFP	Foot patrol	27.6	1,267
	USHQ	At station	63.1	590
	USLC	Local court	27.2	1
	USLU	Lunch/dinner	28.1	380
	USMG	Meeting	94.4	63
	USOV	Out of vehicle	30.9	186
	USPC	Premise check	17.6	2
	USRC	Roll call	83	85
	USRG	Range	109.4	52
	USRR	Railroaded	4.6	2
	USSA	Special assignment	47	63
	USTC	Traffic control	11.8	1
	USTN	Training	113.2	70
	USVM	Vehicle maintenance	16.5	572
	USVP	Vehicle patrol	21.8	11,252
	USVW	Vehicle wash	8.5	9
	USWC	Wheaton court	60.5	6
	USWS	Warrant service	27.1	1
	Subtotal		**24.6**	**19,153**
Hexagon	OS	Administrative*	39.7	105
	OS	At station	31.3	122
	OS	Break	24.6	40
	OS	Miscellaneous location	20.2	364
	OS	Special assignment**	39.5	48
	OS	No details	26.4	2,148
	Subtotal		**26.5**	**2,827**
Weighted Average/Total Activities			**24.8**	**21,980**

Note: *Administrative category included activities such as meeting, training, report writing, and court-related activities. **Special assignment category included activities such as follow-up, special event, range, and deer program activities.

FIGURE 8-12: Activities per Day, by Month and System

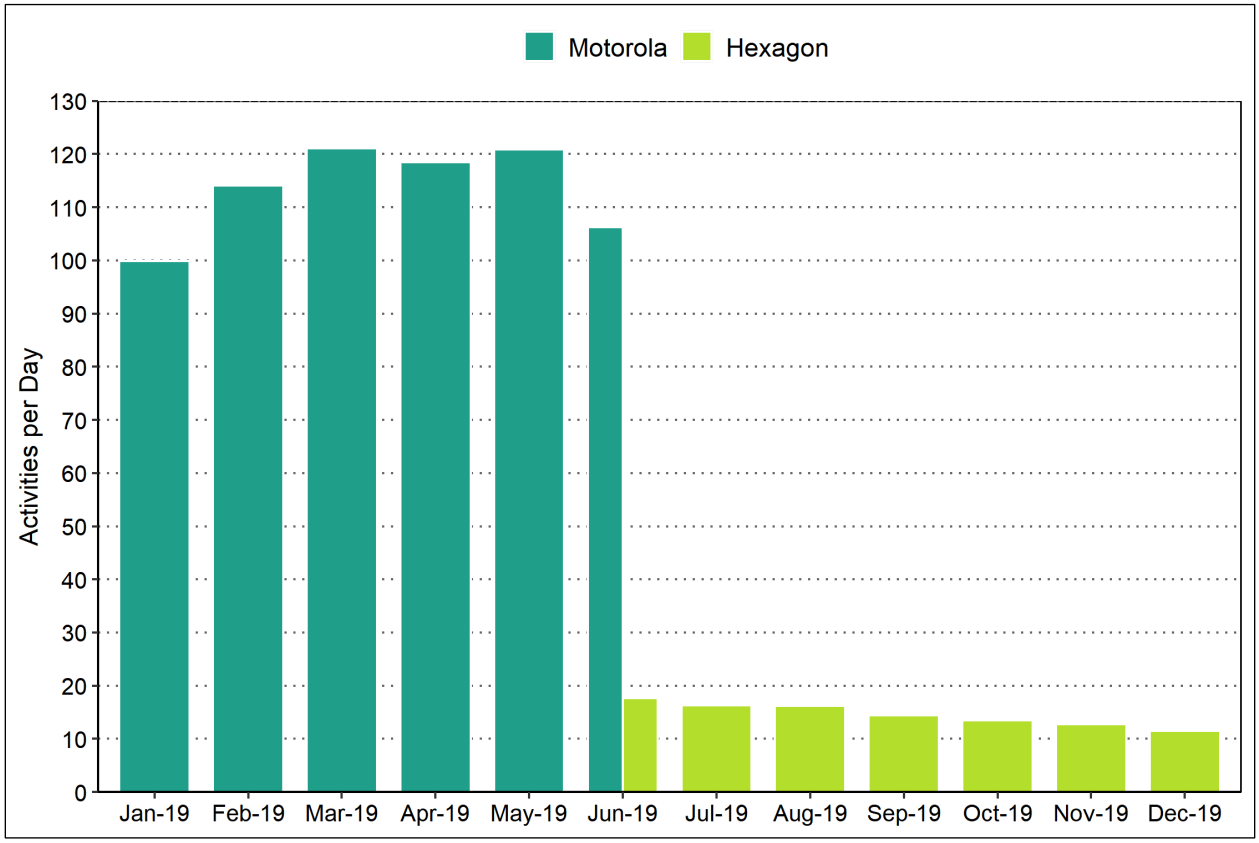


TABLE 8-13: Activities per Day, by Month

Month	Jan	Feb	Mar	Apr	May	Jun-M	Jun-H	Jul	Aug	Sep	Oct	Nov	Dec
Activities per Day	99.9	114.1	121.1	118.5	120.9	106.3	17.6	16.3	16.2	14.5	13.5	12.8	11.5
Hours per Day	44.5	47.6	47.5	48.6	47.6	42.5	6.6	6.2	7.2	7.3	5.8	6.1	5.4

Note: The first 17 days of June are included in "Jun-M" and the last 13 days are included in "Jun-H."

Observations:

- Before June 18, 2019, the most common out-of-service activity was vehicle patrol.
- From June 18, 2019, the most common out-of-service code was "OS" without additional detail.
- Before June 18, 2019, the average time spent per activity was 24.6 minutes.
- From June 18, 2019, the average time spent per activity was 26.5 minutes.
- The number of activities per day was lowest in December.
- The number of activities per day was highest in March.

FIGURE 8-13: Activities per Day, by Day of Week

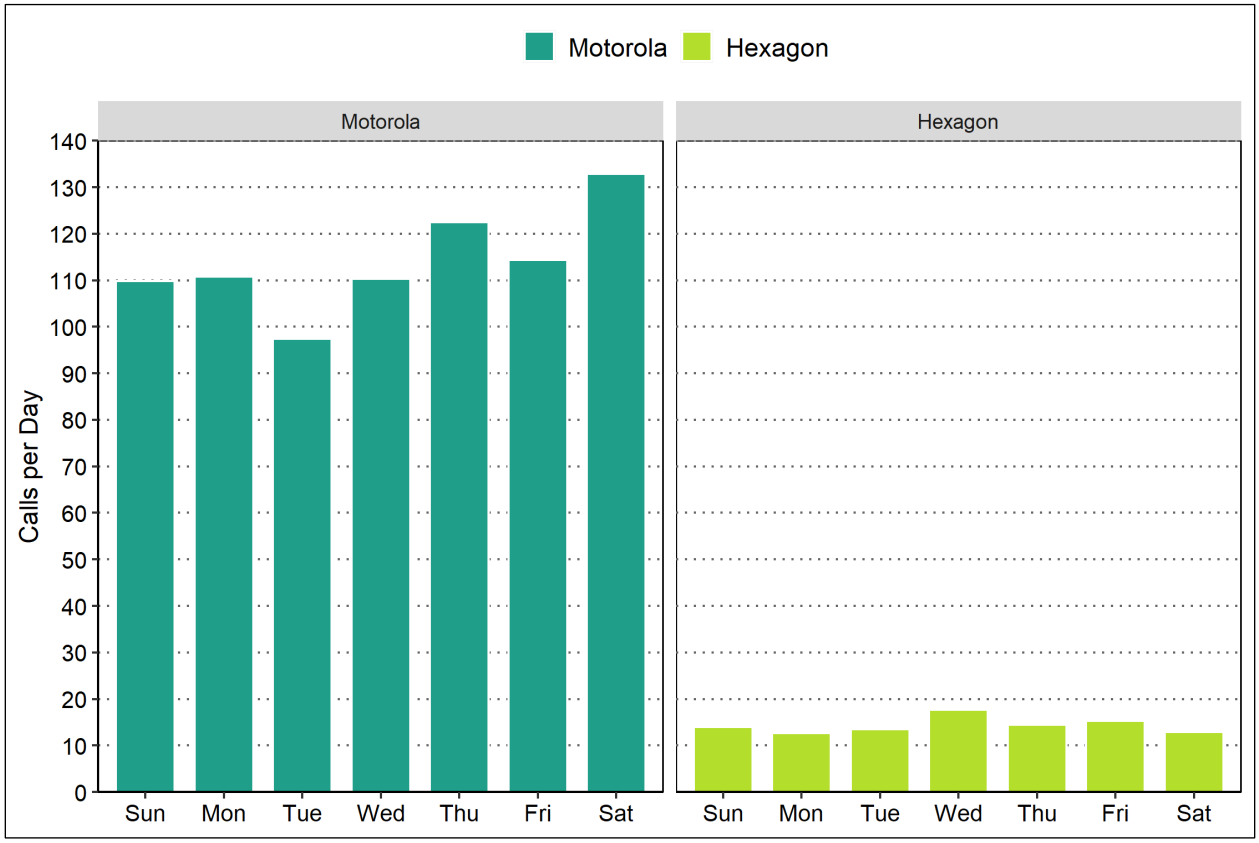


TABLE 8-14: Activities per Day, by Day of Week

Day of Week	Activities per Day	
	Motorola	Hexagon
Sunday	109.8	14.0
Monday	110.8	12.7
Tuesday	97.5	13.4
Wednesday	110.3	17.6
Thursday	122.5	14.4
Friday	114.4	15.3
Saturday	132.8	12.9
Weekly Average	**114.0**	**14.4**

Observations:

- Before June 18, 2019, the number of noncall activities per day was lowest on Tuesdays and highest on Saturdays.
- From June 18, 2019, the number of noncall activities per day was lowest on Mondays and highest on Wednesdays.

FIGURE 8-14: Activities per Day, by Hour of Day

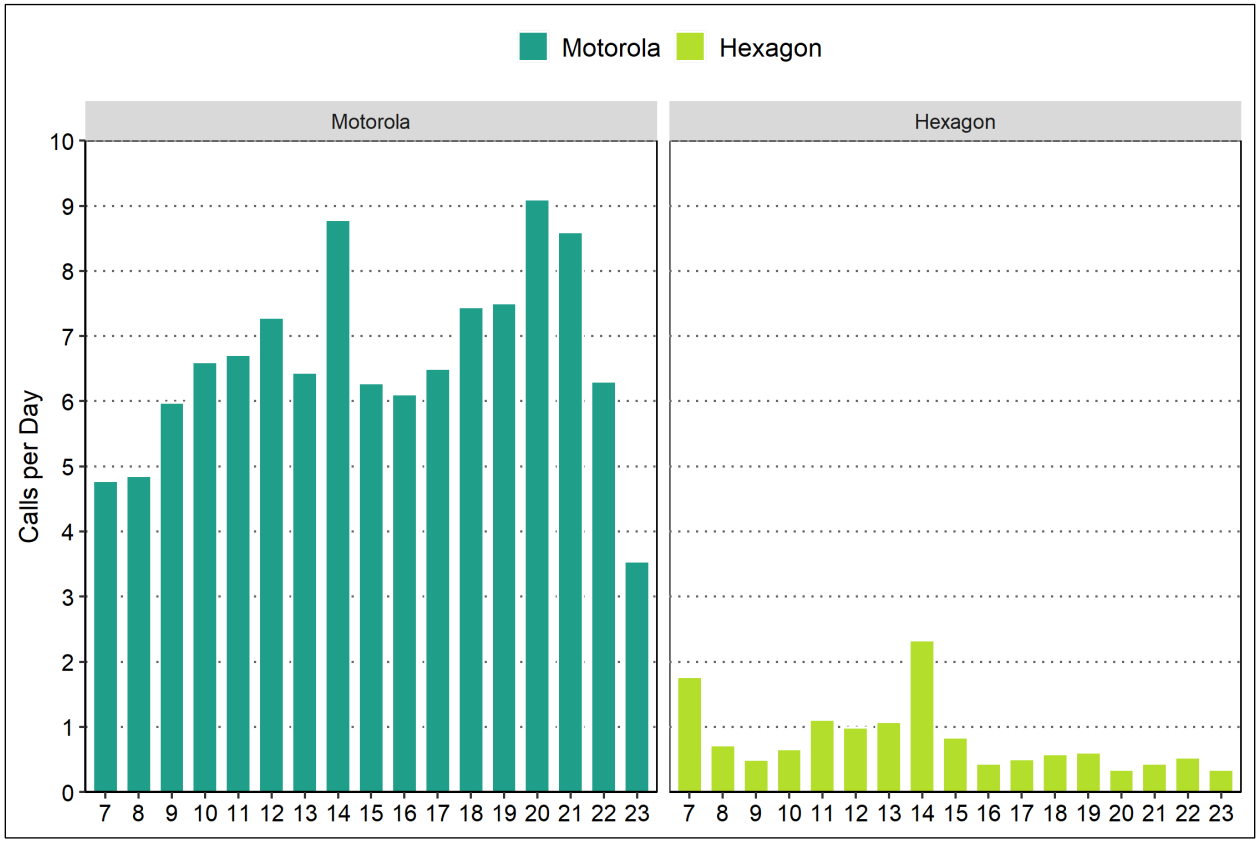


TABLE 8-15: Activities per Hour, by Hour of Day

Hour	Activities	
	Motorola CAD	Hexagon
7	4.8	1.8
8	4.9	0.7
9	6.0	0.5
10	6.6	0.7
11	6.7	1.1
12	7.3	1.0
13	6.4	1.1
14	8.8	2.3
15	6.3	0.8
16	6.1	0.4
17	6.5	0.5
18	7.4	0.6
19	7.5	0.6
20	9.1	0.3
21	8.6	0.4
22	6.3	0.5
23	3.5	0.3
Hourly Average	**6.7**	**0.8**

Observations:

- Before June 18, 2019, the number of activities per hour was highest between 8:00 p.m. and 9:00 p.m.
- Before June 18, 2019, the number of activities per hour was lowest between 11:00 p.m. and midnight.
- From June 18, 2019, the number of activities per hour was highest between 2:00 p.m. and 3:00 p.m.
- From June 18, 2019, the number of activities per hour was lowest between 8:00 p.m. and 9:00 p.m. and between 11:00 p.m. and midnight.

TABLE 8-16: Directed Patrol Calls and Occupied Times by Description

CAD Type	Description	Occupied Time	Count
Motorola	DIRECTED PATROL	15.8	1,304
	FOOT PATROL	58.3	4
	Subtotal	**16.0**	**1,308**
Hexagon	ATV PATROL	65.1	97
	BIKE PATROL	28.2	358
	BOAT PATROL	59.1	3
	BUILDING CHECK	19.0	165
	CLOSING PARKS	26.7	2,080
	FOOT PATROL	32.8	1,621
	GANG ENFORCEMENT PATROL	0.6	1
	PARKS CHECK	21.2	1,188
	TRAFFIC ENFORCEMENT	22.1	14
	VEHICLE PATROL	26.8	8,555
	Subtotal	**27.2**	**14,082**
Total		**26.2**	**15,390**

Note: We removed 184 zero time on scene events, from a total of 15,574 directed patrol calls.

Observations:

- Before June 18, 2019,
  - The Motorola CAD system recorded 7.8 calls per day.
  - The average time spent per directed patrol call was 16.0 minutes.
  - The directed patrol workload averaged 2.1 hours per day.
- From June 18, 2019,
  - The Hexagon CAD system recorded 71.5 calls per day.
  - the average time spent per directed patrol call was 27.2 minutes.
  - The directed patrol workload averaged 32.4 hours per day. This means that an average of 1.9 officers were busy on directed patrol during a 17-hour day.

FIGURE 8-15: Directed Patrol Calls per Day, by Month

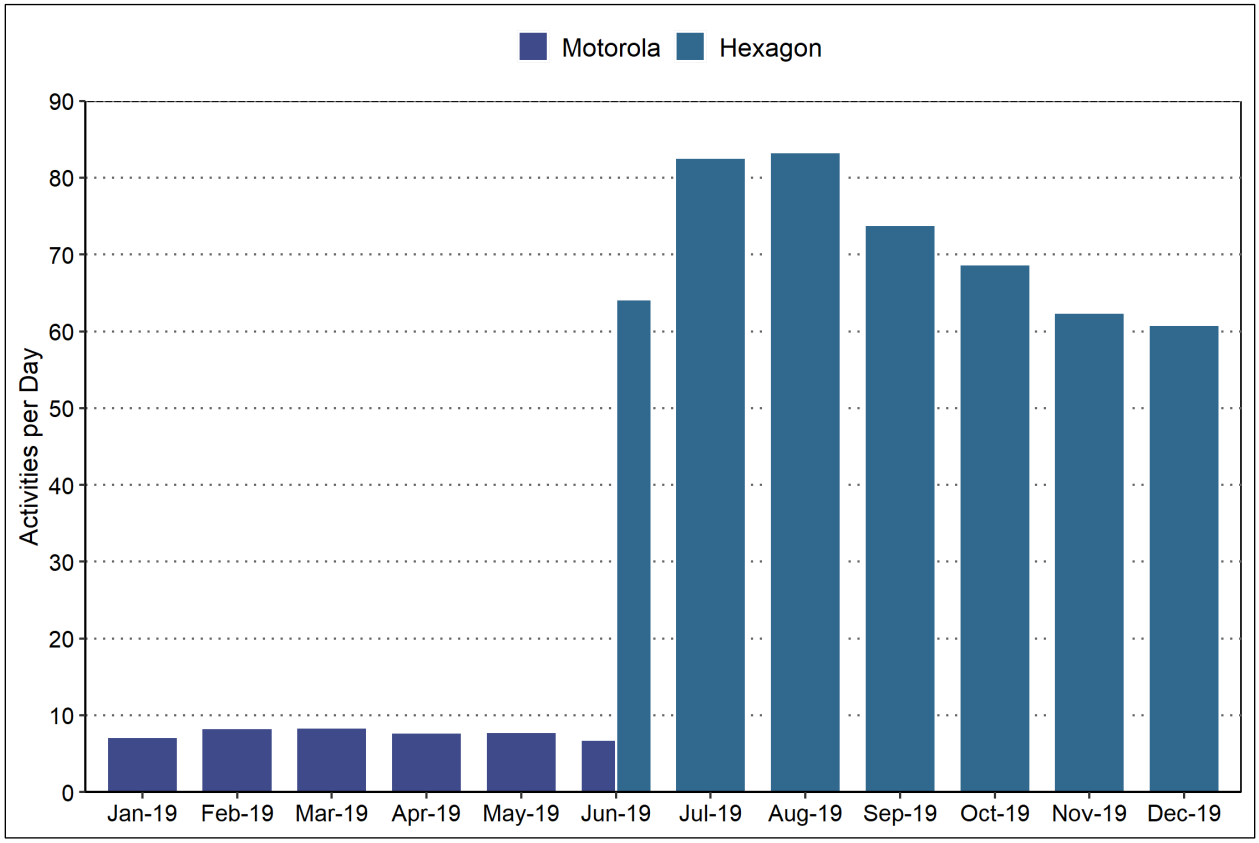


TABLE 8-17: Directed Patrol Calls and Work per Day, by Month

Month	Jan	Feb	Mar	Apr	May	Jun-	Jun-	Jul	Aug	Sep	Oct	Nov	Dec
Calls per Day	7.2	8.4	8.4	7.7	7.8	6.8	64.2	82.6	83.3	73.9	68.7	62.4	60.8
Hours per Day	1.9	2.2	2.2	2.1	2.1	1.8	27.0	36.0	38.5	33.3	31.4	29.4	28.0

Note: The first 17 days of June are included in "Jun-M" and the last 13 days are included in "Jun-H."

Observations:

- The number of recorded directed patrol calls per day was much higher after switching CAD systems.
- The number of directed patrol calls per day was highest in July and August.

DEPLOYMENT

For this study, we examined deployment information for eight weeks in winter (January 4 through February 28, 2019) and eight weeks in summer (July 7 through August 31, 2019). The department's main patrol force consists of patrol officers, patrol sergeants, and training/special assignment officers. During 2019, they operated on two shifts. The first shift starts at 7:00 a.m. and ends at 3:00 p.m., while the second shift starts at 2:00 p.m. and ends at midnight. The police department's main patrol force deployed an average of 4.8 units per hour during the 24-hour day in winter 2019 and an average of 5.7 units per hour in summer 2019.

In this section, we describe the deployment and workload in distinct steps, distinguishing between summer and winter and between weekdays (Monday through Friday) and weekends (Saturday and Sunday):

- First, we focus on patrol deployment alone.
- Next, we compare "all" workload, which includes community-initiated calls, police-initiated calls, directed patrol, and out-of-service activities.
- Finally, we compare the workload against deployment by percentage.

Comments follow each set of four figures, with separate discussions for winter and summer.

FIGURE 8-16: Deployed Units, Weekdays, Winter 2019

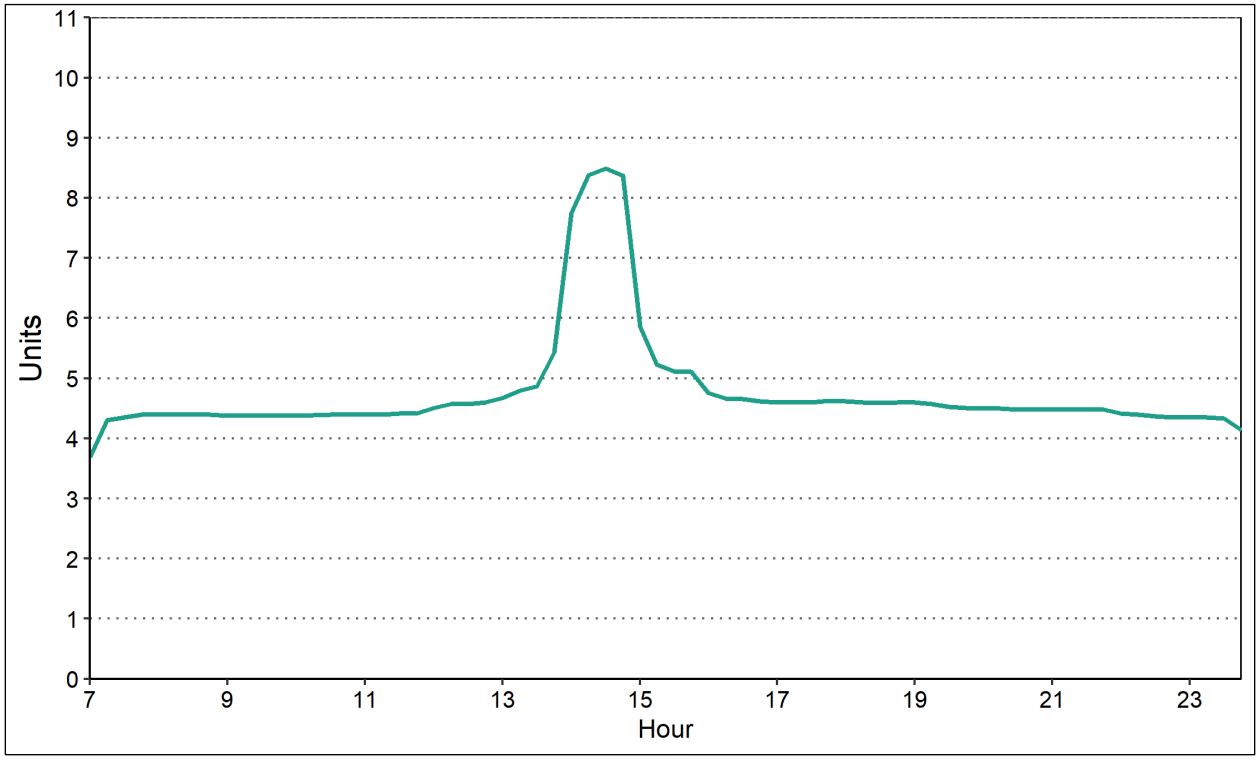


FIGURE 8-17: Deployed Units, Weekends, Winter 2019

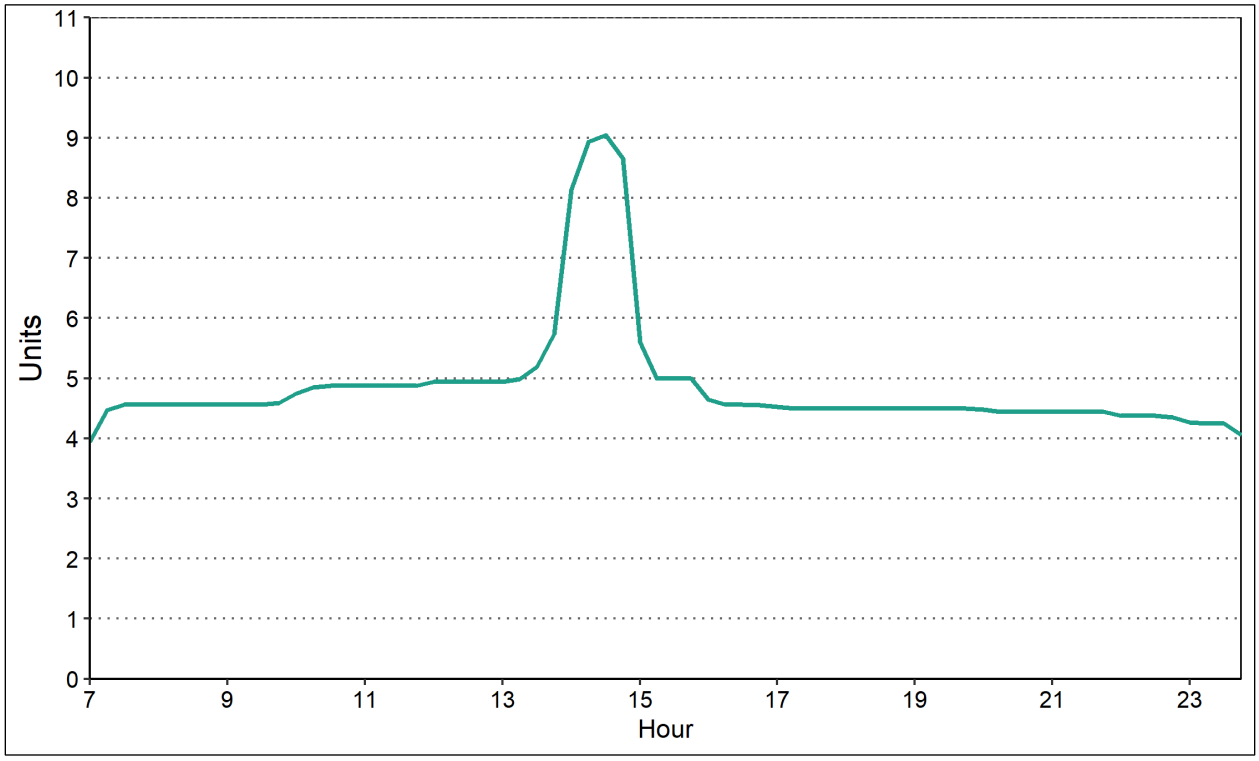


FIGURE 8-18: Deployed Units, Weekdays, Summer 2019

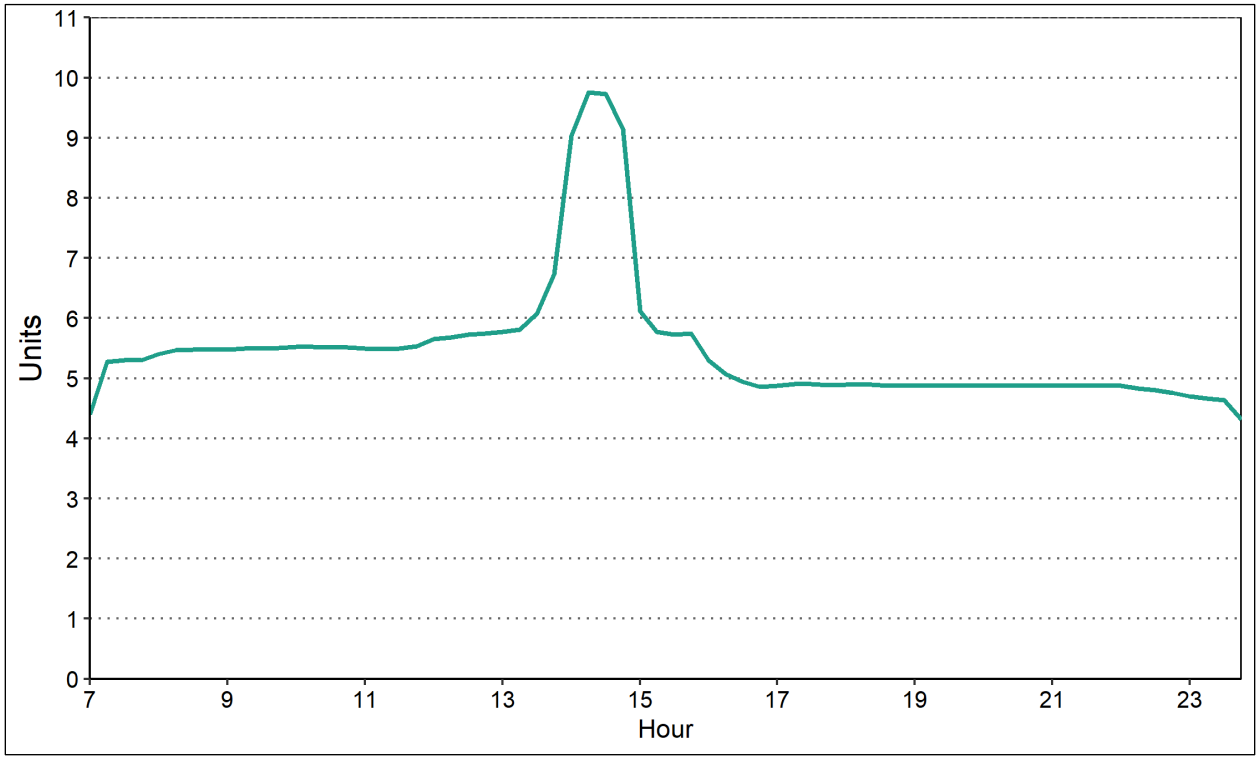
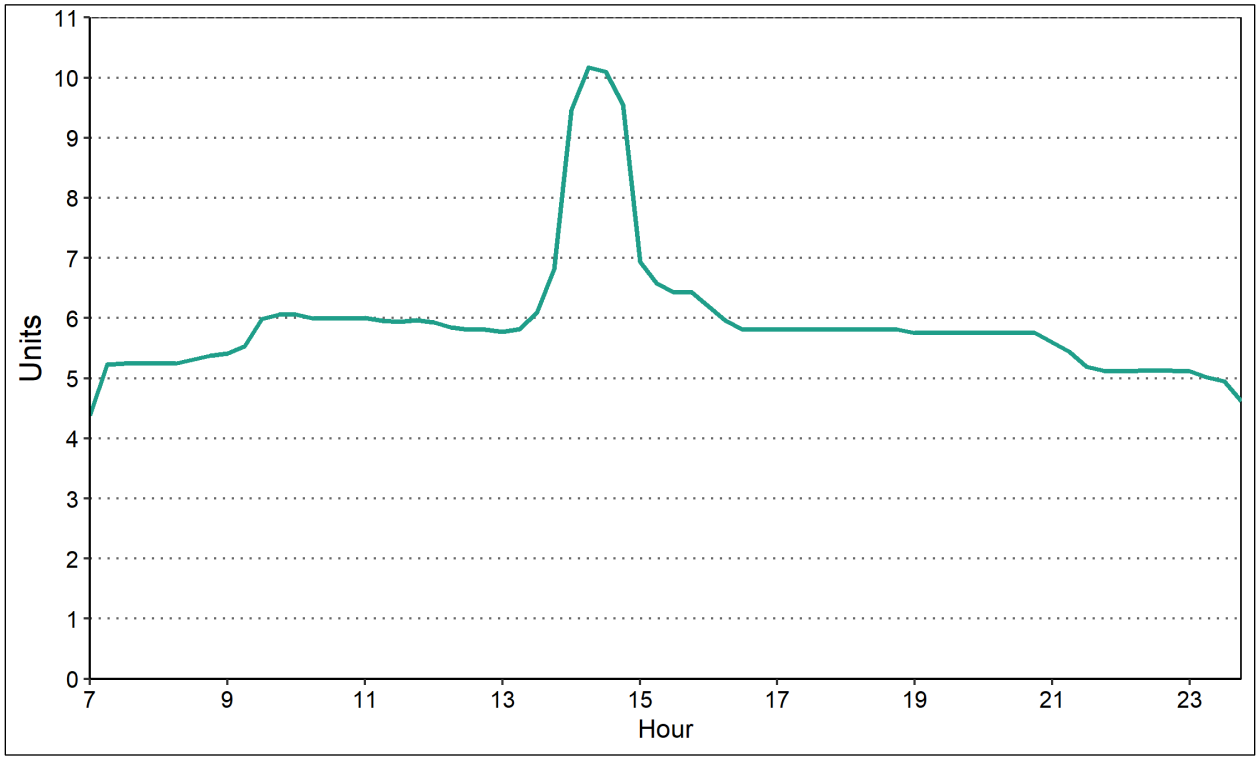


FIGURE 8-19: Deployed Units, Weekends, Summer 2019



Observations:

- For Winter (January 4 through February 28, 2019):
  - The average deployment was 4.8 units per hour during the week and 4.9 units per hour on the weekend.
  - Average deployment varied from 3.7 to 8.5 units per hour on weekdays and 3.9 to 9.1 units per hour on weekends.
- For Summer (July 7 through August 31, 2019):
  - The average deployment was 5.5 units per hour during the week and 5.9 units per hour on the weekend.
  - Average deployment varied from 4.3 to 9.8 units per hour on weekdays and 4.4 to 10.2 units per hour on weekends.

FIGURE 8-20: Deployment and All Workload, Weekdays, Winter 2019

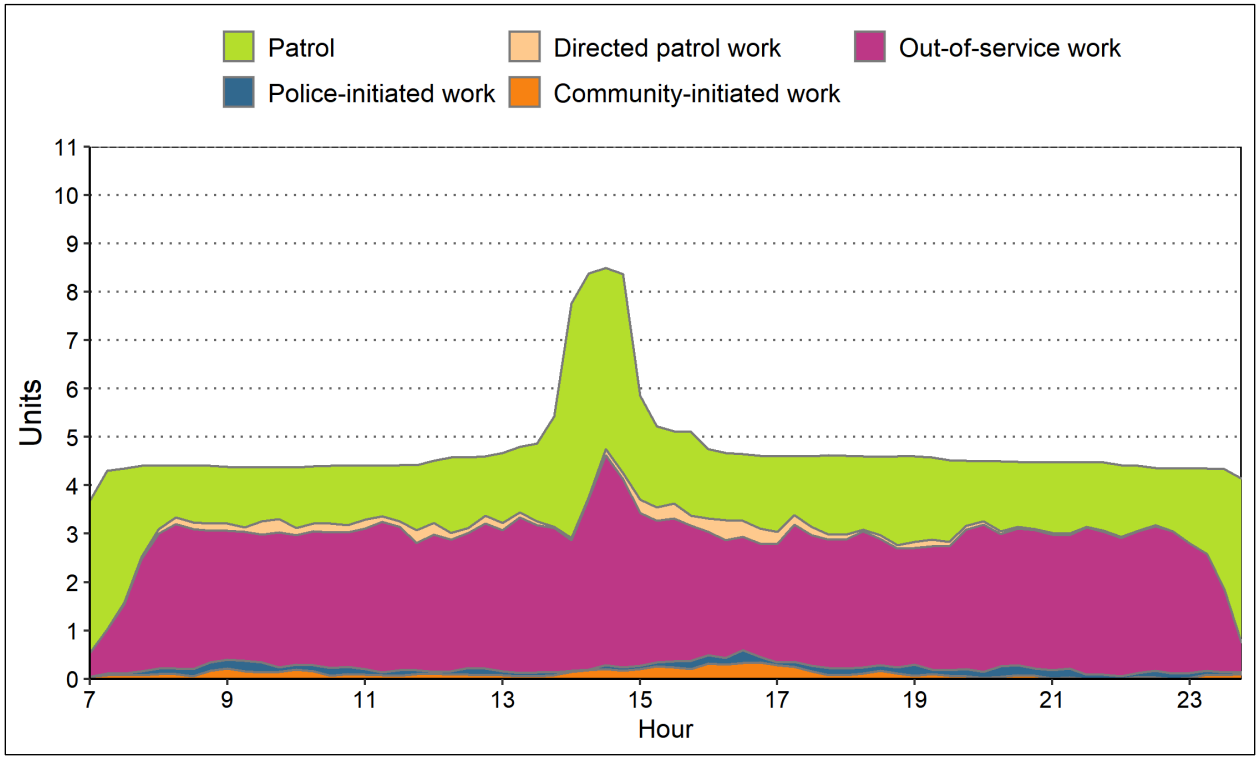


FIGURE 8-21: Deployment and All Workload, Weekends, Winter 2019

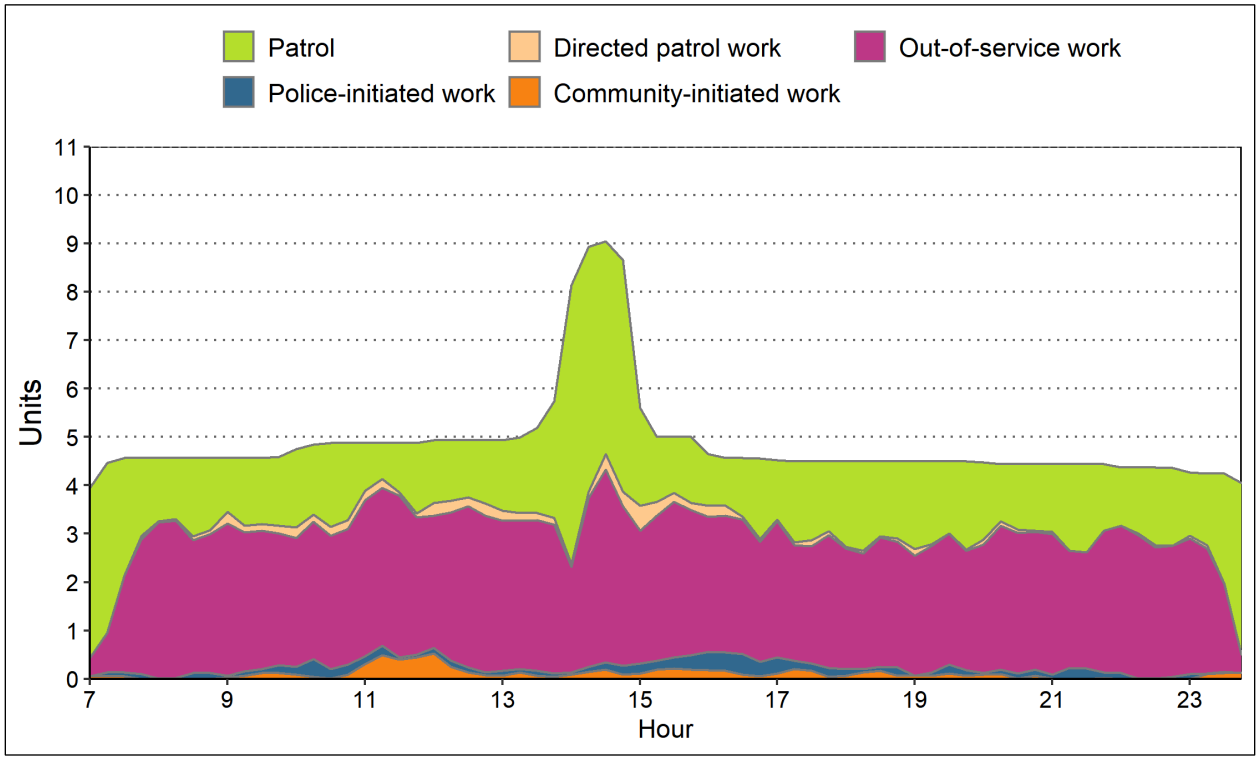


FIGURE 8-22: Deployment and All Workload, Weekdays, Summer 2019

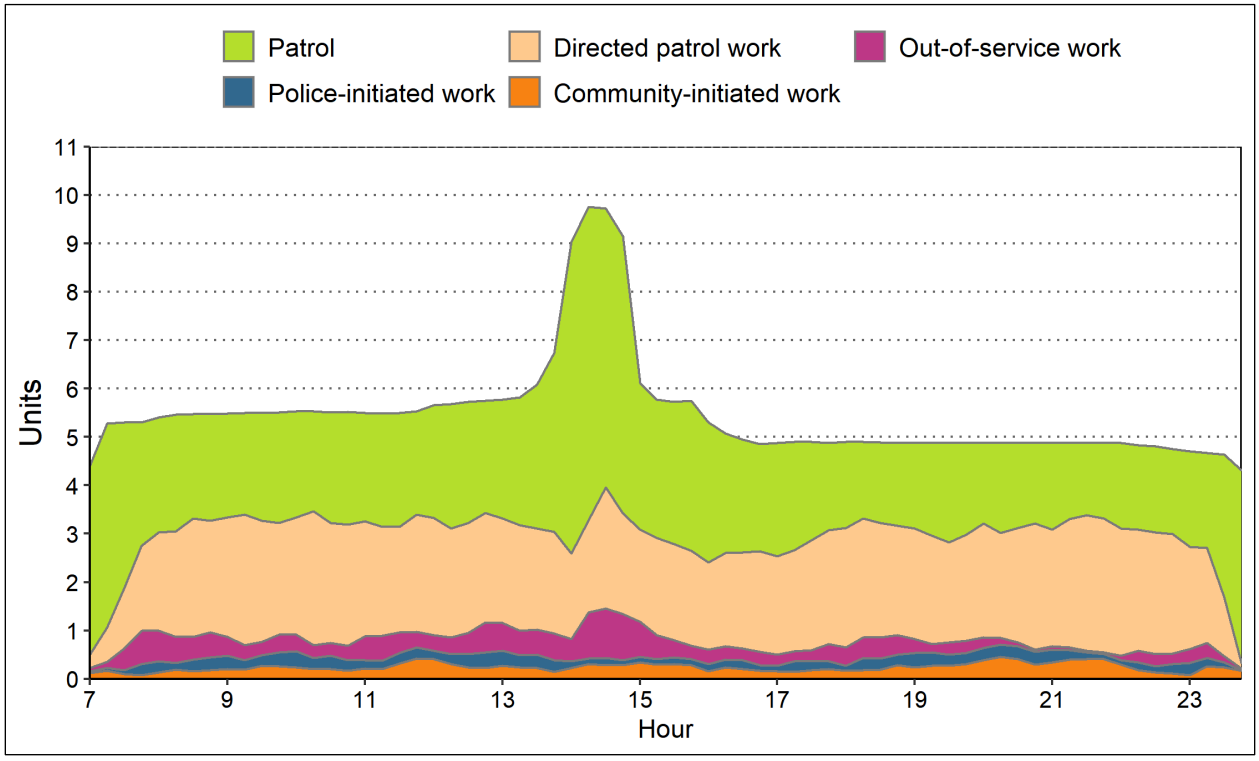
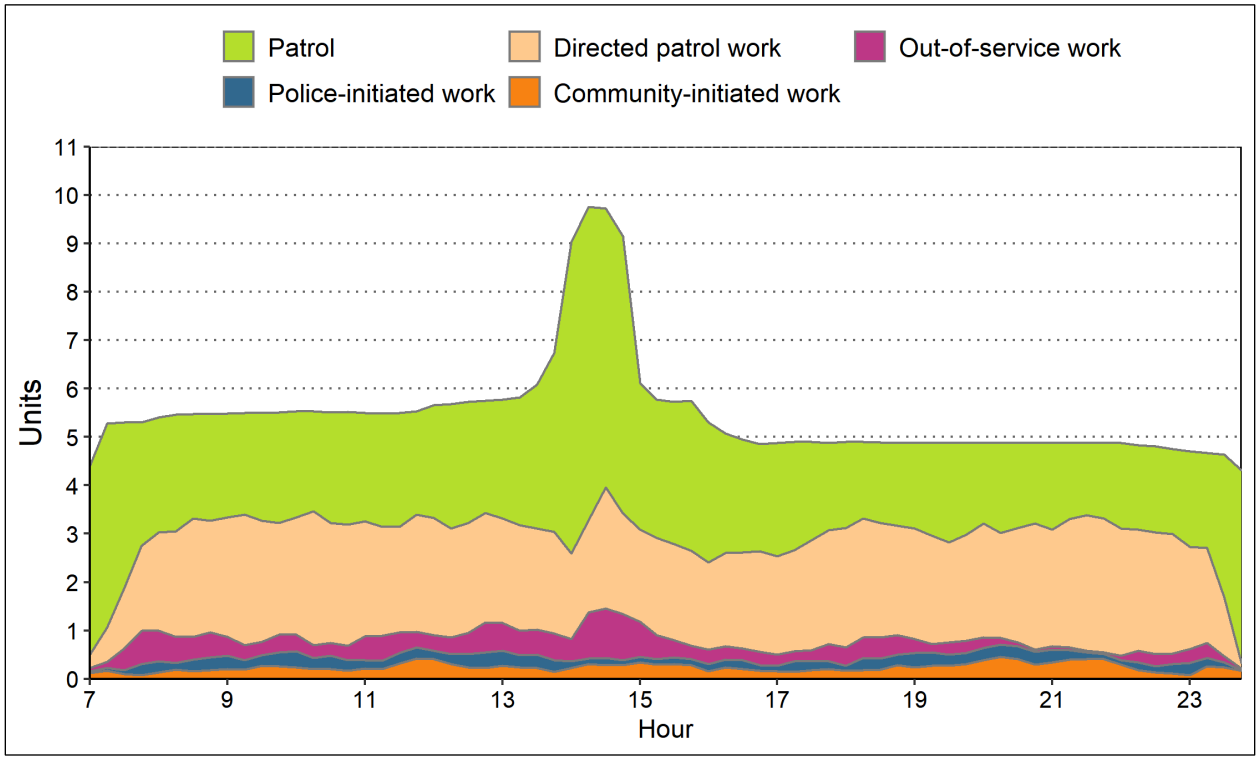


FIGURE 8-23: Deployment and All Workload, Weekends, Summer 2019



Note: Figures 8-20 to 8-23 show deployment along with all workload from community-initiated calls, police-initiated calls, out-of-service work, and directed patrol work.

Observations:

Winter:

- Community-initiated work:
  - Average community-initiated workload was 0.1 units per hour during the week and on weekends.
  - This was approximately 2 percent of hourly deployment during the week and on weekends.
- All work:
  - Average workload was 3.0 units per hour during the week and 3.1 units per hour on weekends.
  - This was approximately 64 percent of hourly deployment during the week and 64 percent of hourly deployment on weekends.

Summer:

- Community-initiated work:
  - Average community-initiated workload was 0.2 units per hour during the week and 0.4 units per hour on weekends.
  - This was approximately 4 percent of hourly deployment during the week and 6 percent of hourly deployment on weekends.
- All work:
  - Average workload was 2.9 units per hour during the week and 3.3 units per hour on weekends.
  - This was approximately 54 percent of hourly deployment during the week and 56 percent of hourly deployment on weekends.

FIGURE 8-24: Percentage of Workload, Weekdays, Winter 2019

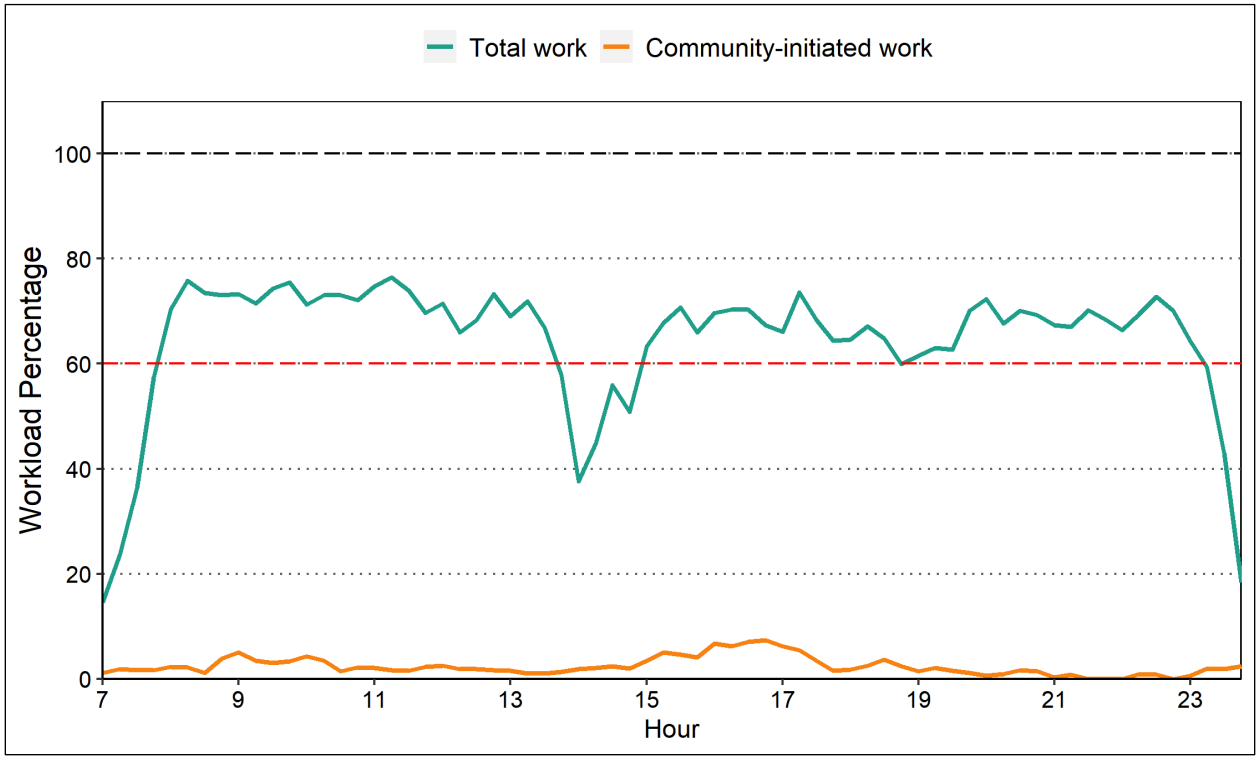


FIGURE 8-25: Percentage of Workload, Weekends, Winter 2019

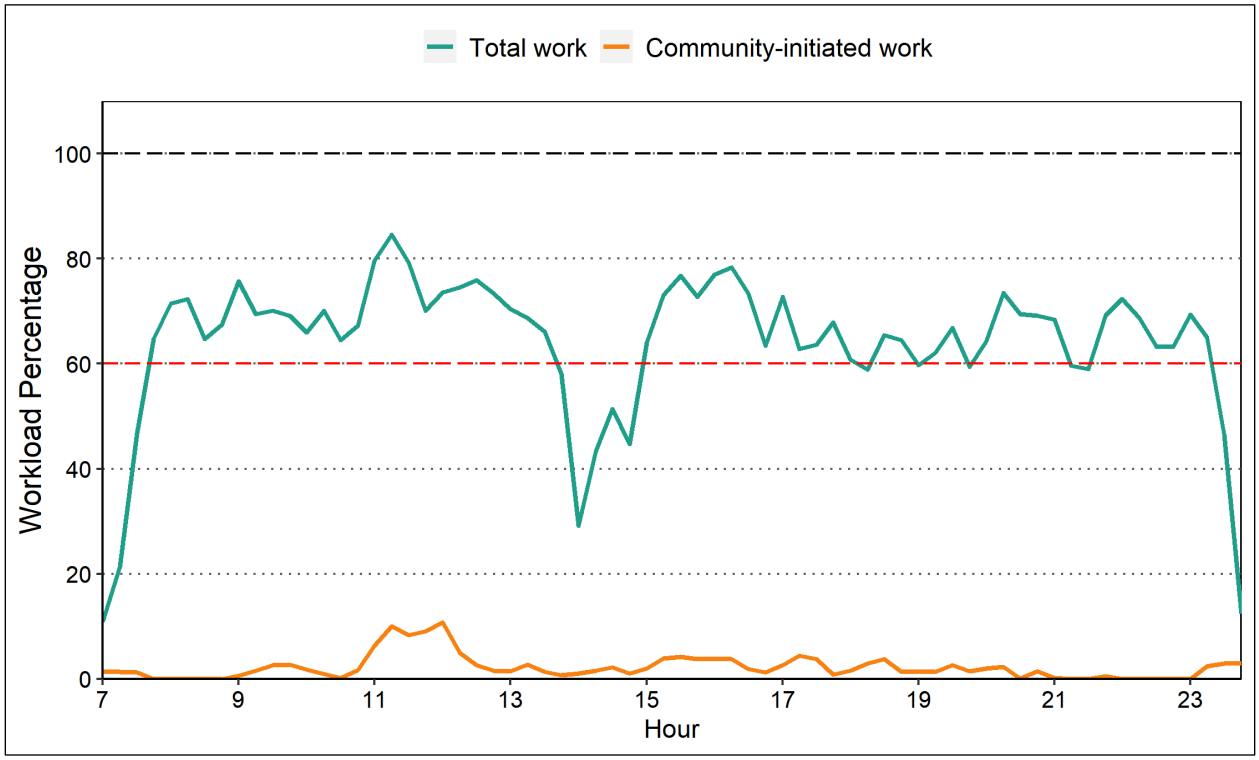


FIGURE 8-26: Percentage of Workload, Weekdays, Summer 2019

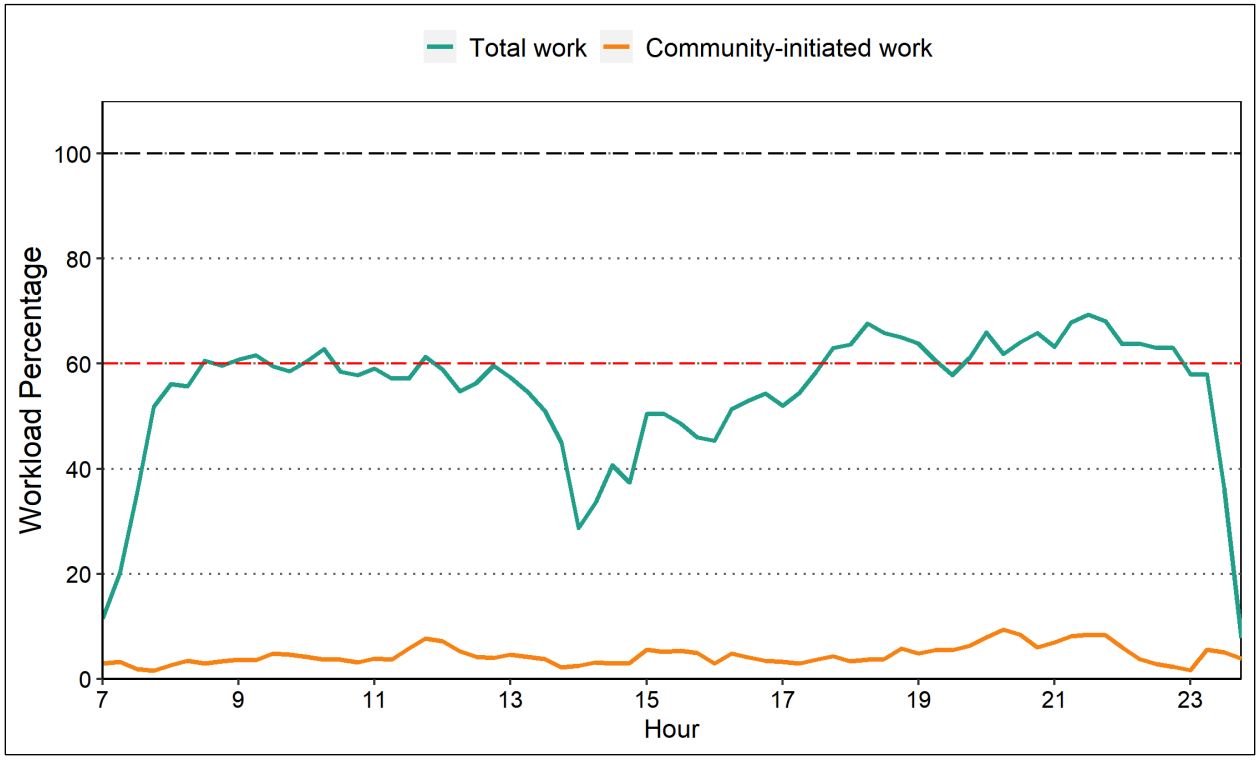
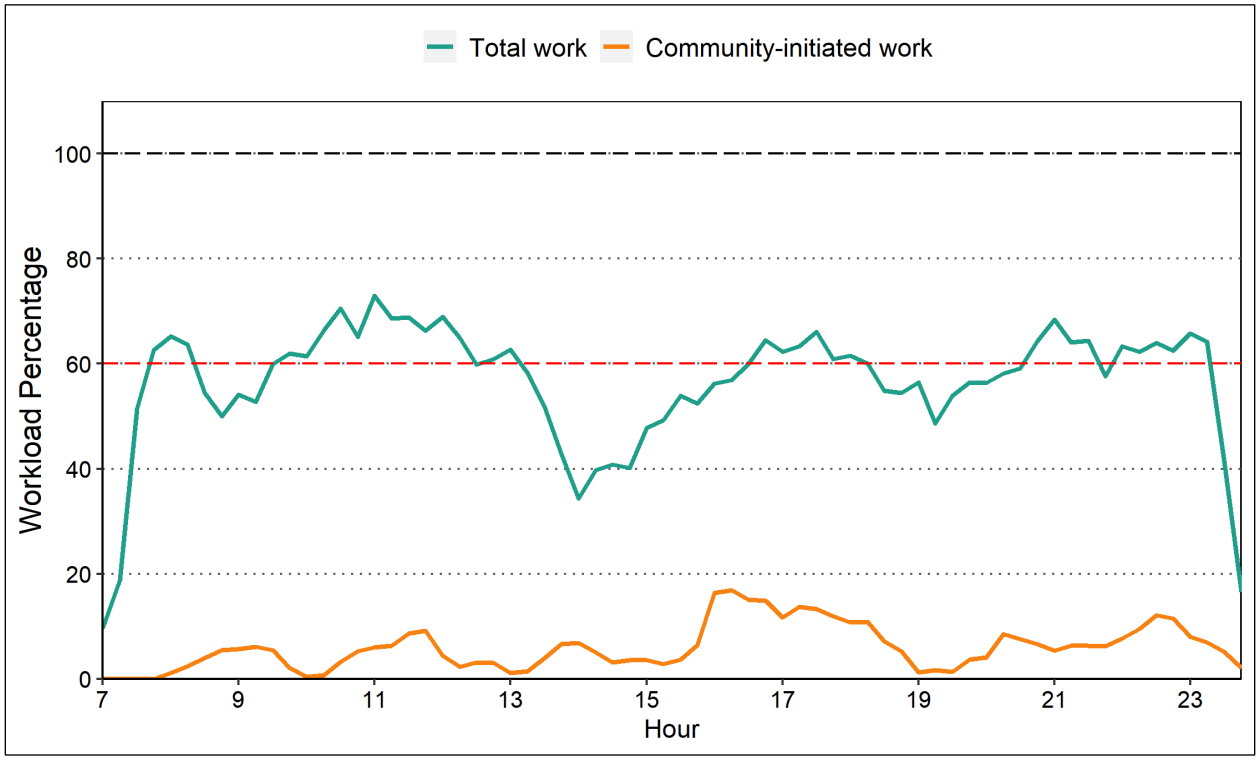


FIGURE 8-27: Percentage of Workload, Weekends, Summer 2019



Observations:

Winter:

- Community-initiated work:
  - During the week, workload reached a maximum of 7 percent of deployment between 4:45 p.m. and 5:00 p.m.
  - On weekends, workload reached a maximum of 11 percent of deployment between noon and 12:15 p.m.
- All work:
  - During the week, workload reached a maximum of 76 percent of deployment between 11:15 a.m. and 11:30 a.m.
  - On weekends, workload reached a maximum of 85 percent of deployment between 11:15 a.m. and 11:30 a.m.

Summer:

- Community-initiated work:
  - During the week, workload reached a maximum of 9 percent of deployment between 8:15 p.m. and 8:30 p.m.
  - On weekends, workload reached a maximum of 17 percent of deployment between 4:15 p.m. and 4:30 p.m.
- All work:
  - During the week, workload reached a maximum of 70 percent of deployment between 9:30 p.m. and 9:45 p.m.
  - On weekends, workload reached a maximum of 73 percent of deployment between 11:00 a.m. and 11:15 a.m.

RESPONSE TIMES

We analyzed the response times to various types of calls, separating the duration into dispatch delay and travel time, to determine whether response times varied by call type. Response time is measured as the difference between when a call is received and when the first unit arrives on scene. This is further divided into dispatch delay and travel time. Dispatch delay is the time between when a call is received and when the first unit is dispatched. Travel time is the remaining time until the first unit arrives on scene.

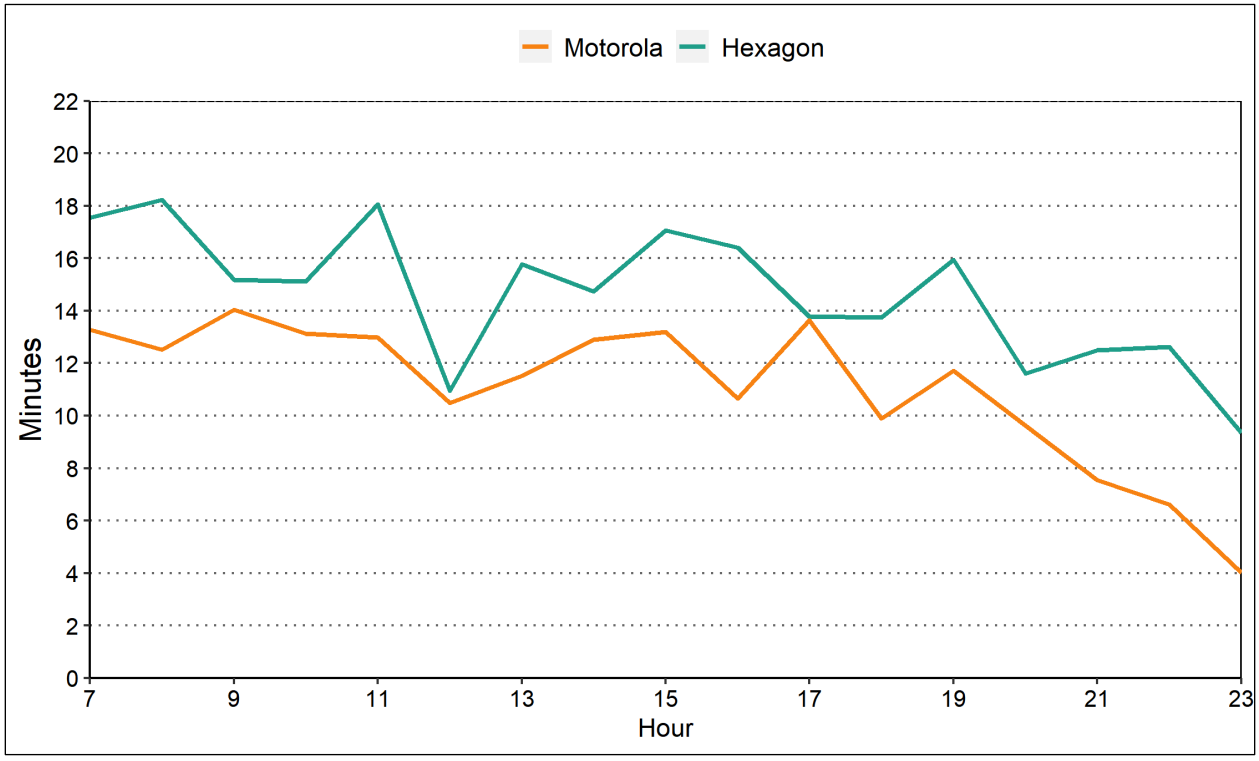
We begin the discussion with statistics that include all calls combined. We started with 3,031 calls from the Motorola CAD system and 3,541 calls from the Hexagon CAD system. We limited our analysis to community-initiated calls, which amounted to 960 calls from the Motorola system and 899 calls from the Hexagon system. Also, we removed a few calls lacking a recorded arriving unit and excluded calls located at the department's headquarters. We were left with 774 calls from the Motorola system and 766 calls from the Hexagon system for our analysis. For the entire year, we began with 6,572 calls, and limited our analysis to 1,859 community-initiated calls. With similar exclusions, we were left with 1,540 calls.

Our initial analysis does not distinguish calls based on priority; instead, it examines the difference in response to all calls by time of day and compares by periods. We then present a brief analysis of response time by priority.

All Calls

This section looks at all calls without considering their priorities. In addition to examining the differences in response times by both time of day and period (before vs. after switching CAD system), we show differences in response times by category.

FIGURE 8-28: Average Response Time and Dispatch Delays, by Hour of Day



Observations:

- Before June 18, 2019 (Motorola), the longest response times were between 9:00 a.m. and 10:00 a.m., with an average of 14.0 minutes.
- Before June 18, 2019 (Motorola), the shortest response times were between 11:00 p.m. and midnight, with an average of 4.0 minutes.
- From June 18, 2019 (Hexagon), the longest response times were between 8:00 a.m. and 9:00 a.m., with an average of 18.2 minutes.
- From June 18, 2019 (Hexagon), the shortest response times were between 11:00 p.m. and midnight, with an average of 9.3 minutes.

FIGURE 8-29: Average Response Time by Category, Motorola CAD

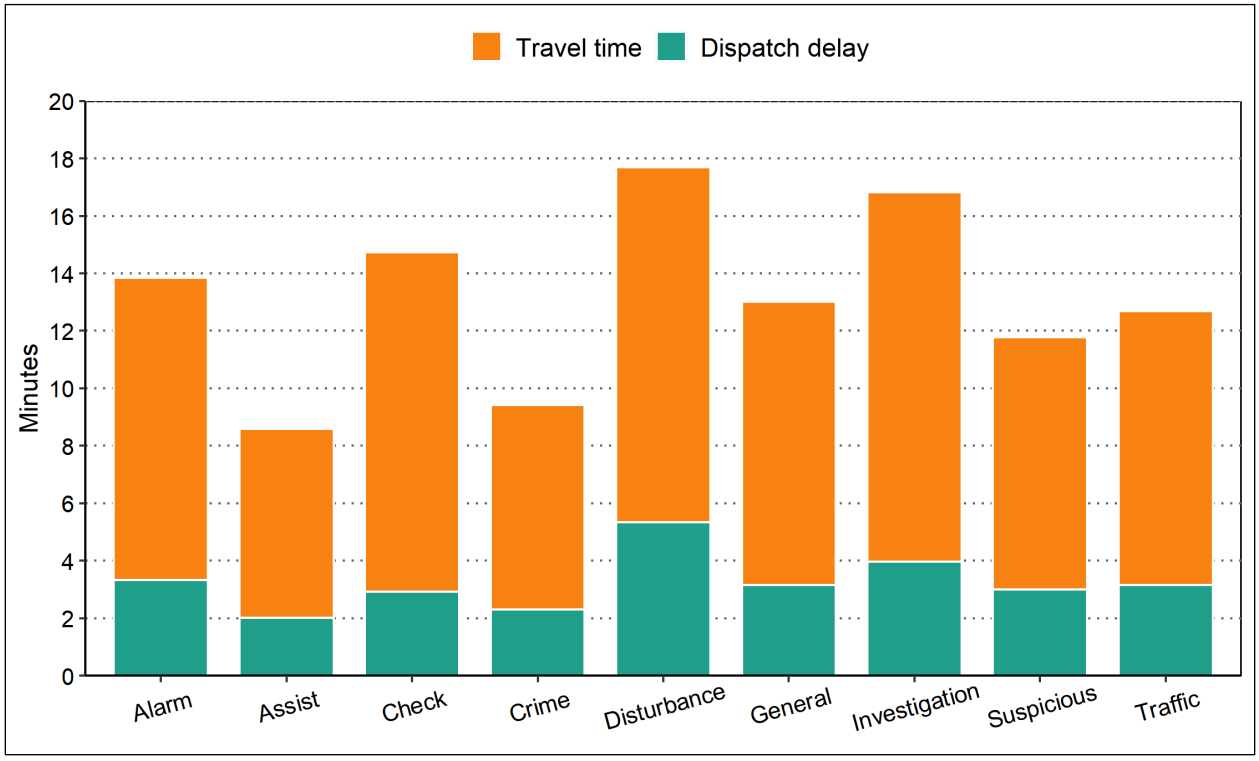


FIGURE 8-30: Average Response Time by Category, Hexagon CAD

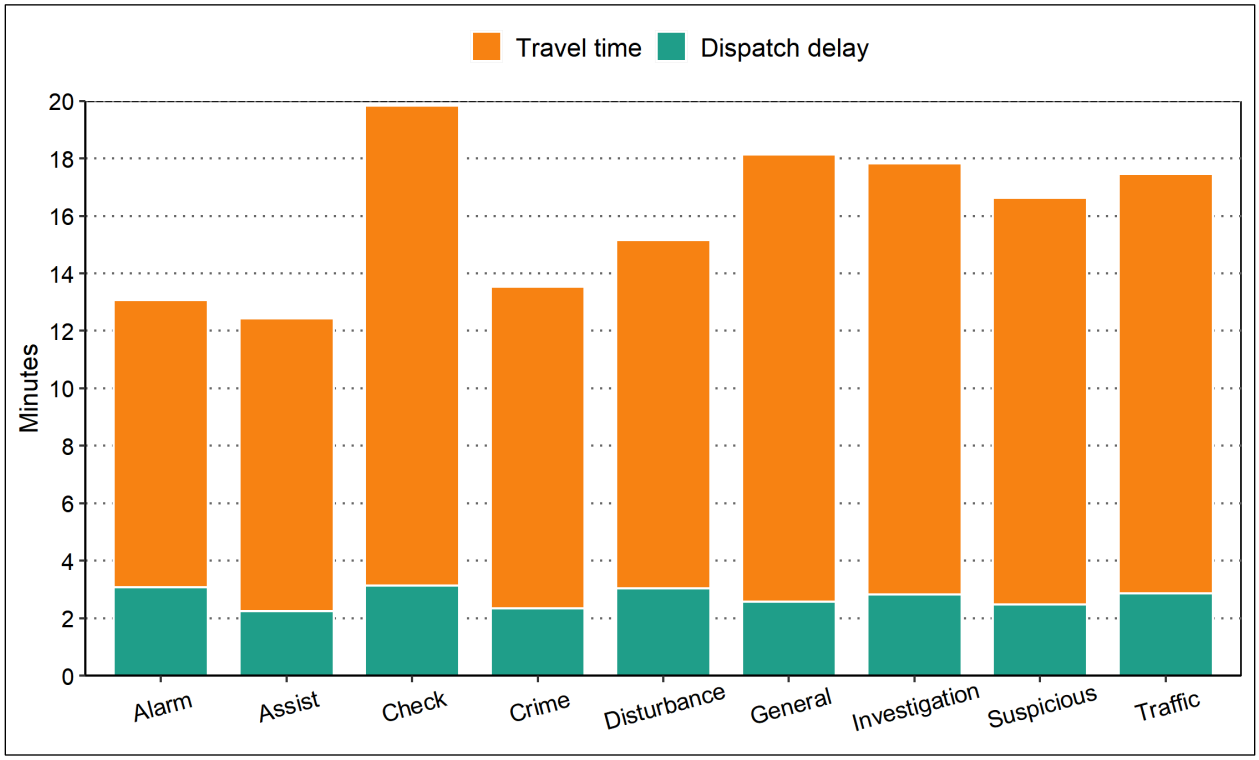


TABLE 8-18: Average Response Time Components, by Category

Category	Motorola CAD				Hexagon CAD			
	Time, Minutes			Count	Time, Minutes			Count
	Dispatch	Travel	Response		Dispatch	Travel	Response	
Accident	1.3	10.0	11.3	9	2.3	15.1	17.4	27
Alarm	3.3	10.5	13.8	52	3.1	10.0	13.1	64
Animal	4.6	13.9	18.5	73	2.5	15.0	17.5	85
Assist other agency	2.0	6.7	8.7	126	2.2	10.2	12.4	124
Check	2.9	11.8	14.7	16	3.1	16.7	19.8	25
Crime–person	1.6	5.6	7.2	57	1.5	8.9	10.4	68
Crime–property	2.6	7.8	10.4	127	2.8	12.4	15.2	124
Disturbance	5.3	12.4	17.7	6	3.0	12.1	15.2	13
Follow-up	NA	NA	NA	0	0.6	15.1	15.7	2
Investigation	4.0	13.3	17.4	46	3.0	15.1	18.1	50
Juvenile	3.3	8.4	11.6	5	1.1	13.7	14.8	5
Miscellaneous	2.5	7.9	10.3	124	2.7	16.6	19.3	41
Permit	1.8	6.7	8.5	15	3.4	15.5	19.0	7
Suspicious incident	3.0	8.8	11.8	84	2.5	14.2	16.6	92
Traffic enforcement	3.7	9.4	13.1	32	3.3	14.3	17.5	39
Warrant	0.6	0.1	0.6	2	NA	NA	NA	0
Total Average	**2.8**	**8.8**	**11.7**	**774**	**2.6**	**12.8**	**15.4**	**766**

Note: The total average is weighted according to the number of calls per category.

Observations:

- Before June 18, 2019,
  - The average response time for most categories was between 9 minutes and 17 minutes.
  - The average response time was as short as 9 minutes (for assists) and as long as 18 minutes (for disturbances).
  - The average response time for crimes was 9 minutes.
- From June 18, 2019,
  - The average response time for most categories was between 12 minutes and 18 minutes.
  - The average response time was as short as 12 minutes (for assists) and as long as 20 minutes (for checks).
  - The average response time for crimes was 14 minutes.

TABLE 8-19: 90th Percentiles for Response Time Components, by Category

Category	Time, Minutes			Count
	Dispatch	Travel	Response	
Accident	3.7	33.4	37.1	3.7
Alarm	6.1	20.3	28.9	6.1
Animal	6.6	28.2	32.2	6.6
Assist other agency	4.8	20.4	23.3	4.8
Check	5.8	32.4	34.1	5.8
Crime–person	3.7	22.5	28.1	3.7
Crime–property	6.1	26.9	32.9	6.1
Disturbance	9.4	19.3	22.8	9.4
Follow-up	0.7	15.4	16.1	0.7
Investigation	7.1	29.3	35.9	7.1
Juvenile	4.2	21.7	23.5	4.2
Miscellaneous	7.2	22.9	28.0	7.2
Permit	4.5	29.3	34.3	4.5
Suspicious incident	6.3	27.0	31.2	6.3
Traffic enforcement	8.0	31.6	42.0	8.0
Warrant	0.8	0.1	0.9	0.8
Total	**6.1**	**26.2**	**30.7**	**6.1**

Note: A 90th percentile value of 27.0 minutes means that 90 percent of all calls are responded to in fewer than 27.0 minutes. For this reason, the columns for dispatch delay and travel time may not be equal to the total response time.

Observations:

- For the entire year of 2019, the 90th percentile value for response time was as short as 23 minutes (for disturbances) and as long as 41 minutes (for traffic-related calls).
- The 90th percentile value for response time for crimes was 31.4 minutes.

FIGURE 8-31: Average Response Time Components, by Sector

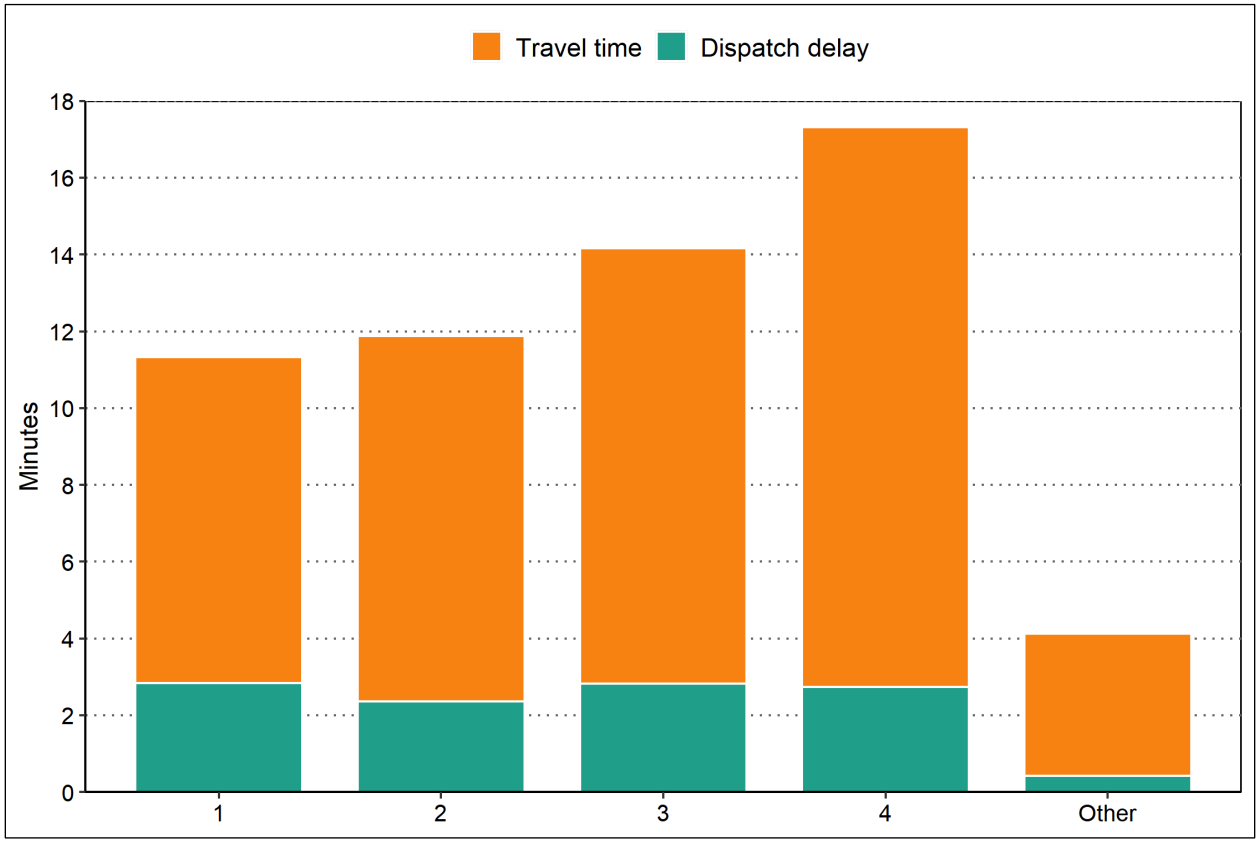


TABLE 8-20: Average Response Time Components, by Sector

Locations	Time, Minutes			Calls
	Dispatch	Travel	Response	
Blackwell	2.5	6.7	9.2	157
Danada	2.8	8.8	11.7	64
Herrick Lake	3.4	7.7	11.0	64
Springbrook Prairie	4.4	18.1	22.5	55
St James Farm	3.4	7.7	11.1	42
Miscellaneous	2.2	7.0	9.2	130
Sector 1 Total	**2.8**	**8.5**	**11.3**	**512**
Hawk Hollow	3.8	14.1	17.9	23
Mallard Lake	1.9	9.7	11.6	45
Pratts Wayne Woods	1.6	8.4	10.0	54
Timber Ridge	2.0	12.3	14.3	24
West Branch	3.2	7.1	10.3	44
Miscellaneous	2.3	9.4	11.7	111
Sector 2 Total	**2.4**	**9.5**	**11.9**	**301**
Churchill Woods	3.8	11.0	14.7	47
East Branch	2.4	11.4	13.9	53
Oak Meadows	3.9	13.2	17.0	25
Songbird Slough	2.5	12.1	14.5	21
Wood Dale Grove	2.4	12.0	14.4	29
Miscellaneous	2.6	10.9	13.5	139
Sector 3 Total	**2.8**	**11.3**	**14.2**	**314**
Fullersburg Woods	2.7	18.9	21.6	44
Greene Valley	2.8	12.6	15.4	87
Hidden Lake	2.9	14.2	17.1	23
Mayslake	3.0	12.2	15.3	40
Waterfall Glen	3.1	15.7	18.7	100
Miscellaneous	2.2	14.4	16.6	106
Sector 4 Total	**2.7**	**14.6**	**17.3**	**400**
Other	0.4	3.7	4.1	13
Total	**2.7**	**10.8**	**13.5**	**1,540**

Note: This table included the top five most popular locations for each sector, with other lower frequency locations grouped within a miscellaneous category.

Observations:

- Four sectors share a similar dispatch delay time, between 2.4 and 2.8 minutes.
- Sector 1 had the shortest average response time.
- Sector 4 had the longest average response time.

Response Time by Priority

The department assigned priorities to calls, using priority 1 to 4. The following table shows average response times by priority.

TABLE 8-21: Average and 90th Percentile Response Times, by Priority

Priority	Dispatch Delay	Travel Time	Response Time	Calls	90th Percentile Response Time
1	1.6	11.9	13.5	38	26.8
2	2.5	11.0	13.5	427	28.6
3	2.1	8.6	10.7	546	28.0
4	3.5	12.8	16.4	529	34.0
Total	**2.7**	**10.8**	**13.5**	**1,540**	**30.7**

Note: The total average is weighted according to the number of calls within each priority level.

Observations:

- Priority 1 calls had an average response time of 13.5 minutes, which is the same as the overall average for all calls.
- Average dispatch delay was 1.6 minutes for priority 1 calls, compared to 2.7 minutes overall.

APPENDIX A: CALL TYPE CLASSIFICATION

Call descriptions for the department's calls for service from January 1, 2019, to December 31, 2019, were classified into the following categories.

TABLE 8-22: Call Type, by Category

Call Type Description	Table Category	Figure Category
ALARM-PREMISES FOUND	Alarm	Alarm
ALARM CALLS INDUSTRY		
FD ALARM		
HOLDUP ALARMM		
PD ALARM		
ABDOMINAL PAIN	Assist other agency	Assist
ALLERGIES		
ASSIST		
ASSIST TO COUNTY POL		
ASSIST TO FIRE DEPAR		
ASSIST TO OTHER POLI		
ASSIST TO PUBLIC WOR		
ASSIST TO STATE POLI		
ASSISTANCE RENDERED		
BREATHING/TROUBLE BREATHING		
CHEST PAIN/CHEST DISCOMFORT		
DIABETIC PROBLEMS		
FIRE		
HAZARDOUS MATERIAL SPILL/LEAK		
HEART PROBLEMS/A.I.C.D.		
HEAT/COLD EXPOSURE		
INJURED PERSON		
OVERDOSE		
SICK PERSON (SPECIFIC DIAGNOSIS)		
TRAUMATIC INJURIES (SPECIFIC)		
UNCONSCIOUS/FAINTING (NEAR)		
IN STATE WARRANT	Warrant	
WARRANT SERVICE		
CHECK WELL BEING	Check	Check
E911 DEAD CALLS AND		
PREMISE CHECK		
SECURITY CHECK		
SECURITY CHECK INDUS		
SECURITY CHECK RESID		
ALCOHOL ON PUBLIC PR	Crime–person	Crime
ALCOHOL POSSESSION-P		

Call Type Description	Table Category	Figure Category
ASSAULT		
BATTERY		
BOAT VIOLATION		
CRIMINAL SEXUAL ABUS		
DOG OFF LEASH		
DOMESTIC		
DOMESTIC TROUBLE		
DRUG OFFENSE		
FIGHT		
ILLEGAL POSSESSION O		
INTOXICATED PERSON		
LEAVING SCENE OF PDO		
LIQUOR VIOLATION		
NAT RESOURCE VIOLATI		
ORDINANCE VIOLATION		
PERSON WITH A KNIFE		
POSS CANNABIS < 10GM		
POSS CANNABIS >10 GM		
POSSESSION DRUG EQUI		
POSSESSION OF A CONT		
ROBBERY		
SEX		
SUBJECT STOP		
SWIMMING VIOLATION		
THREAT		
WEAPON		
BURGLARY	Crime–property	
BURGLARY FROM MOTOR		
CLOSED AREA		
CRIMINAL DAMAGE		
CRIMINAL DAMAGE TO G		
CRIMINAL DAMAGE TO P		
CRIMINAL DEFACEMENT		
CRIMINAL TRESPASS TO		
DAMAGE		
DAMAGE TO PROPERTY (		
DUMPING GARBAGE		
ENCROACHMENT		
ENCROACHMENT IN THE FOREST PRESERVE		
FIREWORKS		
FISHING		
FISHING VIOLATION		

Call Type Description	Table Category	Figure Category
GRAFFITI		
HOURS		
HUNTING		
ILLEGAL DUMPING		
LITTERING		
NATURAL RESOURCE VIOLATION		
ORDINANACE VIOLATION		
SWIMMING		
THEFT		
THEFT $500 AND UNDER		
THEFT OF LOST OR MIS		
TRAPPING		
TRESPASSING		
ATV PATROL	Directed patrol	Directed patrol
BOAT PATROL		
CLOSING PARKS		
DIRECTED PATROL		
EXTRA PATROL		
FOOT PATROL		
VEHICLE PATROL		
DISORDERLY CONDUCT	Disturbance	Disturbance
DISTURBANCE		
LOUD NOISE COMPLAINT		
MISCHIEVOUS CONDUCT		
ANIMAL	Animal	General noncriminal
ANIMAL BITE		
ANIMAL BITES-OTHER		
DEAD ANIMAL		
DOG AT LARGE		
DOG BITE - HOME		
DOG BITE - OTHER		
DOG BITE - PUBLIC		
FOUND ANIMAL		
OTHER ANIMAL COMPLAI		
SICK/INJURED ANIMAL		
STRAY ANIMALS OTHER		
STRAY DOG		
FOLLOW-UP	Follow-up	
ADMIN	Miscellaneous	
ADMINISTRATIVE DUTIE		
AIRCRAFT INFLIGHT EMERGENCY		
BANK		

Call Type Description	Table Category	Figure Category
CRIME PREVENTION		
ESCORT OTHER		
FOUND ARTICLES		
LIQUOR APPLICATION		
LOCK OUT		
LOST ARTICLES		
MAKE YOUR OWN CASE		
MISCELLANEOUS OFFENSE		
MISUSE OF PROPERTY		
MOTORIST ASSIST		
OTHER PUBLIC SEVICE		
OTHER TROUBLE		
PROPERTY		
RADIO CONTROL		
SOLICITORS COMPLAINT		
SPECIAL ASSIGNMENT		
SPECIAL DUTY		
SPECIAL STAFF ASSIGN		
WIRE DOWN OR ARCHING		
LICENSES AND PERMITS	Permit	
PERMIT VIOLATION		
PERMIT VIOLATIONS		
911 HANG UP	Investigation	Investigation
BACKGROUND INVESTIGATION		
CIVIL DISPUTE		
FALLS		
FOUND		
GAS LEAK		
HUNTING COMPLAINTS		
INVESTIGATE OPEN DOO		
INVESTIGATION		
LOCKOUT		
LOITERING COMPLAINT		
LOST		
MINIBIKE COMPLAINT		
MISSING PERSON		
MISSING PERSON - 17		
NEIGHBOR COMPLAINT		
OTHER PUBLIC COMPLAI		
SHOTS FIRED		
SMOKE INVESTIGATION		
SNOW MOBILE COMPLAIN		

Call Type Description	Table Category	Figure Category
SOLICITOR COMPLAINT		
SUBJECT REFUSING TO LEAVE		
SUICIDE		
SUICIDE ATTEMPT		
SUICIDE THREAT		
UNKNOWN PROBLEM		
VIOLATION OF COURT ORDER		
JUVENILE PROBLEM	Juvenile	
JUVENILE PROBLEMS-OT		
SUSPICIOUS	Suspicious incident	Suspicious incident
SUSPICIOUS AUTO		
SUSPICIOUS INCIDENT		
SUSPICIOUS NOISE		
SUSPICIOUS PERSON		
ACCIDENT	Accident	Traffic
ACCIDENT INVOLVING P		
AUTO ACCIDENT PDO		
ABANDON VEHICLE	Traffic enforcement	
ABANDONED MOTOR VEHI		
BOAT REHISTRATION		
DISABLED VEHICLE		
HANDICAP PARKING		
ILLEGAL PARKING		
IMPROPER USE OF REGI		
LANE BLOCKAGE		
MISCELLANEOUS TRAFFIC OFFENSE		
NO REGISTRATION		
OFF ROAD COMPLAINT		
OFF ROAD VIOLATION		
OPERATION OF A MOTOR		
OTHER MOVING VIOLATI		
PARKING COMPLAINT		
ROADWAY OBSTRUCTION		
TRAFFIC		
TRAFFIC AND ROAD INC		
TRAFFIC COMPLAINT		
TRAFFIC SIGN VIOLATI		
TRAFFIC STOP		
TRAFFIC VIOLATION		
WATERCRAFT		

APPENDIX B: WORKLOAD BY SEASON, 2020

FIGURE 8-32: Deployment and All Workload, Weekdays, Winter 2020

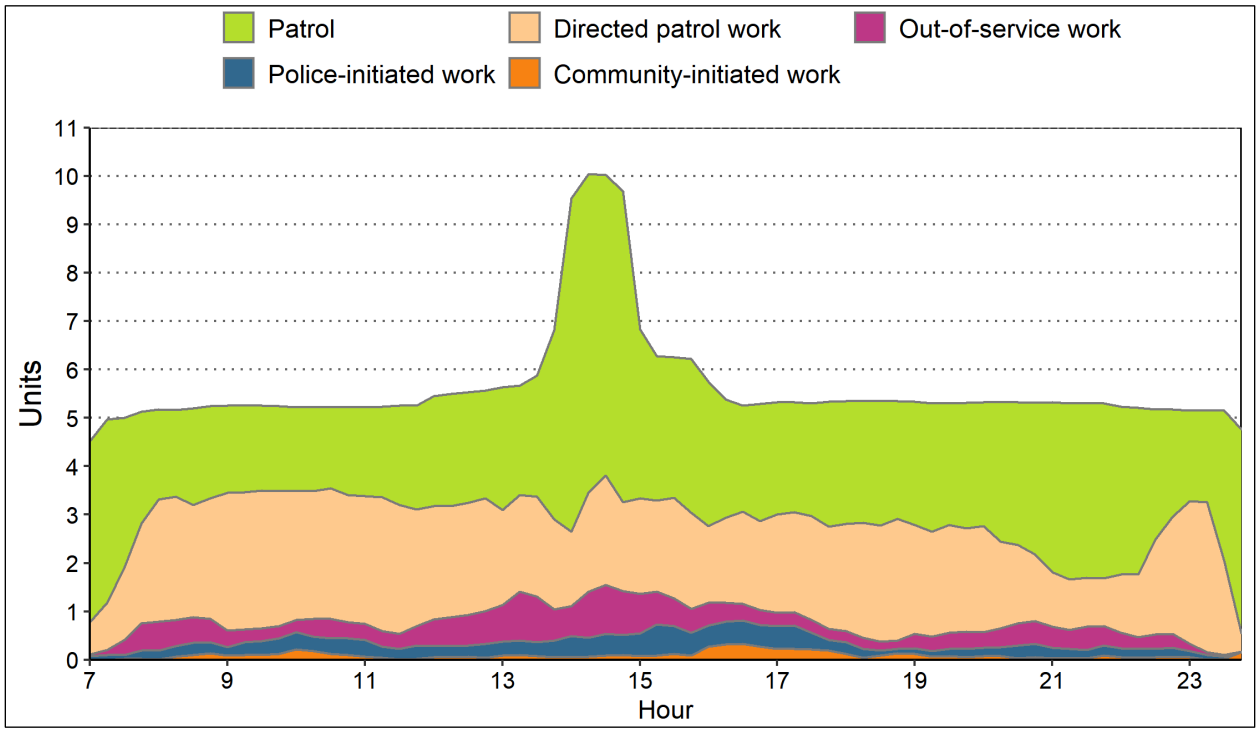


FIGURE 8-33: Deployment and All Workload, Weekends, Winter 2020

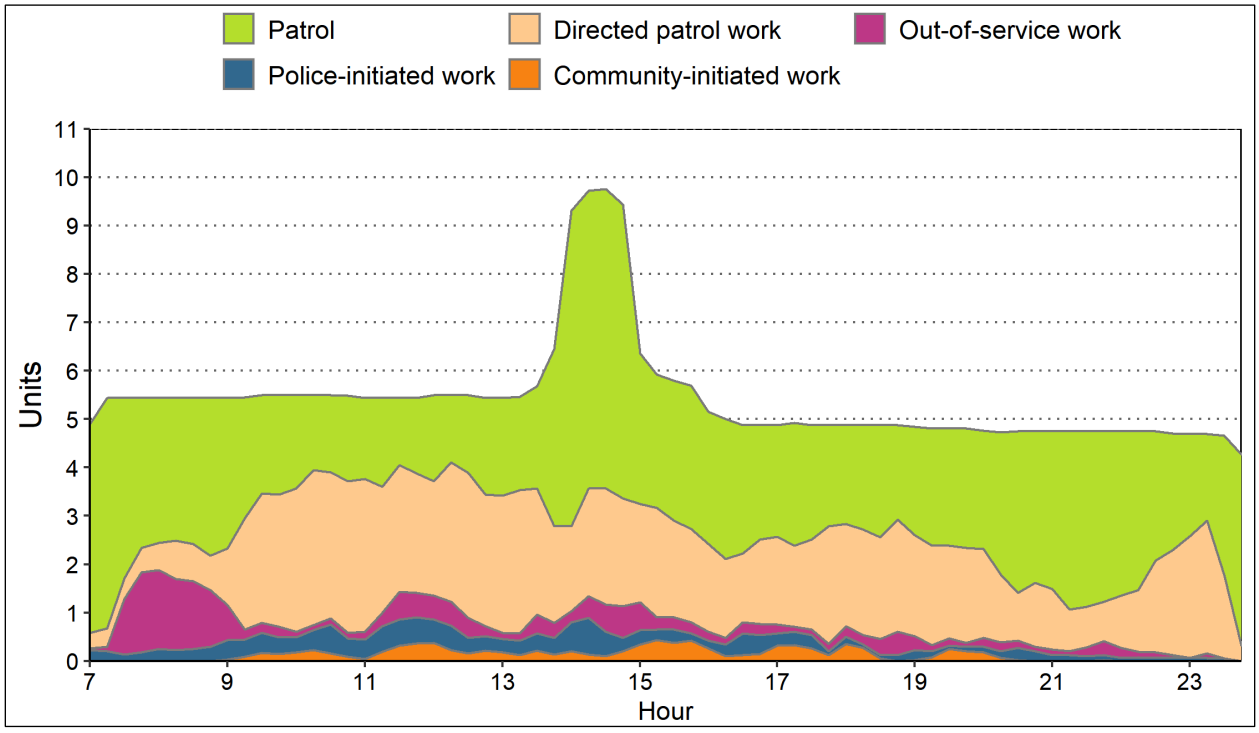


FIGURE 8-34: Deployment and All Workload, Weekdays, Summer 2020

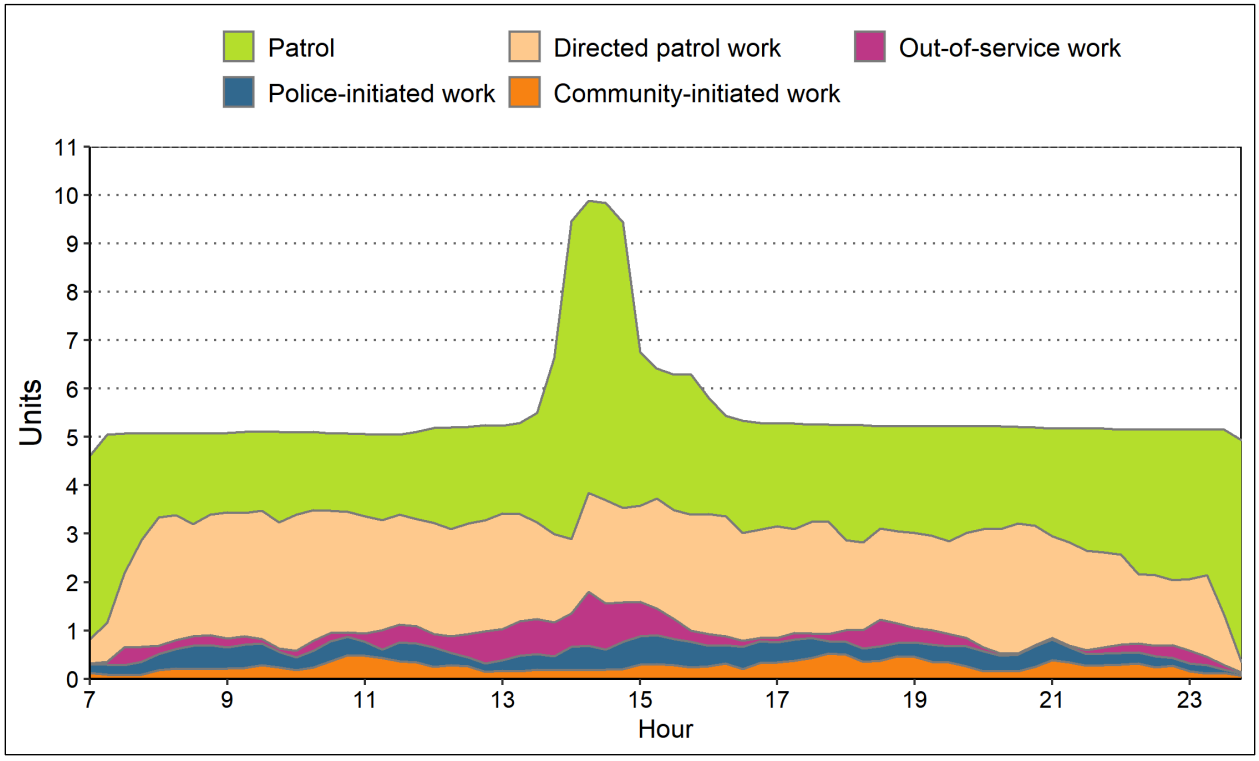
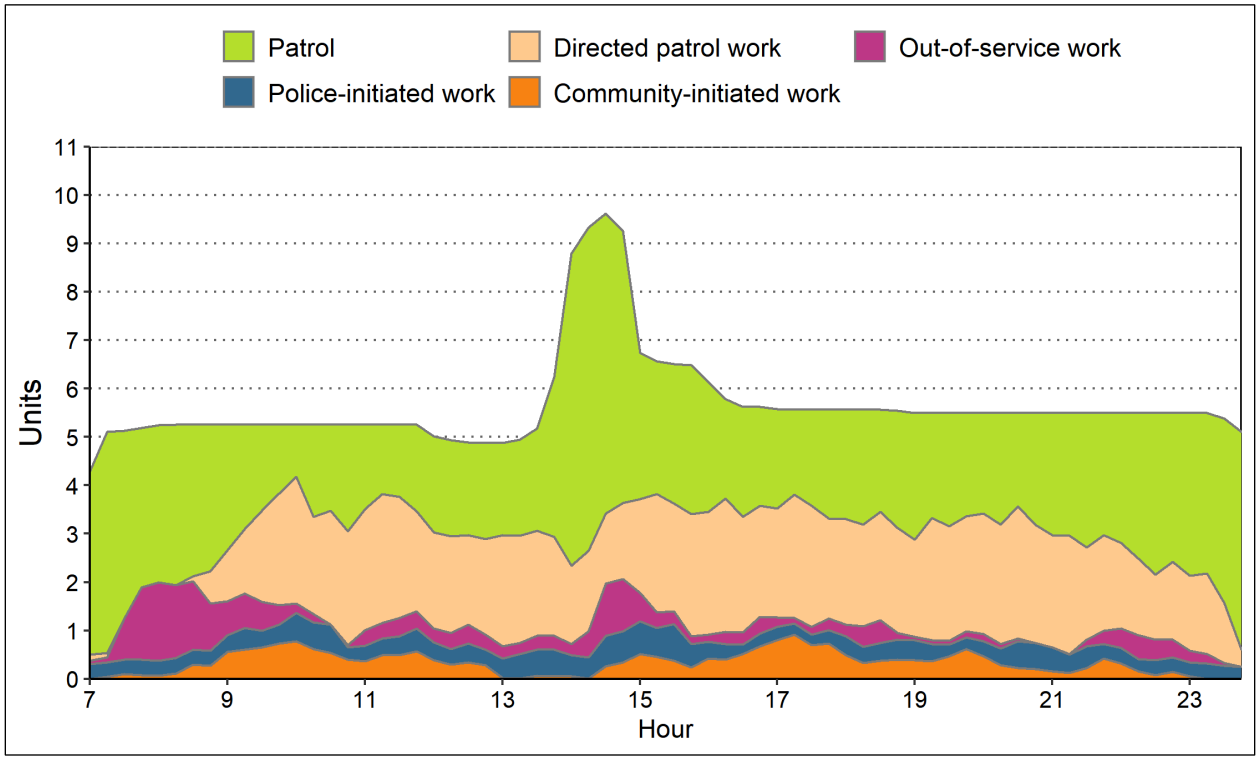


FIGURE 8-35: Deployment and All Workload, Weekends, Summer 2020



Observations

Winter (January 4 through February 28, 2020):

- Community-initiated work:
  - Average community-initiated workload was 0.1 units per hour during the week and on weekends.
  - This was approximately 2 percent of hourly deployment during the week and on weekends.
- All work:
  - Average workload was 2.8 units per hour during the week and 2.6 units per hour on weekends.
  - This was approximately 50 percent of hourly deployment during the week and 48 percent of hourly deployment on weekends.

Summer (July 7 through August 31, 2020):

- Community-initiated work:
  - Average community-initiated workload was 0.3units per hour during the week and on weekends.
  - This was approximately 5 percent of hourly deployment during the week and 6 percent of hourly deployment on weekends.
- All work:
  - Average workload was 3.0 units per hour during the week and 2.9 units per hour on weekends.
  - This was approximately 54 percent of hourly deployment during the week and 52 percent of hourly deployment on weekends.

FIGURE 8-36: Percentage of Workload, Weekdays, Winter 2020

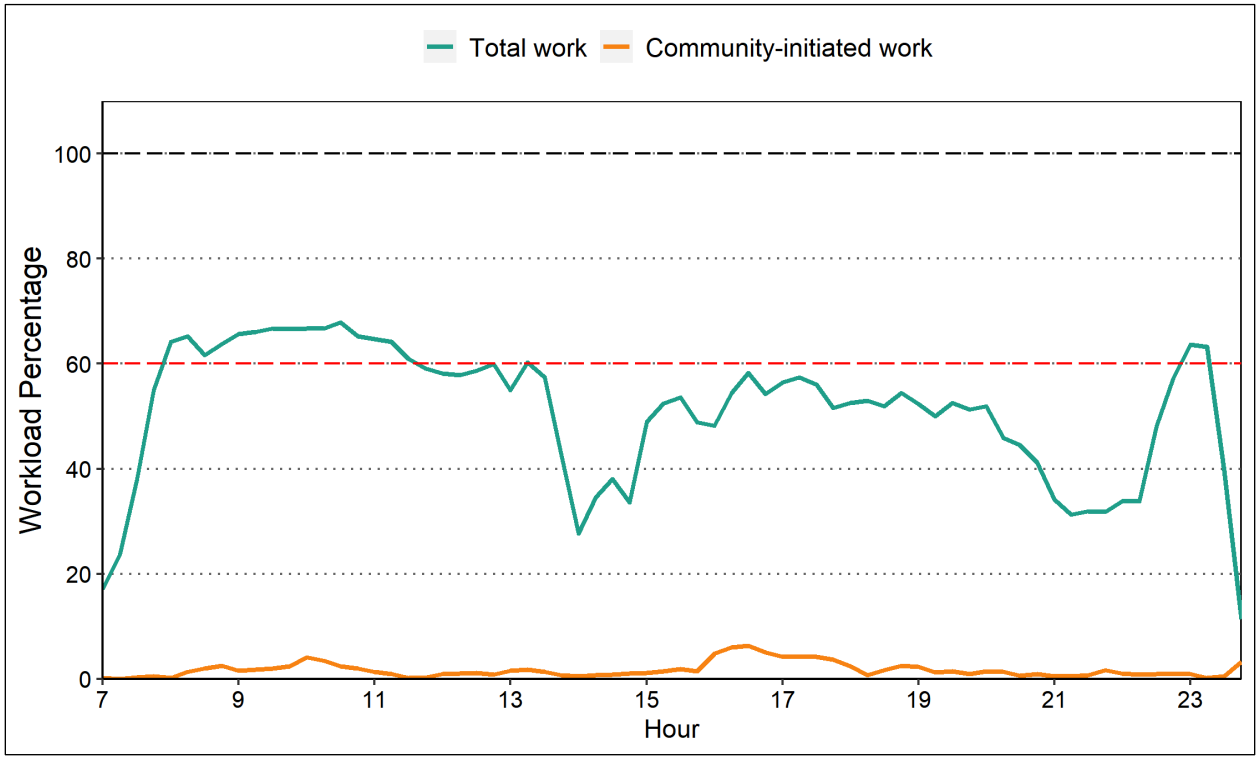


FIGURE 8-37: Percentage of Workload, Weekends, Winter 2020

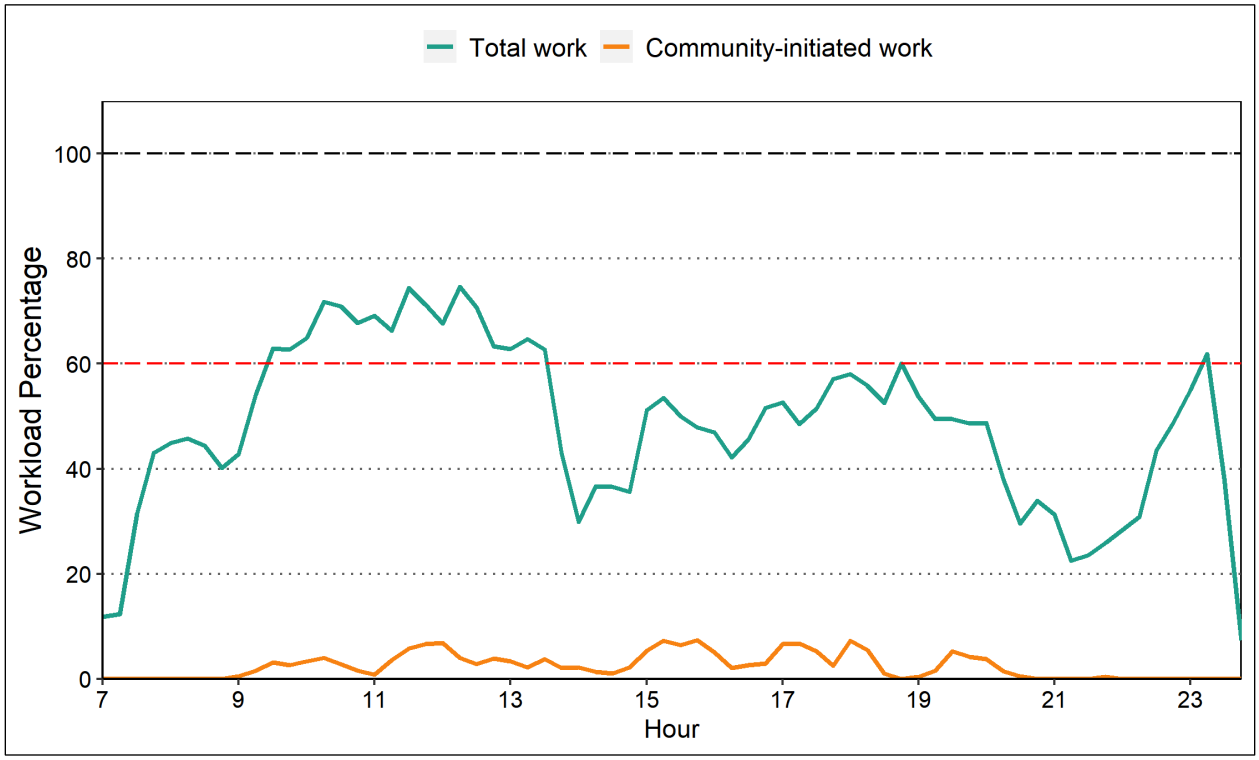


FIGURE 8-38: Percentage of Workload, Weekdays, Summer 2020

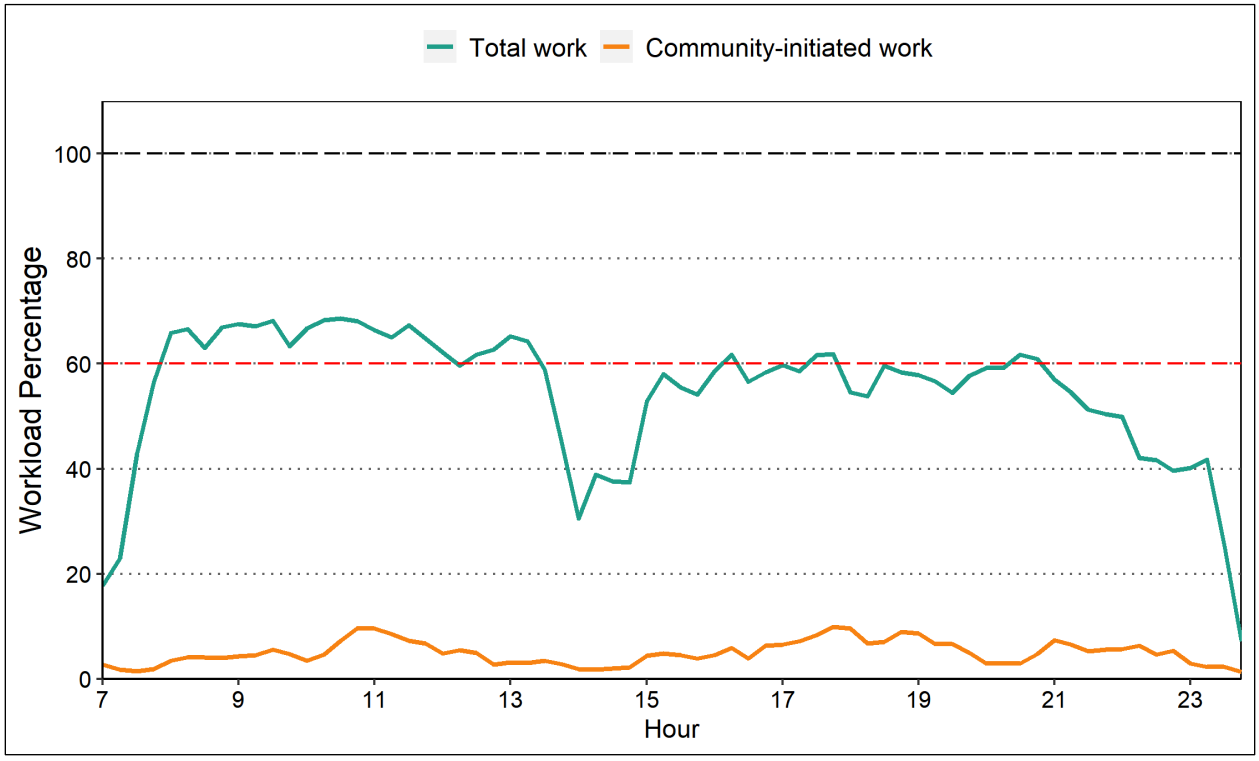
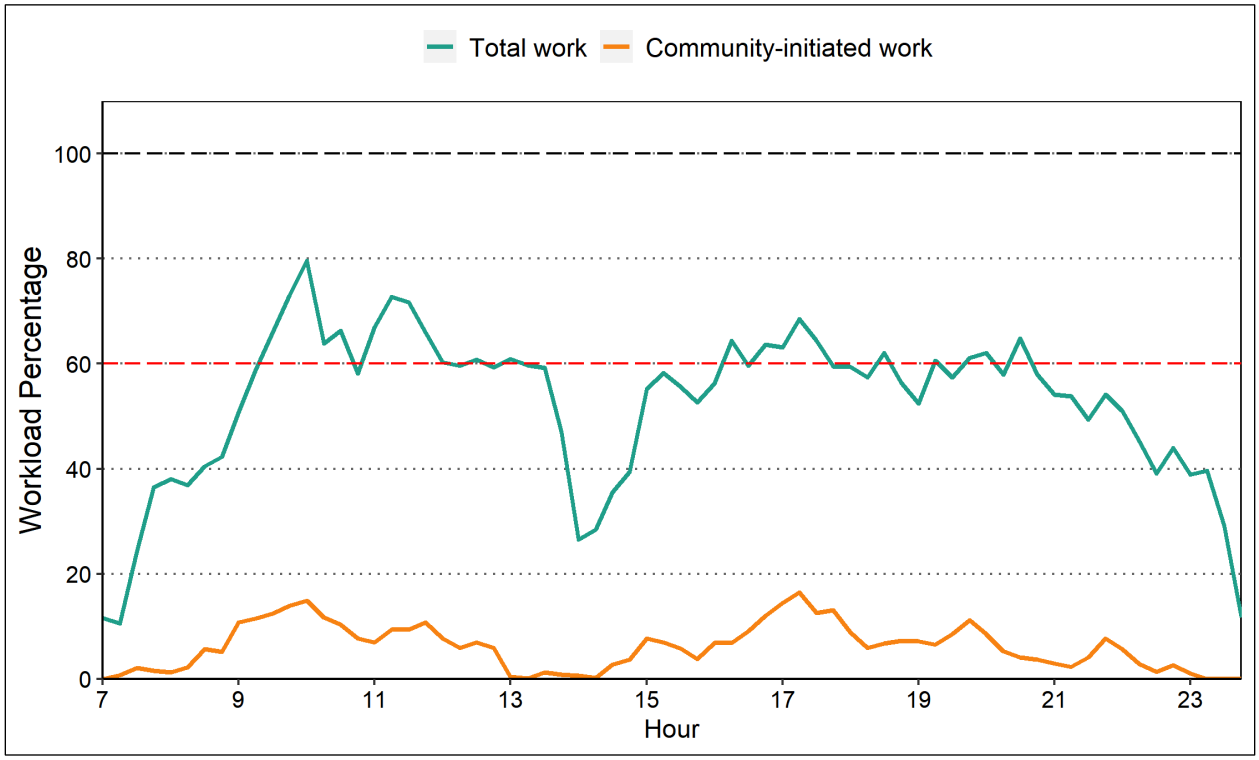


FIGURE 8-39: Percentage of Workload, Weekends, Summer 2020



Observations:

Winter:

- Community-initiated work:
  - During the week, workload reached a maximum of 6 percent of deployment between 4:30 p.m. and 4:45 p.m.
  - On weekends, workload reached a maximum of 7 percent of deployment between 3:45 p.m. and 4:00 p.m.
- All work:
  - During the week, workload reached a maximum of 68 percent of deployment between 10:30 a.m. and 10:45 a.m.
  - On weekends, workload reached a maximum of 75 percent of deployment between 12:15 p.m. and 12:30 p.m.

Summer:

- Community-initiated work:
  - During the week, workload reached a maximum of 10 percent of deployment between 5:45 p.m. and 6:00 p.m.
  - On weekends, workload reached a maximum of 16 percent of deployment between 5:15 p.m. and 5:30 p.m.
- All work:
  - During the week, workload reached a maximum of 69 percent of deployment between 10:30 a.m. and 10:45 a.m.
  - On weekends, workload reached a maximum of 80 percent of deployment between 10:00 a.m. and 10:15 a.m.

APPENDIX C: UNIFORM CRIME REPORT INFORMATION

This section presents information obtained from Uniform Crime Reports (UCR) collected by the Federal Bureau of Investigation (FBI). The tables and figures include the most recent information that is publicly available at the national level.

TABLE 8-23: Reported Crime Rates in 2019, by County Forest Preserve District

District	State	Violent Crime	Property Crime	Total Crime
Cook County Forest Preserve	IL	371	2,516	2,888
Kane County Forest Preserve	IL	90	901	991
Lake County Forest Preserve	IL	233	1,883	2,117
Will County Forest Preserve	IL	384	2,260	2,644
DuPage County Forest Preserve	**IL**	**83**	**1,089**	**1,172**

FIGURE 8-40: Reported DuPage County Forest Preserve District Violent and Property Crimes, by Year

TABLE 8-24: Reported DuPage County Forest Preserve District Crimes, by Year

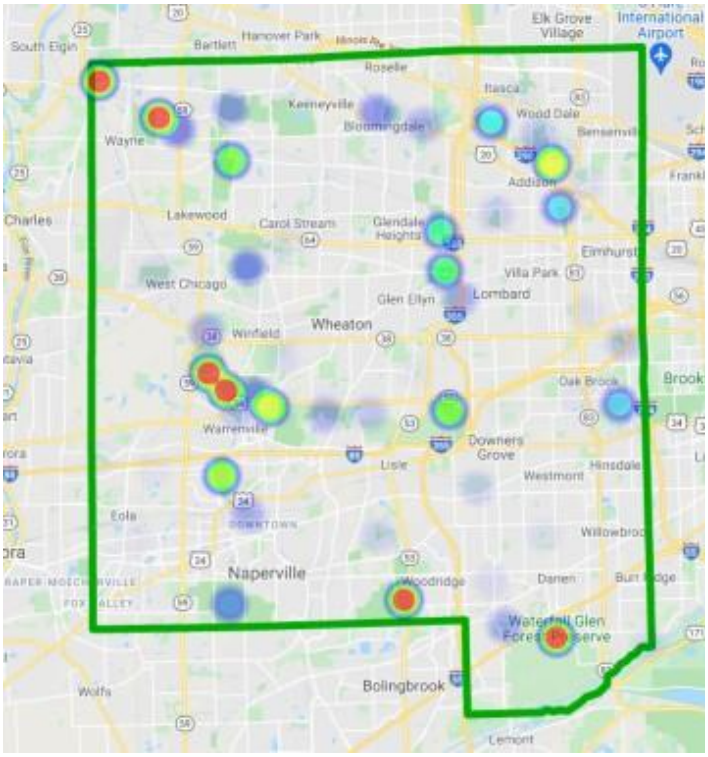
Year	Violent Crime	Property Crime	Total Crime
2010	0	19	19
2011	1	27	28
2012	0	34	34
2013	1	21	22
2014	0	20	20
2015	1	28	29
2016	0	29	29
2017	7	15	22
2018	1	40	41
2019	3	30	33

APPENDIX D: UNIFORM CRIME REPORT INFORMATION MAPS (REPORTED AT COUNTY LEVEL)

CRIME RUNS

Red > 60 runs

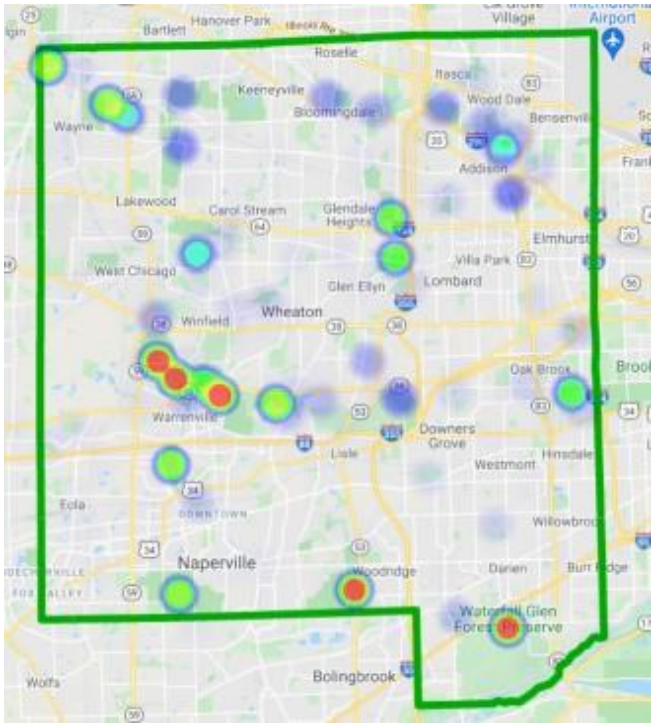
Runs	GeoLocation	Place
125	LL(-88:13:16.6066,41:57:40.3503): @PRATTS WAYNE WOODS FP	PRATT'S WAYNE WOODS
110	LL(-88:10:44.0544,41:50:05.5494): @BLACKWELL FP	WEST BRANCH
101	@MALLARD LAKE FP	MALLARD LAKE
97	LL(-88:04:07.3026,41:44:17.4975): @GREENE VALLEY FP	GREENE VALLEY FP
75	@WATERFALL GLEN FP	WATERFALL GLEN
61	BLACKWELL	BLACKWELL FP
55	@WOOD DALE GROVE FP	WOOD DALE GROVE
52	@HERRICK LAKE FP	HERRICK LAKE
50	LL(-88:10:55.1716,41:47:43.9397): @MCDOWELL GROVE FP	MCDOWELL GROVE
46	@HIDDEN LAKE FP	HIDDEN LAKE FP
45	@WEST BRANCH FP	@WEST BRANCH FP
36	LL(-88:02:44.6797,41:54:31.9577): @EAST BRANCH FP	EAST BRANCH
36	LL(-88:02:35.0575,41:53:26.5183): @CHURCHILL WOODS FP	CHURCHILL WOODS
33	LL(-88:00:51.8388,41:57:33.9444): @SONGBIRD SLOUGH FP	SONGBIRD SLOUGH
32	@CRICKET CREEK FP	CRICKET CREEK
31	LL(-87:56:05.1929,41:49:45.2080): @FULLERSBURG WOODS FP	FULLERSBURG WOODS FP
29	@SPRINGBROOK PRAIRIE FP	SPRINGBROOK PRAIRIE
25	@MAYSLAKE FP	MAYSLAKE FP
24	@TIMBER RIDGE FP	TIMBER RIDGE FP



OTHER RUNS

Red > 80 runs

Runs	GeoLocation	Place
120	@WATERFALL GLEN FP	WATERFALL GLEN
109	@GREENE VALLEY FP	GREENE VALLEY
106	BLACKWELL	BLACKWELL
105	@BLACKWELL FP	WEST BRANCH
80	@HERRICK LAKE FP	HERRICK LAKE
67	@MALLARD LAKE FP	MALLARD LAKE
65	@PRATTS WAYNE WOODS FP	PRATT'S WAYNE WOODS
64	@DANADA FP	DANADA
64	@SPRINGBROOK PRAIRIE FP	SPRINGBROOK PRAIRIE
63	@MCDOWELL GROVE FP	MCDOWELL GROVE
58	@EAST BRANCH FP	EAST BRANCH
54	@CHURCHILL WOODS FP	CHURCHILL WOODS
51	@FULLERSBURG WOODS FP	FULLERSBURG WOODS
49	@ST JAMES FARM FP	ST. JAMES FARM
45	@TIMBER RIDGE FP	KLINE CREEK FARM
43	@MAYSLAKE FP	MAYSLAKE FP
37	@WOOD DALE GROVE FP	WOOD DALE GROVE
36	@CRICKET CREEK FP	CRICKET CREEK
34	@HIDDEN LAKE FP	HIDDEN LAKE
31	@WEST BRANCH FP	@WEST BRANCH FP



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