Operations and Data Analysis Report
Cumru Police Department
Cumru, Pennsylvania
September 2015

POLICE OPERATIONS   POLICE OPERATIONS

CENTER FOR PUBLIC SAFETY MANAGEMENT

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The International City/County Management Association (ICMA) is a 100-year-old, nonprofit professional association of local government administrators and managers, with approximately 9,000 members spanning thirty-two countries.

Since its inception in 1914, ICMA has been dedicated to assisting local governments in providing services to their citizens in an efficient and effective manner. Our work spans all of the activities of local government — parks, libraries, recreation, public works, economic development, code enforcement, Brownfields, public safety, etc.

ICMA advances the knowledge of local government best practices across a wide range of platforms including publications, research, training, and technical assistance. Its work includes both domestic and international activities in partnership with local, state, and federal governments as well as private foundations. For example, it is involved in a major library research project funded by the Bill and Melinda Gates Foundation and is providing community policing training in Panama working with the U.S. State Department. It has personnel in Afghanistan assisting with building wastewater treatment plants and has had teams in Central America providing training in disaster relief working with SOUTHCOM.

The **ICMA *Center for Public Safety Management (*ICMA/CPSM)** was one of four Centers within the Information and Assistance Division of ICMA providing support to local governments in the areas of police, fire, EMS, emergency management, and homeland security. In addition to providing technical assistance in these areas we also represent local governments at the federal level and are involved in numerous projects with the Department of Justice and the Department of Homeland Security. In each of these Centers, ICMA has selected to partner with nationally recognized individuals or companies to provide services that ICMA has previously provided directly. Doing so will provide a higher level of services, greater flexibility, and reduced costs in meeting members' needs as ICMA will be expanding the services that it can offer to local governments. For example, The Center for Productivity Management (CPM) is now working exclusively with SAS, one of the world's leaders in data management and analysis. And the Center for Strategic Management (CSM) is now partnering with nationally recognized experts and academics in local government management and finance.

Center for Public Safety Management, LLC (CPSM) 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. The Center for Public Safety Management, LLC maintains the same team of individuals performing the same level of service that it has for the past seven years for 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 identify and disseminate industry best practices. We have conducted more than 200 such studies in 36 states and 155 communities ranging in size from 8,000 population (Boone, Iowa) to 800,000 population (Indianapolis, Ind.).

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Section 1. Executive Summary

The Center for Public Safety Management (CPSM) was commissioned to review the operations of the township of Cumru Police Department (CPD). Our analysis covered all aspects of the department's operations, within the context of the department's workload, community demographics, and crime levels.

We analyzed departmental workload using operations research methodology and compared that workload to staffing and deployment levels. We reviewed other performance indicators, which allowed us to understand the implications of service demand on current staffing. We reviewed the department's organizational design to determine if the many functions required of a modern police agency are staffed appropriately.

Our study involved data collection, interviews with key police and administration personnel and township officials, on-site observations of the job environment, data analysis, comparative analyses, and development of alternatives and recommendations. Our major recommendations appear below and are described in detail throughout the report.

In general, CPSM concludes that the CPD currently lacks a strategic focus and a comprehensive internal framework for ongoing performance assessment. As a result, the department is presently unable to: 1) demonstrate the effectiveness of its operations; or to 2) justify internal calls for additional patrol resources or the department's stated need for a total of four detective investigators. These deficiencies can be remedied. The recommendations offered in this report should be viewed as opportunities for the department to improve the efficiency and effectiveness of its operations and to provide a higher level of responsiveness to the Cumru Township community. The report also contains several recommendations that CPSM believes should be implemented immediately.

Major Recommendations

The recommendations appearing here in the Executive Summary appear in order as they appear in the body of the report.

- The department should engage in the process of creating a multiyear strategic plan and which should include specific performance goals and objectives for all operational units. It is imperative for this department to develop a clear vision for exactly where it intends to go (in terms of operational performance) and how it intends to get there.

- The department should combine important operational data into a single performance measurement system or template (a data 'dashboard').

- The form and content of sergeants' meetings should be greatly enhanced.

- The department should create the position of crime analyst.

- The monthly reports that are provided by the department to the Board must be greatly enhanced.

- The department must immediately engage in the process of reviewing and revising (as necessary) its standard operating procedures (SOPs). Outdated and inconsistent policies and procedures must be purged. Failure to have a comprehensive and up-to-date set of SOPs represents a significant liability threat to the township, the department, and its personnel.

- It is highly recommended that the department perform a community survey in order to determine the current level of service expectations by members of the community.

- Liaison meetings that take place between the chief and the two board liaisons should be scheduled and held monthly.

- The department should substantially revise and enhance its annual reports. The board liaisons should work closely with the department to determine what type of information will be contained in these reports and how it will be presented.

- Sergeants' meetings must continue to be scheduled and held monthly. The format and content of these meetings must be greatly enhanced. An agenda should be published and circulated in advance and minutes should be taken so that appropriate follow-up actions can be taken.

- The board should direct the chief to immediately develop a plan for enhancing his visibility throughout the community. The department should create a chief's advisory group. This group would be made up of community stakeholders such as local clergy, business leaders, school administrators, community advocates, etc., who would meet with the chief perhaps on a quarterly basis to informally discuss community needs and police-community relations.

- The annual performance evaluation forms that are currently being used should be reviewed and substantially revised. Separate forms should be used for civilian employees, police officers, and supervisors and the criteria used for performance appraisal must be specific to the assignment of the employee during the rating period.

- The department should empanel a calls for service (CFS) committee to evaluate service demands and attempt to reduce and or eliminate nonemergency responses by patrol.

- It is strongly recommended that the department immediately develop a comprehensive program of community policing.

- In order to increase community outreach and strengthen community relations, it is recommended that the department convene a group to develop a multiyear public information strategy.

- Patrol officers and their supervisors should meet frequently with code enforcement officers and building inspectors in order to develop specific plans and coordinated actions for enforcement within the township.

- The department should make false alarm abatement an organizational goal.

- The information concerning investigative caseloads that was provided to CPSM suggests that it is very likely that the investigative function can be performed adequately with a detective sergeant and two detectives. This would allow the department to transfer one of its detectives to patrol to backfill one of the patrol officer positions.

- The department should critically review and evaluate the duties and responsibilities associated with the position of administrative sergeant (as it is likely that several of these functions could be performed by a nonsworn member of the department) with an eye toward possibly moving this position back to patrol and reassigning these duties to a newly hired or appointed nonsworn member of the department.

- The department must immediately develop a comprehensive, multiyear training plan.

- The department should discontinue the practice of requiring that citizen complainants have their written complaints notarized.

- The department should consider establishing the position of professional standards officer (PSO). This individual could be charged with overseeing the internal affairs and hiring functions (and could possibly also assume responsibility for the training function).

- It is very strongly recommended that a comprehensive audit of all property and evidence currently in the department's possession (at all locations) be performed immediately.

- It is strongly recommended that the department immediately develop a clear evidence retention policy that mandates the disposal of property and evidence.

- It is very strongly recommended that he department institute and enforce a clear policy for the weighing and photographing of suspected illegal narcotics that come into the department's possession.

- The department should immediately limit the number of people who have access to the department's various property and evidence storage locations.

- The department should immediately alter its report writing, review, and storage policies in order to remove the requirement of printing a copy. The current practice represents a needless waste of time and resources.

- The department should create a technology task force. This would be a group of sworn and nonsworn employees of various ranks who would be charged with meeting regularly to determine the department's current and future technology needs.

- The department should substantially enhance its website.

Section 2. Overview

The current staffing of the Cumru Police Department is as follows:

- One chief.

- Five patrol sergeants.

- One administrative sergeant.

- One detective sergeant.

- Three detectives.

- Eleven patrol officers.

There were a total of 22 uniformed members of the service at the time of the CPSM site visit.

At its height (approximately 15 years ago), total manpower for the department was 25. The township had been engaged in a contract to render police services to another borough (Kenhorst), but this contract was discontinued in 2009. Since that time, manpower has dropped through attrition as the department has experienced several retirements, but has not refilled these positions. CPSM was advised that the department last hired a police officer in 2011.

At the time of the CPSM site visit the department also had one administrative assistant (sometimes referred to in internal department documents as an administrative supervisor, though she does not appear to currently have any supervisory duties).

Due to the relatively small size of the department, patrol supervisors have also been asked to perform certain administrative functions such as quartermaster, scheduling officer, training officer, and community relations officer.

The administrative sergeant is charged with performing the following tasks: traffic safety officer, IT system administrator, and property and evidence custodian.

The township employs two code enforcement officers, as well as approximately seven to eight retired police officers who are periodically called upon to direct traffic during emergencies and special events.

CPSM was advised that the police department's current budget represents approximately 59 percent of the township's general fund budget.

There are currently two collective bargaining agreements in place, one for police officers and sergeants (Fraternal Order of Police) and one for administrative staff (Teamsters Union). An arbitration was recently concluded concerning the current collective bargaining agreements.

The police department is supervised by the township's board of commissioners. Two commissioners have been designated as liaisons to the police department.

Township of Cumru

The township of Cumru is largely residential and is generally described as a 'bedroom community." There are two elementary schools and one intermediate school (grades K-6) located within the Township. As described elsewhere in this report (in the analysis of UCR data), violent crime is not a critical concern in the community.

Public demands for police service are described as "quite high." The department prides itself in dispatching a patrol unit for all calls for service received from the community. CPSM was advised that the quality of police service and response times are the biggest issues for the public.

Section 3. Administration

Strategic Planning and Performance Measurement

The department is not accredited.

The department does not currently have an overarching strategic plan. Nor has it developed specific operational goals for any of its units. Operational performance appears to be performed on an *ad hoc* basis. The department does however publish annual reports. These reports are quite retrospective in nature and merely provide summary information for the prior year, as opposed to articulating clear organizational goals, benchmarks, and timelines. The annual reports contain aggregate data for a category entitled "criminal arrests." Members of the department were unable to explain what percentage of these incidents involved "actual physical custody arrests."

The chief meets with the liaison members of the board of commissioners every four to six weeks. Meetings take place in the board room of the main administration building. These meetings are attended by the chief, the two liaison board members, and the township manager. CPSM was informed that there is typically no agenda for these meetings and no minutes are taken.

Each month the department's administrative assistant prepares a two page "monthly report" that is forwarded to the board. These reports contain the following information:

- A list of offenses that have occurred within the township during the past month by type.

- The number of cases cleared by type.

- The amount of stolen property by type and value.

- The amount of stolen property recovered by type.

- The monthly total amount of criminal arrests made by the department.

- The monthly total number of traffic arrests made by the department.

- The total amount of fine payments received by the department.

- The total amount of other payments received by the department.

The report does not contain monthly or year-to-date comparisons.

CPSM was informed that the data in these reports rarely form the basis of conversations at liaison meetings. We were told that the department will provide additional performance data to liaisons or the board "as needed," but that there is no standard template of additional performance data that is submitted to the liaison board members each month for review and discussion. This severely limits the parties' ability to engage in meaningful discussions regarding the department's monthly performance.

The chief also attends weekly staff meetings with the township manager. These meetings are also attended by representatives of the fire department, the parks and recreation department, and the public works department. Again, CPSM was advised that there is typically no agenda circulated in advance and no minutes taken of these meetings.

The chief periodically meets with other chiefs from throughout the region. He is a member of the Berks County Chiefs of Police Association. The chief or his representative also attends "school meetings," which are attended by all police departments within the school district.

CPSM was informed that the department is currently conducting monthly "sergeants' meetings." These meetings have been held on a monthly basis for approximately the last three months. Prior to that, such meetings where held only one or two times per year due to "scheduling issues." In lieu of sergeants' meetings the chief would periodically meet one-on-one with each of the sergeants.

Sergeants' meetings are now conducted in the department's training room. CPSM was revised that "the chief will ask everyone to come up with items for an agenda." An agenda is circulated prior to each meeting. Meetings are apparently conducted for between one and three hours. CPSM was also advised that the chief attempts to "take notes and send information back" to the sergeants by email but that a comprehensive set of minutes for these meetings was not available. We reviewed the agenda of the sergeants' meeting that was conducted on April 24, 2015, and found it to be quite limited in terms of its content and its ability to assist department managers in analyzing and addressing all operational issues within the police department. It should be noted that the consultants did not attend a sergeants' meeting. However, based upon the record and information provided by informants within the department, it appears that the department's current practice of conducting sergeants' meetings varies considerably from the systematic and comprehensive formal command staff meetings held by most American police departments of this size.

The department's CODY system contains a great deal of data; however, the department does not utilize a comprehensive program for monitoring and sharing performance data either internally or with the board liaisons. Clearly, the department has the ability to generate reports concerning the performance of its units and personnel, but this does not appear to be taking place on an on-going basis. Having this information is not as important as using it to regularly inform management decisions and drive the operations of the department. The department must develop the ability to put timely and accurate data into the hands of its managers and demonstrate organizational effectiveness and positive outcomes.

The department does not have a policy or practice for annually reviewing and revising (as necessary) its standard operating procedures (SOPs). CPSM was advised that several SOPs have not been reviewed for many years and are presumed to be quite out of date. Indeed, members of the department experienced difficulty in producing a comprehensive and up-to-date copy for our inspection. Some electronic versions that had previously been provided to officers apparently did not contain hard-copy orders issued by the current chief (between 2010 and 2015). It is also quite possible that there are discrepancies between policies contained in the electronic and printed copies. CPSM was advised, however, that "high-liability procedures" (such as use of force, high-

speed vehicle pursuits and the handling of domestic violence situations) have been reviewed and revised as necessary.

The rifle that is currently being carried by patrol officers is not listed as an "authorized weapon" in the department's SOPs. Failure to do so unnecessarily subjects the township, the department, and its personnel to liability.

CPSM was informed that the department has explored the possibility of transitioning to a standardized proprietary product (Power DMS), but that this decision was "on hold" (that is, the decision has not been finalized). While some efforts to review and revise existing SOPs have been made recently, CPSM was advised that the review process had also been discontinued.

It goes without saying that all police departments must have clear and current policies and procedures that are set out in a comprehensive set of rules and regulations (or standard operating procedures) that are reviewed annually. Failure to do so represents a significant liability risk for the township, the department, and its personnel.

CPSM was provided with data from an internal study of the department's productivity and which covered the period of 2004 to 2014. This report highlights a dramatic drop in productivity during this period in terms of citations issued and arrests made. Specifically, the report provided the citation and arrest data shown in Table 3-1.

TABLE 3-1: Citations and Arrests, 2004 to 2014

Year	Citations	Arrests
2004	3,284	459
2005	3,168	426
2006	3,069	407
2007	3,119	389
2008	2,787	378
2009	2,643	374
2010	2,183	312
2011	1,180	309
2012	760	262
2013	881	278
2014*	703	254

*Note: Partial year.

Rarely, if ever, has CPSM observed a department's arrest and citation productivity drop so markedly over such a prolonged period. Several members of the department suggested that the productivity drop was related to personnel changes, such as retirements and transfers, resulting in a "lack of staffing" on patrol. When pressed further, however, several informants suggested that this was only a partial explanation and that the productivity drop could represent more significant

operational or morale problems. The department was unable to provide accurate information concerning the total number of vehicle stops or warnings issued to motorists each year.

Regardless of whether this dramatic drop in productivity is related to manpower, it is imperative that the department investigate and understand the cause of this drop in order to formulate a specific plan for remediation. The department needs the ability to continually monitor productivity of all of its personnel and to report to the board and the external stakeholders exactly where its work is being performed and whether or not it is having any impact. CPSM was advised that, for several years, the department engaged in enhanced traffic enforcement activities within the township. Expenditures connected to these activities had a significant impact upon the department's budget (accounting for perhaps as much as 40 percent of the department's total overtime expenditures). No analysis of these activities was performed by the department and no member of the department was able to state with any degree of certainty whether or not these enforcement activities had any immediate or long-term impact on reducing the number traffic crashes, reducing the occurrence of speeding within the township, etc.

The position of police chief necessarily entails the development and maintenance of meaningful ties with the community. This includes visible and ongoing contacts with local residents, business owners, community groups, educators, clergy, etc. Actual engagement is the key. Frequent contacts of this type have become a requirement relative to the role of police chief in a community of any size.

CPSM was advised that the current chief does not make it a practice to wear a police uniform while performing his duties. We were also advised that the chief does not make it a practice to perform patrol duties.

As part of his ongoing administration of his unit, the detective sergeant appeared to be intimately familiar with the caseload (that is, the quantity and quality of cases) of each of the investigators. This information does not, however, appear to be routinely forwarded (via a standardized template of monthly and annual performance data) to or analyzed by the chief or the board. This makes it difficult to make an objective assessment about how many detectives are needed by the department.

Annual performance reviews for department employees have not been prepared for many years. A new program of annual personnel performance evaluations was begun within the past year. Prior to that, performance evaluations had not been prepared on an annual basis. CPSM was advised that some members of the department had not had their performance reviewed for several years. CPSM reviewed the evaluation forms that are currently being used and found them to be appropriate for their intended purpose. At the same time, we noted that the forms appeared quite lengthy, seemed to focus upon personal character traits rather than actual demonstrated performance, and did not account for officers of different ranks performing different functions.

Approximately two years ago one of the patrol sergeants developed an Excel spreadsheet to capture self-initiated activity by patrol officers. In this way, supervisors are provided the

quantitative basis for the assessment of a patrol officer's performance relative to his or her peers. This information is shared with patrol officers and supervisors by means of posting it in the department's roll-call room. The department's CODY system is capable of performing such an analysis; however, it has not been used for this purpose.

Recommendation:

- The department should engage in the process of creating a multiyear strategic plan and which should include specific performance goals and objectives for all operational units. It is imperative for this department to develop a clear vision for exactly where it intends to go (in terms of operational performance), and how it intends to get there. It is recommended that the department actively engage the board of commissioners as well as other community stakeholders (community leaders, business owners, educators, clergy, etc.) in the strategic planning process. A written strategic plan ca prove to be quite helpful in terms of timing and evaluating the results of the various action steps and remedial actions that are recommended in this report.

- Clear strategic goals must be developed annually. The department can then develop specific tactics and performance targets to measure its ability to meet these goals. These goals should incorporate the many recommendations contained in this report. The department must then continue to use timely and accurate data to regularly track and report on the relative degree of progress made toward stated goals. Sergeants' meetings should be used as the primary means of monitoring performance relative to stated goals. Monthly sergeants' meetings must become the department's primary forum for review of its ongoing operations.

- Departmental and unit goals and objectives must be reviewed and revised as necessary.

- The department should combine important operational data into a single performance measurement system or template. If all such data (or accurate and timely recapitulations) are readily accessible from one central database or data dashboard, the information is more likely to be regularly consulted/retrieved by both administrators and field supervisors and used to actively manage daily operations. In essence, this dashboard can serve as an activity report for performance assessment for the entire agency, and can be consulted daily by supervisors. A central source of key performance data is critical. Multiple sources and locations of information can hinder the department's ability to engage in proactive management.

- Utilizing mapping software, the data dashboard could include any or all of the following:
  - The geographic location, date, and time of all arrests.
  - The geographic location, date, and time of all reported crimes.
  - The total number of training hours performed, type and total number of personnel trained.

- The number of use-of-force reports, personnel involved, time and place of occurrence, and general description of circumstances.

- The geographic location and time of all vehicle crashes.

- The geographic location and time of citations issued.

- The type and number of civilian and internal complaints (and dispositions).

- The type, number, location, and time of department vehicle accidents, both "at fault" and "no fault" accidents.

- The type, number, location, and nature of all firearm discharges.

- The results of systematic and random audits and inspections of all police operations (e.g., calls for service response and dispositions, property receipt and safeguarding, etc.).

- The type, location, and number of any *Terry* stops (i.e., investigatory stocks of suspects, otherwise known as stop, question, and frisk) performed, as well as a description of all individuals involved and a description of all actions taken. Data obtained in connection with these stops should be analyzed and actively tracked. It is important for the department to know: how many stops are being made, by whom, who was being stopped, where, when, and for what reasons.

- An effective performance dashboard could also include traditional administration and budgetary measures, such as monthly and annual totals for sick time, comp time, and overtime.

- The specific performance measures to be tracked and reported at sergeants' meetings is entirely up to the department. All police agencies have unique missions, challenges, and demands. Outside performance benchmarks or measures should not be imposed upon the department, they should be derived from within.

- It is imperative that baseline levels be established for all performance categories. This entails measuring a category over a period of months, calculating percentage increases and decreases, computing year-to-date totals, and the average and monthly totals in order to determine seasonal variation and to obtain overall performance levels for the agency. There is likely to be much seasonal variation in the work of this department. Such analysis can also include sector and individual officer performance review. This performance information is invaluable in terms of determining optimal staffing levels.

- The department should be vigilant in identifying new performance indicators. The department should review its current indicators and solicit input from all levels of the department. "Key" performance indicators should be identified, with an understanding that they can always be expanded or modified at a later date. These indicators should always form the basis of discussions at sergeants meetings.

- Any substantive changes to the current performance management framework must be communicated to, understood by, and acted upon by all members of the department.

- The department must continue to schedule and hold monthly sergeants' meetings.

- The form and content of sergeants' meetings should be greatly enhanced.

- An agenda for each upcoming sergeants' meeting should be circulated to participants well in advance via department e-mail. Minutes should be taken at these meetings and circulated afterwards.

- The questioning of field supervisors during sergeants' meetings must take the form of a collaborative dialogue. In other words, it must be an active give-and-take in which field supervisors are challenged to explain why crime or violations of vehicle and traffic laws occur and to spell out their future plans for remediation. A critical aspect of these discussions is to identify lessons learned. There is a critical distinction between holding supervisors personally accountable for these incidents (which, obviously, they have no responsibility for), and holding them accountable for using best efforts to address and respond to these incidents in an effort to reduce future occurrences.

- Open discussions of this type challenge managers and enhance organizational learning opportunities. Sergeants' meetings should be used to reflect upon the following questions: What is happening (in terms of crime and traffic conditions in the township)? How do we know this? What should be done? Are our efforts having any effect? How can we tell?

- The discussions and issues addressed at these meetings must relate directly to the department's strategic plan and stated goals, for example, "A townshipwide reduction in the number of DUI incidents."

- The training officer must be represented and must actively to participate at all sergeants' meetings. The training officer must be intimately involved in reviewing current police practices and policies in order to identify future training opportunities, assist in the selection of equipment and technology, and actively participate in the department's overall safety, enforcement, and risk management functions.

- CPSM recognizes that nonsupervisory personnel generally should not put participate in sergeants' meeting. Nevertheless, sergeants' meetings should include and involve rank-and-file personnel (police officers) whenever possible to obtain their perspectives concerning current patrol operations, community relations, and organizational challenges and opportunities. Authentic and spontaneous dialogue should be encouraged at these meetings.

- Sergeants' meetings should not be used primarily as a recapitulation of past events. Rather, they should be used to generate new knowledge and specific action plans. Sergeants' meetings have great potential for encouraging brainstorming and innovative problem solving.

- For a more detailed discussion of recommended practices for conducting these types of meetings see O'Connell and Straub (2007). *Performance-based Management for Police Organizations*, (Long Grove, IL; Waveland Press), pp. 108-123.

- The department's newly appointed crime analyst should be represented at all sergeants' meetings and should be utilized to measure the relative effectiveness of major initiatives such as increased enforcement activities in designated hotspots. If directed patrols, traffic enforcement, or undercover operations are planned, police commanders should be asked in advance to define what success looks like. In other words, if such initiatives are undertaken, the crime analyst would be asked to determine whether or not desired results were obtained. Results would be shared openly during sergeants' meetings.

- Regardless of whether sergeants' meetings will address matters beyond traditional crime fighting and traffic enforcement issues, the department should develop a comprehensive template for reviewing and regularly reporting out departmentwide performance data to township officials.

- A distinction must be made between performance measurement that is undertaken for internal purposes (i.e., for the purpose of managing police operations) and performance measurement for the primary or exclusive purpose of reporting out to township officials or other entities. Not all internal performance data should be reported out. Therefore, the department should carefully select those metrics that are believed to be relevant for reporting out purposes. Township officials, in particular police liaisons, must be engaged in selecting performance categories that are most useful. Once this decision is made, a template or "dashboard" could easily be developed so that all future reports that are forwarded to third parties will appear in a standardized fashion. Performance indicators can be added or removed as necessary. Narrative reports or memoranda should only be used to supplement information provided in these reports. It should not be used as a primary means of transmitting this information.

- It is therefore recommended that the monthly reports that are currently provided to the board by the department be greatly enhanced. The department should utilize a standard template to convey pertinent performance information to township officials. This would include budgetary and administrative information, such as sick time, comp time, and overtime expenditures, as well as any other measures that the chief and city officials agree to include. Aggregate data should be broken down and fully analyzed whenever possible. For example, the department must continually report who is accumulating overtime, when and why.

- CPS M recognizes that both the township officials and the department have access to this information. But mere access is not sufficient. This information must be shared, analyzed, and be used as the basis of substantive discussions between the department and board liaisons about organizational performance and the effect of initiatives.

- The exact list of performance indicators that should be regularly shared with township officials should be determined by the chief and board liaisons. The important thing is that: 1) regular (i.e., monthly) meetings between the chief and board liaisons take place; 2) that timely and accurate performance information be conveyed on a regular basis to township officials; and 3) that performance discussions follow the uniform/standardized template or format.

- Minutes should be recorded and maintained for appropriate follow-up at subsequent meetings. Minutes can be circulated to participants via department e-mail.

- The department should substantially revise and enhance its annual reports. The board liaisons should work closely with the department to determine what type of information will be contained in these reports and how it will be presented. An emphasis should be placed upon linking these reports to the department's newly developed strategic plan, and analyzing department and unit performance vis-à-vis stated annual goals.

- The department should immediately develop an internal performance measurement system that allows supervisors to use timely and accurate information to inform management decisions.

- The department must immediately engage in the process of reviewing and revising (as necessary) its SOPs. Outdated and inconsistent policies and procedures must be purged. Failure to have a comprehensive and up-to-date set of SOPs represents a significant liability threat to the township, the department, and its personnel. Once the revision process is accomplished, all members of the department should be immediately provided with the current set of SOPs and additional in-service training should be provided, as necessary.

- Sergeants' meetings must continue to be scheduled and held monthly. An agenda should be published and circulated in advance and minutes should be taken so that appropriate follow-up actions can be taken. These meetings should follow a: standard schedule, with in-depth analysis and discussion of: current crime trends and enforcement activities; motor vehicle accidents and traffic enforcement activities; community relations and outreach initiatives; current training programs and initiatives, etc.

- During sergeants' meetings, patrol supervisors and detectives should be directed to present (that is, verbally describe) significant cases and incidents occurring within their geographic areas of responsibility. For example, information about a residential burglary should be presented by a patrol supervisor. Detectives can amplify these reports and case presentations by describing the course of ongoing investigations, when appropriate. Specific action plans and further steps should be addressed and documented, so that appropriate follow-up can be made at subsequent meetings.

- Sergeants' meetings should be used to engage the entire organization and encourage joint problem solving, particularly between the patrol and detective divisions. Meetings should be used to collaboratively answer the following questions regarding crime in the township: What's going on? How do we know? What should we do about it? And are we having any impact? The criminal offense and conditions must be linked directly to specific anticrime efforts. In this way there can be continuity and accountability when these matters are reexamined at subsequent meetings. If these meetings are viewed or understood as merely as informal get-togethers, their true potential will be lost.

- Mapping software should be used to visually display the actual locations where crimes, vehicle crashes, etc., are occurring. These maps should include date and time of occurrence

for all incidents. Maps should be overlaid in order to display long-term trends in particular sections of the township.

- Data are, in fact, available to determine the relative amount of police services that are routinely being rendered within the township. However, queries similar to that performed by CPSM are not being performed routinely. We recommend that monitoring of this type be the main part of the department's ongoing management and reporting practices.

- The department should conduct annual departmental-wide meetings. These would serve as a forum for open discussion between the administration and rank-and-file. The department should have a mechanism such as this for conveying information to police officers and receiving feedback in an informal setting. These meetings would be separate and apart from the collective bargaining process, and would merely serve as a means of identifying and discussing new department programs and initiatives.

- Liaison meetings that take place between the chief and the two board liaisons should be scheduled and held monthly. An agenda should be published in advance and minutes should be taken so that proper follow-up actions can be taken.

- The board should direct the chief to immediately develop a plan for enhancing his visibility throughout the community. This would entail not only such steps as actively participating in public meetings of the Chamber of Commerce, homeowners' associations, community groups, etc., but also periodically appearing in uniform during patrol shifts. This plan should be integrated into the department's newly developed community policing plan and should include specific goals and milestones.

- The department should create a chief's advisory group. This group would be made up of community stakeholders such as local clergy, business leaders, school administrators, community advocates, etc., who would meet with the chief perhaps on a quarterly basis to informally discuss community needs and police community relations. Advisory groups of this type have proven to be indispensable in many American police departments.

- The annual performance evaluation forms that are currently being used should be reviewed and substantially revised. Separate forms should be used for civilian employees, police officers, and supervisors and the criteria used for performance appraisal must be specific to the assignment of the employee during the rating period. Forms should include clear performance expectations as well as an objective means of measurement. Individual performance targets/goals must be linked logically to unit and department goals. These forms should include sections for narrative responses, observations, and comments. The general areas assessed should include professional and technical skills demonstrated, leadership and management skills demonstrated, and demonstrated levels of initiative and productivity. Evaluation forms should include sections for individualized career counseling, annual goals, and employee feedback. Responsibilities for the preparation of performance appraisals must be clearly outlined. Rater responsibilities, definitions, and goals must also be provided. Raters must be provided with adequate training concerning the preparation of these reports. It is strongly recommended that all members of the department (both sworn and unsworn) be consulted and engaged in the review and revision process.

- Empanel a calls for service (CFS) committee to evaluate service demands and attempt to reduce and or eliminate nonemergency responses by patrol. Many departments of similar size have made significant improvement in responsiveness and efficiency by critically evaluating incoming calls for service and only dispatching patrol units to calls that actually require police service. Efforts such as identifying chronic false alarm locations, allowing citizens to obtain police forms via the department's website, etc., can significantly reduce overall demands on the department's patrol resources.

- The department should consider seeking CALEA (Commission on Accreditation for Law Enforcement Agencies) accreditation.

Community Policing

CPSM was advised that the department does not currently have a formal community policing program. The department does not have a stand-alone community policing unit and no uniformed member of the department is assigned as community policing officer. While one sergeant has been assigned to perform the crime prevention and public relations functions, the department was unable to provide evidence of a comprehensive community policing program designed to direct the activities of patrol officers and their supervisors. The department does have a Facebook page, although it is not linked to the department's official website.

The detective sergeant periodically attends "school meetings."

A patrol sergeant is assigned as youth aid panel liaison. This sergeant participates in a program for first-time juvenile offenders, which is run by the local juvenile probation office (JPO). The panel is chaired by the JPO officer and consists of approximately six to eight individuals from the community who interact with the offender, the offender's parents, and others in order to determine what sanctions if any should be imposed upon the offender.

The same patrol sergeant is also assigned as "community resource officer." In this capacity, she makes presentations at schools, provides tours of police headquarters, administers a fingerprint card program for children, etc. She has also set up a Facebook page for the department (although it is not linked to the department's website). She has also coordinated a trout derby fishing event for local youth, which is funded by donations from local businesses. Events such as these should be actively encouraged.

One patrol sergeant is assigned to the bicycle patrol unit. Several patrol officers are certified bicycle officers. Bicycle patrols are not regularly scheduled. Bicycle patrol officers are now "mostly assigned to special events."

An incident that occurred during the CPSM site visit is quite instructive in terms of understanding the department's position with regard to community policing. Upon arriving at police headquarters at approximately 9:30 a.m. on the first day of the visit (a Tuesday), we encountered a printed sign that was placed on the door by the chief indicating that the police department's offices were closed

to the public. All members of the public (including the CPSM consultants) were directed to call 911 in order to obtain police services. Upon doing so, our call was directed to the county dispatch center. The county dispatcher advised that a Cumru Township Police Department patrol unit would be contacted and would either respond to the headquarters building or would contact the consultants by telephone. CPSM was advised by several members of the department that this practice was necessary in light of the fact that the department's only administrative assistant was not working that day. There were, however, at least six uniformed members of the department physically present in the headquarters building and who could have opened the front door, rather than directing "walk-ins" to call 911 for service. CPSM was shocked to find that no uniformed member of the department was monitoring the door during normal business hours in order to address questions or concerns of members of the public seeking police service.

On a previous occasion, a telephone call that was made during normal business hours by one of the consultants to the chief was also directed to county dispatch. Upon informing the dispatcher that the consultant was merely attempting to contact the chief via the direct telephone line to his office (that had previously been provided by the chief), the consultant was provided that very same number as the only means of contacting the chief. The dispatcher advised that "all calls to the chief's office are now being routed to county dispatch."

Practices such as these suggest an extreme lack of responsiveness on the part of department personnel that varies greatly with common police practice. Indeed, CPSM has never observed this degree of unresponsiveness before. We believe that these actions serve to weaken police community relations and can severely limit or compromise any community policing efforts by the department. They also provide a very poor example for employees of the department and the entire township.

The department has never conducted or sponsored citizen satisfaction surveys.

Recommendations:

- It is strongly recommended that the department immediately develop a comprehensive program of community policing. This would entail specific goals and performance targets for patrol officers and supervisors. This would also include enhanced training for patrol officers with regard to certain functions and techniques related specifically to community policing. The department should work with community leaders and homeowners to create neighborhood watch groups.

- The department should identify one sergeant to be designated, trained, and supported as the department's community policing officer. The community policing officer would be chiefly responsible for the development of the above referenced comprehensive program of community policing.

- In order to increase community outreach and strengthen community relations, it is recommended that the community policing officer convene a group to develop a multiyear public information strategy. This group should consist of three to five individuals of various ranks who would periodically meet to plan, develop, and implement a clear public

information strategy for the department. This group should avail itself of outside resources and could include individuals from outside the department (such as a member of the local press or a professor of communications from a local college or university). CPSM suggests that the department look to the Boca Raton Police Department (Florida) as an example of a modern police agency with a sophisticated public information strategy as well as a potential source of information and support.

- The resulting public information strategy should be incorporated into the department's overall strategic plan. The public information strategy should include clear goals and objectives including but not limited to the effective use of social media.

- A central component of the department's newly created community policing program should be a "park, walk, and talk" program for patrol officers and their supervisors. Clearly, patrol officers have ample opportunity within each patrol shift to park their patrol units and walk through populated areas such as parks, schools, commercial areas, etc. A program of this type would afford patrol officers the opportunity to further develop personal ties to the community and obtain immediate feedback concerning public perceptions and expectations about police service. The department's command staff would identify the specific areas within the township for such patrols. Patrol officers would be encouraged to perform community patrols of this type during most daytime shifts. Officers should be directed to advise dispatch when such community patrols commence and conclude. The quantity and quality of such community patrols should be considered as a performance measure for patrol officers.

- It is highly recommended that the department perform a community survey in order to determine the current level of service expectations by members of the community. Clearly, the department does not have the resources to perform a survey on its own. It is therefore recommended that the department reach out to a local or regional college or university in order to obtain assistance in survey instrument construction, administration, and analysis. Periodic community surveys have become common practice in most modern American police departments. A community survey would seek answers to the questions such as, *"What do you want your police to be doing?" "Are we delivering the right services for you?" "Are we delivering services appropriately?"* The central question will be to determine service level expectations and public opinion regarding the quality of service and the department's relative degree of responsiveness. The department no doubt currently has strong community support, it just needs the ability to demonstrate and monitor it.

- As part of the department's new community policing program it is recommended that patrol officers and their supervisors meet frequently with code enforcement officers and building inspectors in order to develop specific plans and coordinated actions for enforcement within the township.

Crime Analysis

At the time of CPSM's initial site visit no member of the department was assigned to perform the crime analysis function. Crime analysis apparently is performed in an *ad hoc* manner by personnel performing patrol and investigations. It is not being conducted in a formal or comprehensive manner. Several members of the department assigned to patrol were asked whether the rate of reported property crimes within the township was increasing or decreasing, but they were unable to provide a response. The consultants were advised that the detective sergeant periodically appears at roll call at the commencement of patrol shifts in order to advise patrol officers of current conditions (such as crime patterns, ongoing investigations, etc.). The detective sergeant apparently documents such visits in the patrol log. The patrol log will also contain notifications from one supervisor to another concerning recent crimes and significant incidents. There is, however, no ongoing departmentwide comprehensive program of crime analysis.

An electronic mailing list has been developed within the county that allows detectives and officers from various departments to share bulletins and alerts with one another. A great deal of information is made available in this manner. This has apparently alleviated the necessity for having monthly crime meetings among detectives from departments throughout the county. The electronic mailing list is maintained by the district attorney's office.

Crime analysis should be considered a critical function for any police department. Despite the fact that the township does not experience a high rate of serious or violent crime, and that there is an abundance of information available via the list serve, there is nevertheless a clear necessity for ongoing, proactive, and comprehensive crime analysis to be conducted and communicated *within* this department. Offenses such as property crime and domestic violence must be actively tracked and remedial plans must be made to address such issues. Both the chief and the detective sergeant review all crime reports as they are prepared by the department; thus, it is clear to CPSM that both have an intimate knowledge of the time, date, location, and modus operandi of offences committed within the township. The critical questions, however, are: *"How is this information communicated to and understood by other members of the department (particularly police officers on patrol)?" "How does this information form the basis of the department's future action plans?" "What impact, if any, are the department's efforts having upon these criminal conditions?"* The lack of a formal crime analysis program severely limits the department's ability to answer these fundamental questions. One member of the department indicated to CPSM, "I defy anybody [i.e., a member of patrol] to tell me where five of the last six residential burglaries have taken place."

At the time of the CPSM site visit, patrol officers were being advised to perform "residential patrols." That is, they were directed to ensure that their patrol vehicles were visible in residential areas of the township. Apparently, in the past the department had performed directed patrols as a means of addressing certain conditions within the community. CPSM was told that these directed patrols were no longer being conducted due to "staffing issues." We were not provided with any information concerning the relative effectiveness of the current residential patrols (that is, members of the department were unable to explain what impact, other than mere visibility of patrol units, these efforts have had upon crime rates in the areas patrolled).

Two police officers assigned to patrol serve as a "gang officers" and periodically attend countywide gang intelligence meetings. The department's administrative assistant performs duties connected with the uniform crime reports (UCR) reporting function.

Recommendations:

- The department should designate, train, and support one individual to serve as crime analyst. This could be a part-time position filled by either a sworn or nonsworn member of the department.

- The crime analyst must be an active participant in all command staff meetings (e.g., sergeants' meetings) and serve as a partner in all planned investigative and special enforcement operations. It is imperative that the analyst receive timely and accurate feedback concerning all tactical plans that are formulated as a result of the information that he/she provides.

Section 4. Patrol and Investigations

Patrol Deployment and Staffing

Uniformed patrol is considered the "backbone" of American policing. The Bureau of Justice statistics indicates that more than 95 percent of police departments in the United States in the same size category as the CPD provide uniformed patrol. 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 in order to have officers available to respond to calls for service and provide enforcement services to the public.

The current collective bargaining agreement between police officers and the township extends through 2018.

The department is presently restricted in its ability to significantly alter its patrol staffing schedule due to the current collective bargaining agreement, which requires 10 hour shifts. The department has recently changed the patrol schedule, which has resulted, in our opinion, in a convoluted schedule.

Based on the information provided to CPSM, it appears that the current patrol schedule provides for certain periods of the day when the patrol force is at double strength. For example, the patrol force is at double strength from 9:00 p.m. until 1:00 a.m. It is also at double strength between 3:00 p.m. and 4:30 p.m. The department should be challenged to justify the logic behind this staffing model, in terms of matching resources to actual workload. It is likely that patrol units can be used during this afternoon period for traffic enforcement or to handle school dismissals, but the department should be directed to provide evidence that this is occurring. Further, when reviewing the workload / deployment configuration it is clear that the agency is not deploying it resource consistent with demand for service(See Figures 4-1 to 4-8).

CPSM is available to assist the department in shifting to a 12-hour schedule, should the department and the township decide to do so. As previously stated, however, any adjustment to the current scheduling model will either need to be done with the consent of the officers' collective bargaining unit, or be made a central item to be addressed in the next collective bargaining agreement.

The department does not have a canine unit. No member of the department is currently assigned to the regional SWAT team. Special services such as these are obtained from either the county or the city of Reading as necessary.

An outside consultant was retained in 2012 to perform a staffing analysis of the department. While CPSM did review that study's report, an independent staffing analysis was performed as part of the present study.

The study was conducted at a time when the department had a total patrol complement of 13 officers and six patrol sergeants (Staffing Study, p. 20). It concluded that the department was

"slightly understaffed by less than one officer" (p. 21). It also suggested that be department could "reassign a detective from criminal investigations to the patrol section" (p. 21).

It should be noted that any staffing recommendations made by CPSM and which are contained in our report are based solely upon the data analysis that was conducted by CPSM as well as internal documents provided by the department. The 2012 staffing study referenced above was reviewed by CPSM for its historical significance, but it does not form the basis of any staffing recommendations contained in this report.

The department is broken down into two patrol sectors (sector one and sector two). CPSM was advised that the current collective bargaining agreement does not contain a "minimum manning" provision. Nevertheless, the operational "minimum manning" standard has been as follows: two officers assigned to the day shift (which could be two police officers or one police officer and a sergeant); three officers assigned to the evening shift (4:00 p.m. to 2:00 a.m.); and two officers assigned to the midnight shift. Patrol schedules are prepared by a patrol sergeant. Patrol officers and their supervisors work 10-hour shifts, and work four days on and have three days off. Flex days can be used for conducting traffic enforcement, training, etc. The current patrol schedule was implemented in January 2015.

CPSM was advised that the department had a type of "stop, walk, and talk" program for patrol officers several years ago, but that this program was discontinued "due to staffing issues."

The township has enacted an ordinance that provides for the issuance of permits for residential and commercial alarms. There is a false alarm abatement program whereby property owners may be fined for being a "chronic" false alarm location.

Due to its proximity, arrest processing takes place in the county courthouse in Reading. The department does not perform regular prisoner escort duties for other agencies.

CPSM was also advised that the department does not currently have any formal mutual aid agreements with other police departments in the region.

At the time of the CPSM site visit, the administrative sergeant was performing a number of duties and tasks that need not be performed by a uniformed officer and could perhaps be performed by nonsworn personnel.

Recommendations:

- The duties and functions performed by the administrative sergeant should be reviewed. It is likely that several of these functions could be performed by a nonsworn member of the department.

- The department should make false alarm abatement an organizational goal. It should therefore actively track weekly, monthly, and annual data concerning problematic locations and then incorporate specific abatement strategies and community education and outreach efforts into its overall community policing program.

- The department should enter into formal mutual aid agreements with other police departments in the region.

- As stated elsewhere in this report, the department does not have a comprehensive performance measurement system for evaluating the quantity and quality of work performed by its detectives. Therefore, it is difficult to justify the department's need for one detective sergeant and three detectives. Indeed, the overall arrest and summons activity for the department, combined with the information concerning investigative caseloads that was provided to CPSM, suggests that it is very likely that the investigative function can be performed adequately with a detective sergeant and two detectives. This would allow the department to transfer one of its detectives to patrol to backfill one of the patrol officer positions.

- The department should critically review and evaluate the duties and responsibilities associated with the position of administrative sergeant with an eye toward possibly moving this position back to patrol and reassigning these duties to a newly hired or appointed nonsworn member of the department.

Traffic

Traffic safety is one of the most important functions of a police department and complaints about traffic are usually the complaints most often heard from members of the community. The department does not have a designated traffic unit; rather, the administrative sergeant is designated as the department's traffic officer. The administrative sergeant is a member of the Berks County crash task force and can perform investigations of crashes involving fatalities.

As stated elsewhere in this report, several years ago the department engaged in "directed traffic enforcement." This Intel, among other things, enhanced enforcement of the vehicle and traffic laws related to speeding. The department has an electronic "speed board" that can be trailered and moved freely throughout the township. The board not only provides a visual display of a passing vehicle's speed (in MPH), but also has the capability to record the speeds of all vehicles along with the time and date, and calculate average speed, 85th percentile speed, etc. Data generated by the speed board can also be monitored by police officers at headquarters via a live feed. Despite the significant capabilities of this technology, it does not appear that the data generated are analyzed in order to determine the relative degree of effectiveness in reducing the incidence of speeding or vehicle crashes in targeted areas.

At the time of the CPSM site visit the department was not performing any special traffic enforcement details.

Deployment

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 officer 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 is an indication that the department is overstaffed.

Staffing decisions, particularly for patrol, must be based on actual workload. Once the actual workload is determined the amount of discretionary time is determined and then staffing decisions can be made that are consistent with the department's policing philosophy and the community's ability to fund the staffing. The Cumru Police Department is a full-service police department, and its philosophy is to address essentially all requests for service in a community policing style. With this in mind 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 allows for identification of activities that are really "calls" from those activities that are some other event.

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 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 and community policing. Patrol is generally the most visible and most available resource in policing and the ability to harness this resource is critical for successful operations.

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

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 a 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. Sixty percent of time spent responding to calls for service is believed to be the saturation threshold.

Rule of 60 – Part 1

According to the department personnel data available at the time of the site visit patrol is staffed by five sergeants and 11 police officers. These 15 of the 22 sworn officers represent 68.0 percent of the sworn officers in the Cumru Police Department.

Accordingly, the department has slightly more officers assigned to patrol than would be expected. It would appear that the CTPD does not adhere to the first component of the "Rule of 60," that is, about 60 percent of the total sworn force should be dedicated to patrol operations. The patrol function is slightly out of balance compared to the entire department, and more than the expected amount of resources is dedicated to patrol. This indicates that there might be too many officers on patrol, or conversely, not enough officers assigned to other units. The exact organizational model, however, will emerge as the discussion on operational requirements evolves throughout this report. In and of itself, the higher than expected percentage of officers on patrol is not illustrative of organizational imbalance. It must be put in context with the total operations of the department, but still provides a useful benchmark to consider

Rule of 60 – Part 2

The second part of the "Rule of 60" examines workload and discretionary time and suggests that no more than 60 percent of time should be committed to calls for service. In other words, CPSM suggests that no more than 60 percent of available patrol officer time be spent responding to the service demands of the community. The remaining 40 percent of the time is the "discretionary time" for officers to be available to address community problems and be available for serious emergencies. This Rule of 60 for patrol deployment does not mean the remaining 40 percent of time is downtime or break time. It is simply a reflection of the point at which patrol officer time is "saturated" by CFS.

This ratio of dedicated time compared to discretionary time is referred to as the "Saturation Index" (SI). It is CPSM's contention that patrol staffing is optimally deployed when the SI is in the 60 percent range. An SI greater than 60 percent indicates that the patrol manpower is largely reactive, and overburdened with CFS and workload demands. An SI of somewhat less than 60 percent indicates that patrol manpower is optimally staffed. SI levels much lower than 60 percent, however, indicate patrol resources that are underutilized, and signals an opportunity for a reduction in patrol resources or reallocation of police personnel.

Departments must be cautious in interpreting the SI too narrowly. For example, one should not conclude that SI can never exceed 60 percent at any time during the day, or that in any given hour no more than 60 percent of any officer's time be committed to CFS. The SI at 60 percent is intended to be a benchmark to evaluate overall service demands on patrol staffing. When SI levels exceed 60 percent for substantial periods of a given shift, or at isolated and specific times during the day, then decisions should be made to reallocate or realign personnel to reduce the SI to levels below 60. Lastly, this is not a hard-and-fast rule, but a benchmark to be used in evaluating staffing decisions.

The CPSM data analysis in the second part of this report provides a rich overview of CFS and staffing demands experienced by the Cumru department. The analysis here looks specifically at patrol deployment and how to maximize the personnel resources of the department to meet the demands of calls for service while also engaging in proactive policing to combat crime, disorder, and traffic issues in the community.

The following eight figures are used to analyze the patrol manpower and work demand on both weekdays and weekends during summer 2014 and winter 2015. Examination of these figures permits exploration of the second part of the Rule of 60. Again, the Rule of 60 examines the relationship between total work and total patrol, and to comply with this rule, total work should be less than 60 percent of total patrol.

In Figures 4-2, 4-4, 4-6, and 4-8, Cumru patrol resources available are denoted by the dashed black line at the top. The 100 percent value indicates the total police officer hours available during the 24-hour period. This amount varies during the day consistent with the staffing of the shifts, but at any given hour the total amount of available manpower will equal 100. The red dashed line fixed at the 60 percent level represents the saturation index (SI). As discussed above, this is the point at which patrol resources become largely reactive as CFS and workload demands consume a larger and larger portion of available time. The solid black line represents total workload experienced by the CTPD.

In looking at the comparisons of the lines in the SI figures, and comparing workload to available staffing, the data indicate that workload demands in Cumru Township are usually met by the resources available. During the winter 2015 period we examined, there is some concern about resource availability during the daytime on weekdays and also with the timing of out-of-service activities on weekends. Details are described below.

FIGURE 4-1: Deployment and Main Workload, Weekdays, Summer 2014
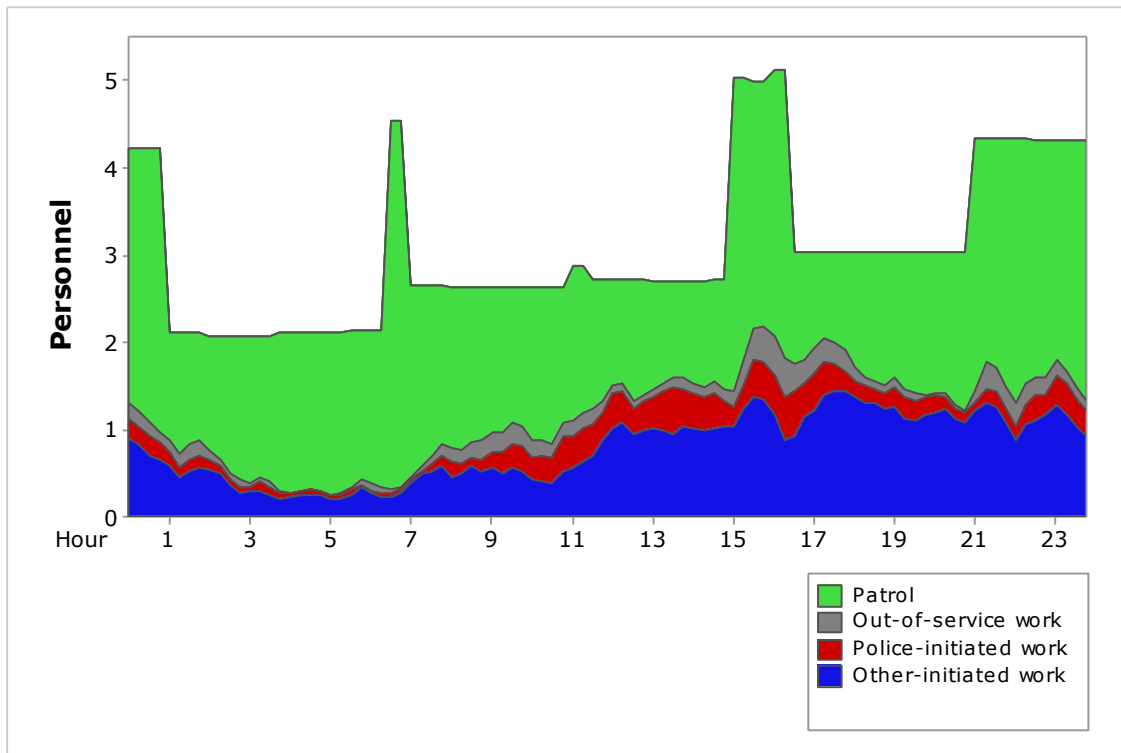
FIGURE 4-2: Workload Percentage by Hour, Weekdays, Summer 2014
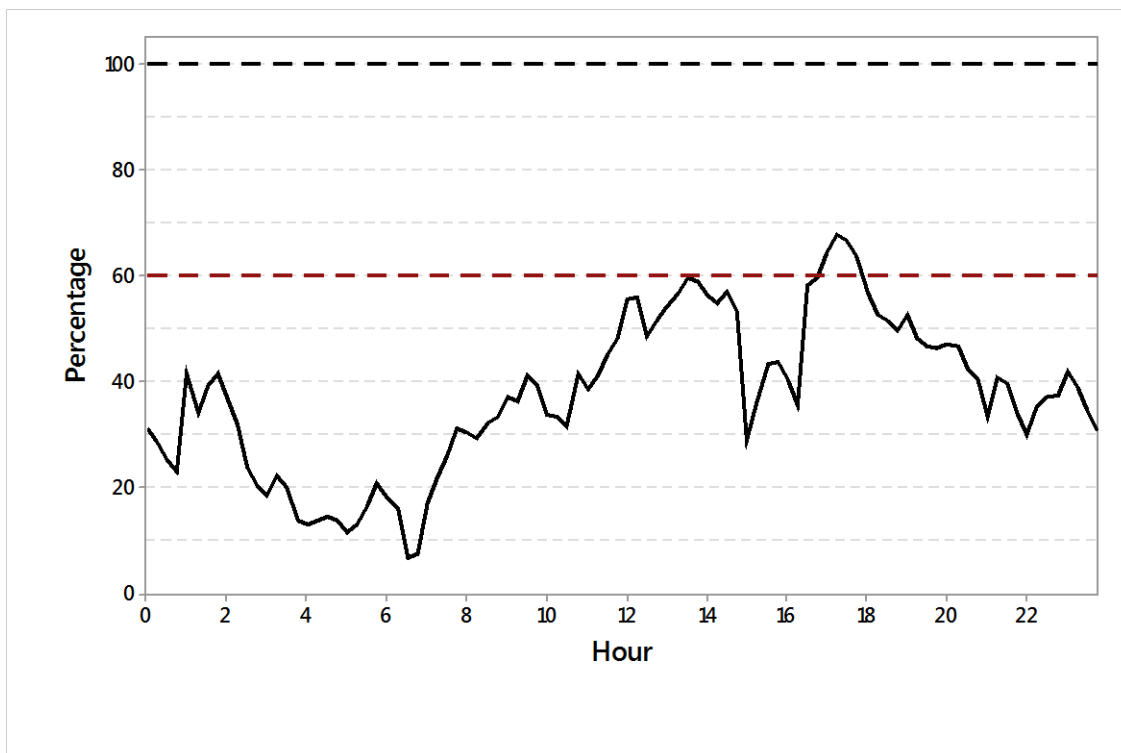
Avg. Workload: 1.2 officers per hour
Avg. % Deployed (SI): 38 percent
Peak SI: 68 percent
Peak SI Time: 5:15 p.m.

Figures 4-1 and 4-2 present the patrol workload demands and SI for weekdays in summer 2014. As the figures indicate, the SI exceeds 60 percent between 5:00 p.m. and 6:00 p.m. The SI rises to a high of about 68 percent at 5:15, with a daily average of 38 percent. This percentage is moderate.

FIGURE 4-3: Deployment and Main Workload, Weekends, Summer 2014
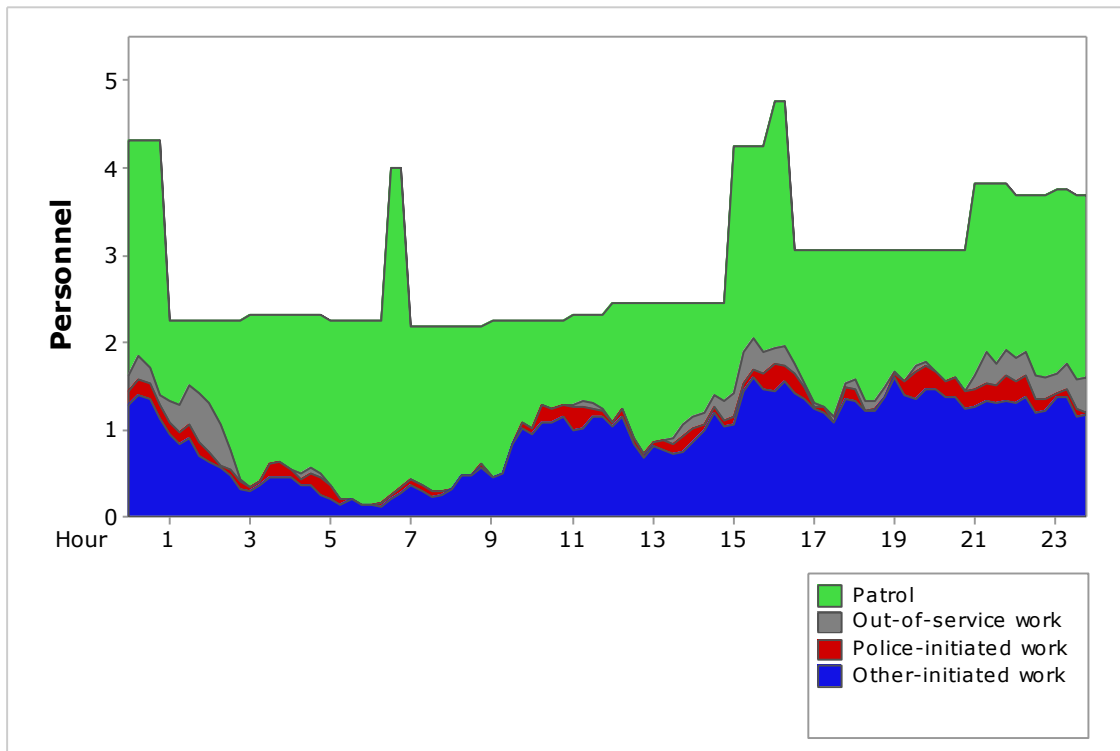
FIGURE 4-4: Workload Percentage by Hour, Weekends, Summer 2014
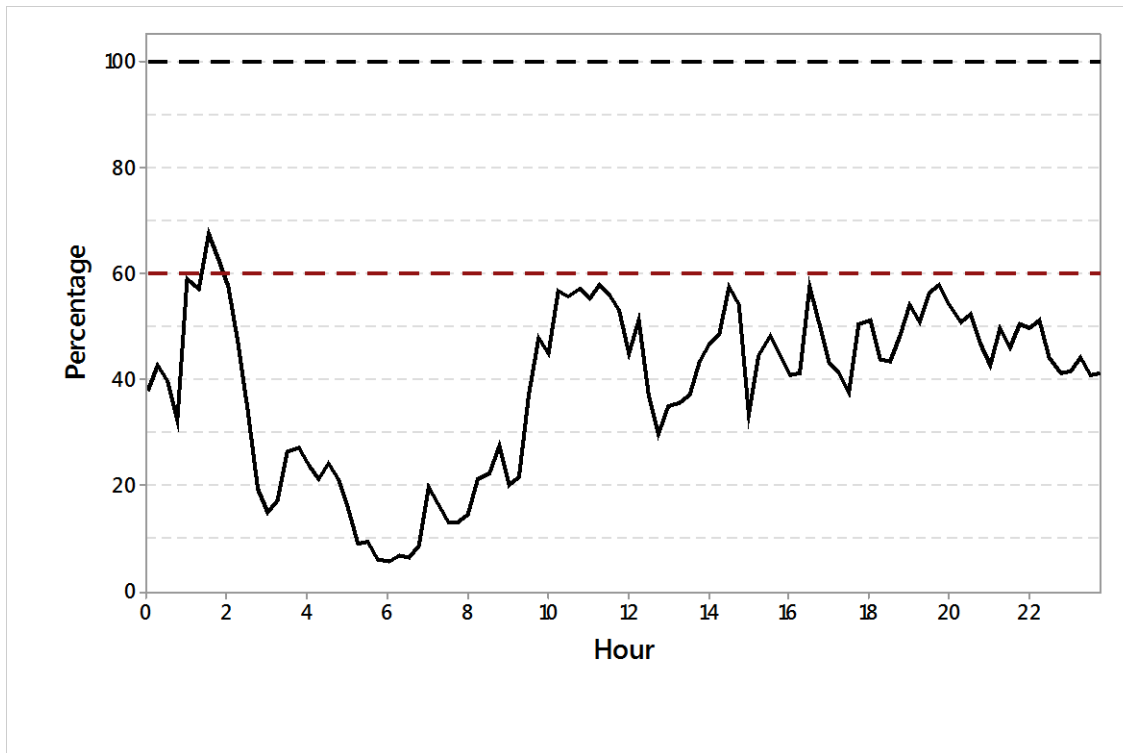
Workload v. Deployment – Weekends, Summer 2014

Avg. Workload: 1.1 officers per hour
Avg. % Deployed (SI):   39 percent
Peak SI: 67 percent
Peak SI Time: 1:30 a.m.

Figures 4-3 and 4-4 present the patrol workload demands and SI for weekends in summer 2014. As the figures indicate, the SI exceeds the 60 percent threshold between 1:30 a.m. and 2:00 a.m. This is mostly due to out-of-service activities at that time. Without out-of-service work, the workload percentage only peaks at 47 percent of available personnel during that time.

FIGURE 4-5: Deployment and Main Workload, Weekdays, Winter 2015
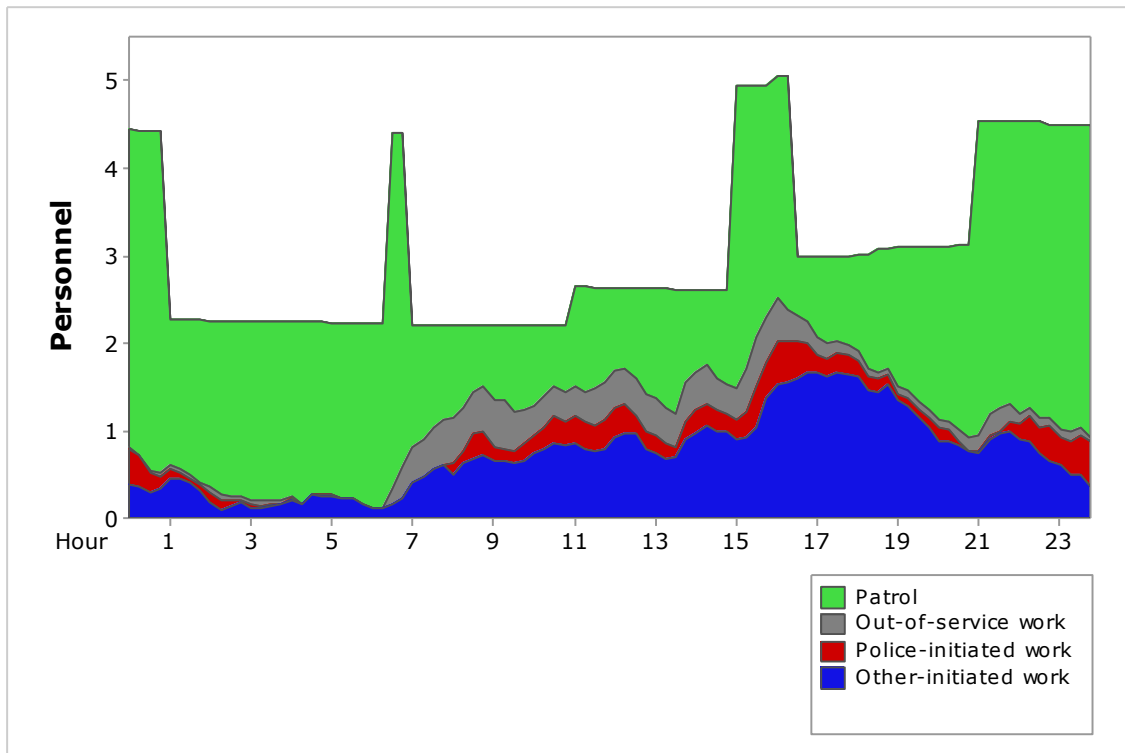
FIGURE 4-6: Workload Percentage by Hour, Weekdays, Winter 2015
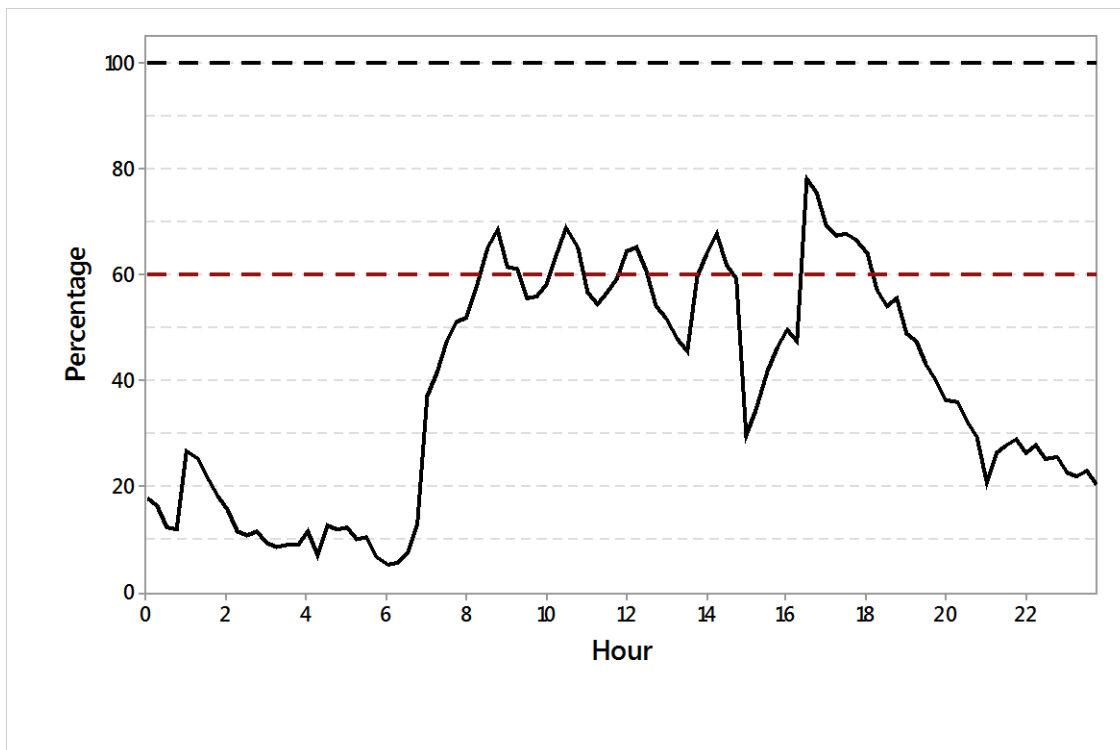
Workload v. Deployment – Weekdays, Winter, 2015

Avg. Workload:	1.1 officers per hour
Avg. % Deployed (SI):	37 percent
Peak SI:	78 percent
Peak SI Time:	4:30 p.m.

Figures 4-5 and 4-6 present the patrol workload demands and SI for weekdays in winter 2015. As the figures indicate, the SI exceeds 60 percent at five distinct periods between 8:00 a.m. and 6:00 p.m. Even when out-of-service workload is not included, the percentage of work exceeds 60 percent of available personnel between 4:30 p.m. and 6:00 p.m. This would indicate the need for additional personnel during this time.

FIGURE 4-7: Deployment and Main Workload, Weekends, Winter 2015
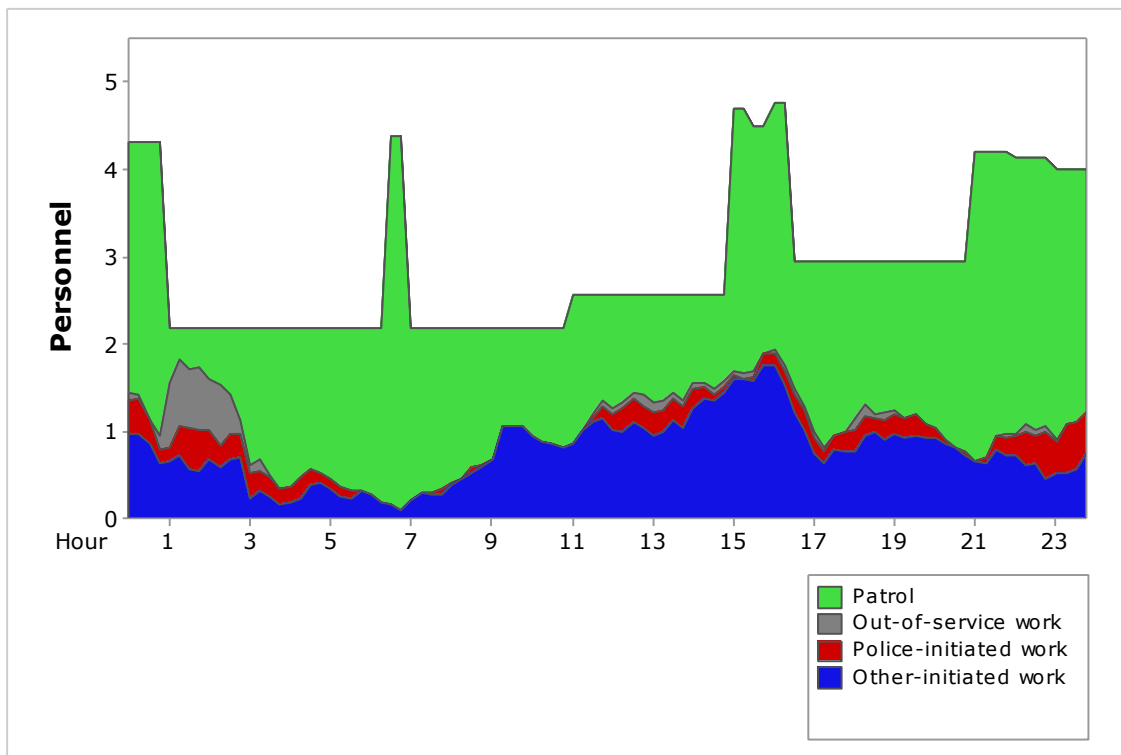
FIGURE 4-8: Workload Percentage by Hour, Weekends, Winter 2015
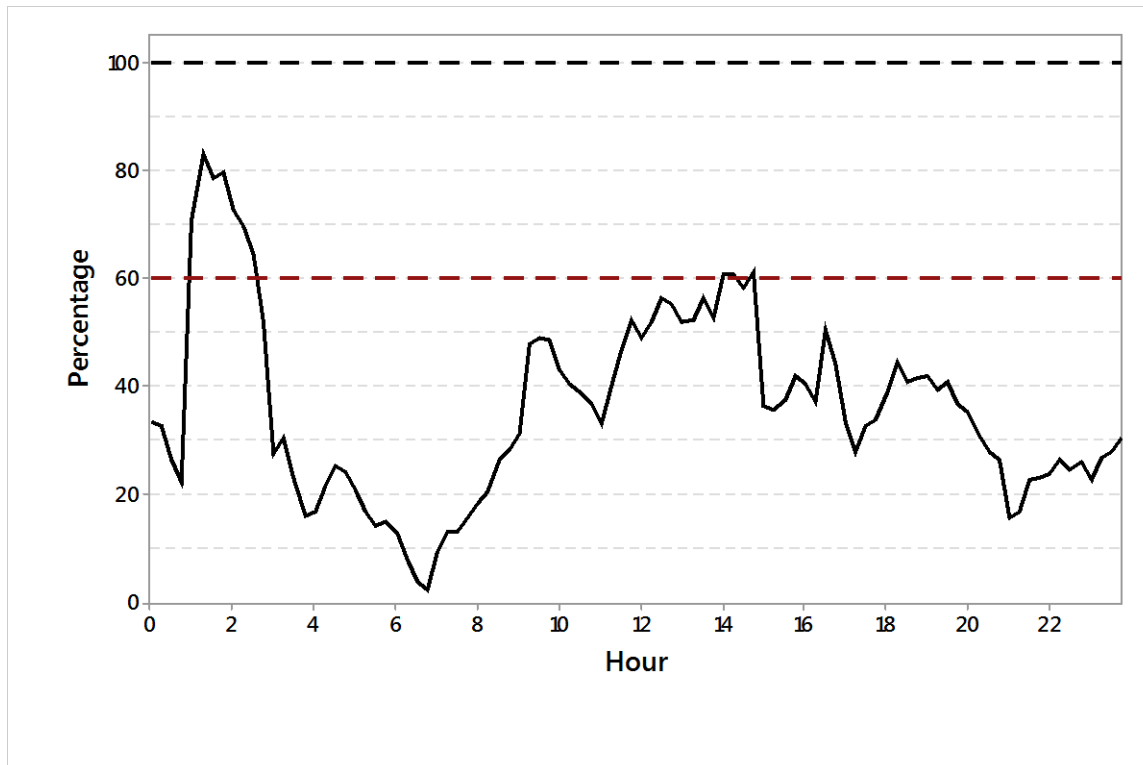
Workload v. Deployment – Weekends, Winter, 2015

Avg. Workload: 1.0 officers per hour
Avg. % Deployed (SI): 35 percent
Peak SI: 83 percent
Peak SI Time: 1:15 a.m.

Figures 4-7 and 4-8 present the patrol workload demands and SI for weekends in winter 2015. The daily average SI is 35 percent. The SI exceeds 60 percent between 1:00 a.m. and 2:30 a.m. and again between 2:00 p.m. and 2:30 p.m. When out-of-service activities are excluded, the SI rises to a peak of 48 percent between 1:00 a.m. and 2:30 a.m. and to a peak of 58 percent between 2:00 p.m. and 2:30 p.m. As out-of-service activities are often interruptible tasks, these should be reviewed to see if they might be done at a time when the department is less busy responding to calls for service.

Recommendations:

- Examine out-of-service time on weekends.

- Modify the department's schedule to increase available personnel between 4:30 p.m. and 6:00 p.m. on weekdays.

- Consider the feasibility of increasing the number of available personnel between 8:00 a.m. and 6:00 p.m. on weekdays.

TABLE 4-1: Staffing by Quarter Hour

Hour	Weekday Ave. Feb. Patrol	Weekend Ave. Feb. Patrol	Weekday Ave. Aug. Patrol	Weekend Ave. Aug. Patrol	Weekday Ave. Feb. Total	Weekend Ave. Feb. Total	Weekday Ave. Aug. Total	Weekend Ave. Aug. Total	All Ave. Feb. Patrol	All Ave. Aug. Patrol	All Ave. Feb. Total	All Ave. Aug. Total
12:00 AM	4.5	4.3	4.2	4.3	4.5	4.3	4.2	4.3	4.4	4.3	4.4	4.3
12:15 AM	4.4	4.3	4.2	4.3	4.4	4.3	4.2	4.3	4.4	4.3	4.4	4.3
12:30 AM	4.4	4.3	4.2	4.3	4.4	4.3	4.2	4.3	4.4	4.3	4.4	4.3
12:45 AM	4.4	4.3	4.2	4.3	4.4	4.3	4.2	4.3	4.4	4.3	4.4	4.3
1:00 AM	2.3	2.2	2.1	2.3	2.3	2.2	2.1	2.3	2.3	2.1	2.3	2.1
1:15 AM	2.3	2.2	2.1	2.3	2.3	2.2	2.1	2.3	2.3	2.1	2.3	2.1
1:30 AM	2.3	2.2	2.1	2.3	2.3	2.2	2.1	2.3	2.3	2.1	2.3	2.1
1:45 AM	2.3	2.2	2.1	2.3	2.3	2.2	2.1	2.3	2.3	2.1	2.3	2.1
2:00 AM	2.3	2.2	2.1	2.3	2.3	2.2	2.1	2.3	2.2	2.1	2.2	2.1
2:15 AM	2.3	2.2	2.1	2.3	2.3	2.2	2.1	2.3	2.2	2.1	2.2	2.1
2:30 AM	2.3	2.2	2.1	2.3	2.3	2.2	2.1	2.3	2.2	2.1	2.2	2.1
2:45 AM	2.3	2.2	2.1	2.3	2.3	2.2	2.1	2.3	2.2	2.1	2.2	2.1
3:00 AM	2.3	2.2	2.1	2.3	2.3	2.2	2.1	2.3	2.2	2.1	2.2	2.1
3:15 AM	2.3	2.2	2.1	2.3	2.3	2.2	2.1	2.3	2.2	2.1	2.2	2.1
3:30 AM	2.3	2.2	2.1	2.3	2.3	2.2	2.1	2.3	2.2	2.1	2.2	2.1
3:45 AM	2.3	2.2	2.1	2.3	2.3	2.2	2.1	2.3	2.2	2.2	2.2	2.2
4:00 AM	2.3	2.2	2.1	2.3	2.3	2.2	2.1	2.3	2.2	2.2	2.2	2.2
4:15 AM	2.3	2.2	2.1	2.3	2.3	2.2	2.1	2.3	2.2	2.2	2.2	2.2
4:30 AM	2.3	2.2	2.1	2.3	2.3	2.2	2.1	2.3	2.2	2.2	2.2	2.2
4:45 AM	2.3	2.2	2.1	2.3	2.3	2.2	2.1	2.3	2.2	2.2	2.2	2.2
5:00 AM	2.2	2.2	2.1	2.3	2.2	2.2	2.1	2.3	2.2	2.1	2.2	2.1
5:15 AM	2.2	2.2	2.1	2.3	2.2	2.2	2.1	2.3	2.2	2.1	2.2	2.1
5:30 AM	2.2	2.2	2.1	2.3	2.2	2.2	2.1	2.3	2.2	2.2	2.2	2.2
5:45 AM	2.2	2.2	2.1	2.3	2.2	2.2	2.1	2.3	2.2	2.2	2.2	2.2
6:00 AM	2.2	2.2	2.1	2.3	2.2	2.2	2.1	2.3	2.2	2.2	2.2	2.2

Hour	Weekday Ave. Feb. Patrol	Weekend Ave. Feb. Patrol	Weekday Ave. Aug. Patrol	Weekend Ave. Aug. Patrol	Weekday Ave. Feb. Total	Weekend Ave. Feb. Total	Weekday Ave. Aug. Total	Weekend Ave. Aug. Total	All Ave. Feb. Patrol	All Ave. Aug. Patrol	All Ave. Feb. Total	All Ave. Aug. Total
6:15 AM	2.2	2.2	2.1	2.3	2.2	2.2	2.1	2.3	2.2	2.2	2.2	2.2
6:30 AM	4.4	4.4	4.5	4.0	4.4	4.4	4.5	4.0	4.4	4.4	4.4	4.4
6:45 AM	4.4	4.4	4.5	4.0	4.4	4.4	4.5	4.0	4.4	4.4	4.4	4.4
7:00 AM	2.2	2.2	2.7	2.2	2.2	2.2	2.7	2.2	2.2	2.5	2.2	2.5
7:15 AM	2.2	2.2	2.7	2.2	2.2	2.2	2.7	2.2	2.2	2.5	2.2	2.5
7:30 AM	2.2	2.2	2.7	2.2	2.2	2.2	2.7	2.2	2.2	2.5	2.2	2.5
7:45 AM	2.2	2.2	2.7	2.2	2.2	2.2	2.7	2.2	2.2	2.5	2.2	2.5
8:00 AM	2.2	2.2	2.6	2.2	2.2	2.2	2.6	2.2	2.2	2.5	2.2	2.5
8:15 AM	2.2	2.2	2.6	2.2	2.2	2.2	2.6	2.2	2.2	2.5	2.2	2.5
8:30 AM	2.2	2.2	2.6	2.2	2.2	2.2	2.6	2.2	2.2	2.5	2.2	2.5
8:45 AM	2.2	2.2	2.6	2.2	2.2	2.2	2.6	2.2	2.2	2.5	2.2	2.5
9:00 AM	2.2	2.2	2.6	2.3	2.2	2.2	2.6	2.3	2.2	2.5	2.2	2.5
9:15 AM	2.2	2.2	2.6	2.3	2.2	2.2	2.6	2.3	2.2	2.5	2.2	2.5
9:30 AM	2.2	2.2	2.6	2.3	2.2	2.2	2.6	2.3	2.2	2.5	2.2	2.5
9:45 AM	2.2	2.2	2.6	2.3	2.2	2.2	2.6	2.3	2.2	2.5	2.2	2.5
10:00 AM	2.2	2.2	2.6	2.3	2.2	2.2	2.6	2.3	2.2	2.5	2.2	2.5
10:15 AM	2.2	2.2	2.6	2.3	2.2	2.2	2.6	2.3	2.2	2.5	2.2	2.5
10:30 AM	2.2	2.2	2.6	2.3	2.2	2.2	2.6	2.3	2.2	2.5	2.2	2.5
10:45 AM	2.2	2.2	2.6	2.3	2.2	2.2	2.6	2.3	2.2	2.5	2.2	2.5
11:00 AM	2.7	2.6	2.9	2.3	2.7	2.6	2.9	2.3	2.6	2.7	2.6	2.7
11:15 AM	2.7	2.6	2.9	2.3	2.7	2.6	2.9	2.3	2.6	2.7	2.6	2.7
11:30 AM	2.6	2.6	2.7	2.3	2.6	2.6	2.7	2.3	2.6	2.6	2.6	2.6
11:45 AM	2.6	2.6	2.7	2.3	2.6	2.6	2.7	2.3	2.6	2.6	2.6	2.6
12:00 PM	2.6	2.6	2.7	2.4	2.6	2.6	2.7	2.4	2.6	2.6	2.6	2.6
12:15 PM	2.6	2.6	2.7	2.4	2.6	2.6	2.7	2.4	2.6	2.6	2.6	2.6
12:30 PM	2.6	2.6	2.7	2.4	2.6	2.6	2.7	2.4	2.6	2.6	2.6	2.6
12:45 PM	2.6	2.6	2.7	2.4	2.6	2.6	2.7	2.4	2.6	2.6	2.6	2.6
1:00 PM	2.6	2.6	2.7	2.4	2.6	2.6	2.7	2.4	2.6	2.6	2.6	2.6

Hour	Weekday Ave. Feb. Patrol	Weekend Ave. Feb. Patrol	Weekday Ave. Aug. Patrol	Weekend Ave. Aug. Patrol	Weekday Ave. Feb. Total	Weekend Ave. Feb. Total	Weekday Ave. Aug. Total	Weekend Ave. Aug. Total	All Ave. Feb. Patrol	All Ave. Aug. Patrol	All Ave. Feb. Total	All Ave. Aug. Total
1:15 PM	2.6	2.6	2.7	2.4	2.6	2.6	2.7	2.4	2.6	2.6	2.6	2.6
1:30 PM	2.6	2.6	2.7	2.4	2.6	2.6	2.7	2.4	2.6	2.6	2.6	2.6
1:45 PM	2.6	2.6	2.7	2.4	2.6	2.6	2.7	2.4	2.6	2.6	2.6	2.6
2:00 PM	2.6	2.6	2.7	2.4	2.6	2.6	2.7	2.4	2.6	2.6	2.6	2.6
2:15 PM	2.6	2.6	2.7	2.4	2.6	2.6	2.7	2.4	2.6	2.6	2.6	2.6
2:30 PM	2.6	2.6	2.7	2.4	2.6	2.6	2.7	2.4	2.6	2.6	2.6	2.6
2:45 PM	2.6	2.6	2.7	2.4	2.6	2.6	2.7	2.4	2.6	2.6	2.6	2.6
3:00 PM	5.0	4.7	5.0	4.3	5.0	4.7	5.0	4.3	4.9	4.8	4.9	4.8
3:15 PM	5.0	4.7	5.0	4.3	5.0	4.7	5.0	4.3	4.9	4.8	4.9	4.8
3:30 PM	5.0	4.5	5.0	4.3	5.0	4.5	5.0	4.3	4.8	4.8	4.8	4.8
3:45 PM	5.0	4.5	5.0	4.3	5.0	4.5	5.0	4.3	4.8	4.8	4.8	4.8
4:00 PM	5.1	4.8	5.1	4.8	5.1	4.8	5.1	4.8	5.0	5.0	5.0	5.0
4:15 PM	5.1	4.8	5.1	4.8	5.1	4.8	5.1	4.8	5.0	5.0	5.0	5.0
4:30 PM	3.0	2.9	3.0	3.1	3.0	2.9	3.0	3.1	3.0	3.0	3.0	3.0
4:45 PM	3.0	2.9	3.0	3.1	3.0	2.9	3.0	3.1	3.0	3.0	3.0	3.0
5:00 PM	3.0	2.9	3.0	3.1	3.0	2.9	3.0	3.1	3.0	3.0	3.0	3.0
5:15 PM	3.0	2.9	3.0	3.1	3.0	2.9	3.0	3.1	3.0	3.0	3.0	3.0
5:30 PM	3.0	2.9	3.0	3.1	3.0	2.9	3.0	3.1	3.0	3.0	3.0	3.0
5:45 PM	3.0	2.9	3.0	3.1	3.0	2.9	3.0	3.1	3.0	3.0	3.0	3.0
6:00 PM	3.0	2.9	3.0	3.1	3.0	2.9	3.0	3.1	3.0	3.0	3.0	3.0
6:15 PM	3.0	2.9	3.0	3.1	3.0	2.9	3.0	3.1	3.0	3.0	3.0	3.0
6:30 PM	3.1	2.9	3.0	3.1	3.1	2.9	3.0	3.1	3.0	3.0	3.0	3.0
6:45 PM	3.1	2.9	3.0	3.1	3.1	2.9	3.0	3.1	3.0	3.0	3.0	3.0
7:00 PM	3.1	2.9	3.0	3.1	3.1	2.9	3.0	3.1	3.1	3.0	3.1	3.0
7:15 PM	3.1	2.9	3.0	3.1	3.1	2.9	3.0	3.1	3.1	3.0	3.1	3.0
7:30 PM	3.1	2.9	3.0	3.1	3.1	2.9	3.0	3.1	3.1	3.0	3.1	3.0
7:45 PM	3.1	2.9	3.0	3.1	3.1	2.9	3.0	3.1	3.1	3.0	3.1	3.0
8:00 PM	3.1	2.9	3.0	3.1	3.1	2.9	3.0	3.1	3.1	3.0	3.1	3.0

Hour	Weekday Ave. Feb. Patrol	Weekend Ave. Feb. Patrol	Weekday Ave. Aug. Patrol	Weekend Ave. Aug. Patrol	Weekday Ave. Feb. Total	Weekend Ave. Feb. Total	Weekday Ave. Aug. Total	Weekend Ave. Aug. Total	All Ave. Feb. Patrol	All Ave. Aug. Patrol	All Ave. Feb. Total	All Ave. Aug. Total
8:15 PM	3.1	2.9	3.0	3.1	3.1	2.9	3.0	3.1	3.1	3.0	3.1	3.0
8:30 PM	3.1	2.9	3.0	3.1	3.1	2.9	3.0	3.1	3.1	3.0	3.1	3.0
8:45 PM	3.1	2.9	3.0	3.1	3.1	2.9	3.0	3.1	3.1	3.0	3.1	3.0
9:00 PM	4.5	4.2	4.3	3.8	4.5	4.2	4.3	3.8	4.4	4.2	4.4	4.2
9:15 PM	4.5	4.2	4.3	3.8	4.5	4.2	4.3	3.8	4.4	4.2	4.4	4.2
9:30 PM	4.5	4.2	4.3	3.8	4.5	4.2	4.3	3.8	4.4	4.2	4.4	4.2
9:45 PM	4.5	4.2	4.3	3.8	4.5	4.2	4.3	3.8	4.4	4.2	4.4	4.2
10:00 PM	4.5	4.1	4.3	3.7	4.5	4.1	4.3	3.7	4.4	4.1	4.4	4.1
10:15 PM	4.5	4.1	4.3	3.7	4.5	4.1	4.3	3.7	4.4	4.1	4.4	4.1
10:30 PM	4.5	4.1	4.3	3.7	4.5	4.1	4.3	3.7	4.4	4.1	4.4	4.1
10:45 PM	4.5	4.1	4.3	3.7	4.5	4.1	4.3	3.7	4.4	4.1	4.4	4.1
11:00 PM	4.5	4.0	4.3	3.8	4.5	4.0	4.3	3.8	4.4	4.1	4.4	4.1
11:15 PM	4.5	4.0	4.3	3.8	4.5	4.0	4.3	3.8	4.4	4.1	4.4	4.1
11:30 PM	4.5	4.0	4.3	3.7	4.5	4.0	4.3	3.7	4.4	4.1	4.4	4.1
11:45 PM	4.5	4.0	4.3	3.7	4.5	4.0	4.3	3.7	4.4	4.1	4.4	4.1
	3.0	2.9	3.1	2.9	3.0	2.9	3.1	2.9	3.0	3.0	3.0	3.0

TABLE 4-2: Workload by Number of Officers, per Quarter-Hour

Hour	Work, Other: Wkdy-Aug.	Work, Other; Wked-Aug.	Work, Self; Wkdy-Aug.	Work, Self; Wked-Aug.	Work, OOS; Wkdy-Aug.	Work, OOS; Wked-Aug.	Work, Total; Wkdy-Aug.	Work, Total; Wked-Aug.	Work, Other; Wkdy-Feb.	Work, Other; Wked-Feb.	Work, Self; Wkdy-Feb.	Work, Self; Wked-Feb.	Work, OOS; Wkdy-Feb.	Work; OOS; Wked-Feb.	Work, Total; Wkdy-Feb.	Work, Total; Wked-Feb.
12:00 AM	0.9	1.3	0.2	0.2	0.2	0.2	**1.3**	**1.6**	0.4	1.0	0.4	0.4	0.0	0.1	**0.8**	**1.4**
12:15 AM	0.8	1.4	0.2	0.2	0.2	0.3	**1.2**	**1.8**	0.4	1.0	0.4	0.4	0.0	0.0	**0.7**	**1.4**
12:30 AM	0.7	1.4	0.2	0.2	0.2	0.2	**1.1**	**1.7**	0.3	0.8	0.2	0.3	0.0	0.0	**0.5**	**1.1**
12:45 AM	0.7	1.1	0.2	0.2	0.1	0.1	**1.0**	**1.4**	0.3	0.6	0.1	0.2	0.0	0.2	**0.5**	**1.0**
1:00 AM	0.6	0.9	0.2	0.1	0.1	0.2	**0.9**	**1.3**	0.5	0.7	0.1	0.1	0.1	0.7	**0.6**	**1.5**
1:15 AM	0.5	0.8	0.1	0.1	0.2	0.3	**0.7**	**1.3**	0.4	0.7	0.1	0.3	0.0	0.8	**0.6**	**1.8**
1:30 AM	0.5	0.9	0.1	0.1	0.2	0.5	**0.8**	**1.5**	0.4	0.6	0.0	0.5	0.0	0.7	**0.5**	**1.7**
1:45 AM	0.6	0.7	0.1	0.1	0.2	0.6	**0.9**	**1.4**	0.3	0.5	0.1	0.5	0.0	0.7	**0.4**	**1.7**
2:00 AM	0.5	0.6	0.1	0.1	0.1	0.6	**0.8**	**1.3**	0.2	0.7	0.1	0.3	0.1	0.6	**0.4**	**1.6**
2:15 AM	0.5	0.6	0.1	0.0	0.1	0.5	**0.7**	**1.1**	0.1	0.6	0.1	0.2	0.1	0.7	**0.3**	**1.5**
2:30 AM	0.4	0.5	0.1	0.1	0.1	0.2	**0.5**	**0.8**	0.1	0.7	0.1	0.3	0.1	0.4	**0.2**	**1.4**
2:45 AM	0.3	0.3	0.1	0.1	0.1	0.0	**0.4**	**0.4**	0.2	0.7	0.0	0.3	0.0	0.2	**0.3**	**1.1**
3:00 AM	0.3	0.3	0.0	0.0	0.0	0.0	**0.4**	**0.3**	0.1	0.2	0.0	0.3	0.0	0.1	**0.2**	**0.6**
3:15 AM	0.3	0.4	0.1	0.0	0.1	0.0	**0.5**	**0.4**	0.1	0.3	0.0	0.2	0.1	0.1	**0.2**	**0.7**
3:30 AM	0.3	0.5	0.1	0.2	0.1	0.0	**0.4**	**0.6**	0.1	0.2	0.0	0.2	0.0	0.0	**0.2**	**0.5**
3:45 AM	0.2	0.5	0.1	0.2	0.0	0.0	**0.3**	**0.6**	0.1	0.2	0.0	0.2	0.0	0.0	**0.2**	**0.3**
4:00 AM	0.2	0.4	0.1	0.1	0.0	0.0	**0.3**	**0.5**	0.2	0.2	0.0	0.2	0.0	0.0	**0.3**	**0.4**
4:15 AM	0.2	0.4	0.0	0.1	0.0	0.1	**0.3**	**0.5**	0.2	0.2	0.0	0.2	0.0	0.0	**0.2**	**0.5**
4:30 AM	0.3	0.4	0.0	0.1	0.0	0.1	**0.3**	**0.6**	0.3	0.4	0.0	0.2	0.0	0.0	**0.3**	**0.6**
4:45 AM	0.2	0.3	0.0	0.2	0.0	0.0	**0.3**	**0.5**	0.2	0.4	0.0	0.1	0.0	0.0	**0.3**	**0.5**
5:00 AM	0.2	0.2	0.0	0.1	0.0	0.0	**0.2**	**0.3**	0.3	0.3	0.0	0.1	0.0	0.0	**0.3**	**0.5**
5:15 AM	0.2	0.1	0.0	0.1	0.0	0.0	**0.3**	**0.2**	0.2	0.2	0.0	0.1	0.0	0.0	**0.2**	**0.4**
5:30 AM	0.3	0.2	0.0	0.0	0.0	0.0	**0.3**	**0.2**	0.2	0.2	0.0	0.1	0.0	0.0	**0.2**	**0.3**
5:45 AM	0.3	0.1	0.0	0.0	0.1	0.0	**0.4**	**0.1**	0.2	0.3	0.0	0.0	0.0	0.0	**0.2**	**0.3**
6:00 AM	0.3	0.1	0.0	0.0	0.1	0.0	**0.4**	**0.1**	0.1	0.3	0.0	0.0	0.0	0.0	**0.1**	**0.3**

Hour	Work, Other: Wkdy-Aug.	Work, Other; Wked-Aug.	Work, Self; Wkdy-Aug.	Work, Self; Wked-Aug.	Work, OOS; Wkdy-Aug.	Work, OOS; Wked-Aug.	Work, Total; Wkdy-Aug.	Work, Total; Wked-Aug.	Work, Other; Wkdy-Feb.	Work, Other; Wked-Feb.	Work, Self; Wkdy-Feb.	Work, Self; Wked-Feb.	Work, OOS; Wkdy-Feb.	Work; OOS; Wked-Feb.	Work, Total; Wkdy-Feb.	Work, Total; Wked-Feb.
6:15 AM	0.2	0.1	0.0	0.0	0.1	0.0	**0.3**	**0.1**	0.1	0.2	0.0	0.0	0.0	0.0	**0.1**	**0.2**
6:30 AM	0.2	0.2	0.0	0.1	0.0	0.0	**0.3**	**0.3**	0.2	0.2	0.0	0.0	0.2	0.0	**0.3**	**0.2**
6:45 AM	0.3	0.3	0.0	0.1	0.0	0.0	**0.3**	**0.3**	0.2	0.1	0.0	0.0	0.3	0.0	**0.6**	**0.1**
7:00 AM	0.4	0.4	0.0	0.1	0.0	0.0	**0.5**	**0.4**	0.4	0.2	0.0	0.0	0.4	0.0	**0.8**	**0.2**
7:15 AM	0.5	0.3	0.0	0.1	0.0	0.0	**0.6**	**0.4**	0.5	0.3	0.0	0.0	0.4	0.0	**0.9**	**0.3**
7:30 AM	0.5	0.2	0.1	0.1	0.1	0.0	**0.7**	**0.3**	0.6	0.3	0.0	0.0	0.5	0.0	**1.0**	**0.3**
7:45 AM	0.6	0.3	0.1	0.0	0.1	0.0	**0.8**	**0.3**	0.6	0.3	0.0	0.1	0.5	0.0	**1.1**	**0.3**
8:00 AM	0.5	0.3	0.2	0.0	0.2	0.0	**0.8**	**0.3**	0.5	0.4	0.1	0.0	0.5	0.0	**1.1**	**0.4**
8:15 AM	0.5	0.5	0.1	0.0	0.2	0.0	**0.8**	**0.5**	0.6	0.4	0.1	0.0	0.5	0.0	**1.3**	**0.4**
8:30 AM	0.6	0.5	0.1	0.0	0.2	0.0	**0.8**	**0.5**	0.7	0.5	0.3	0.1	0.5	0.0	**1.4**	**0.6**
8:45 AM	0.5	0.6	0.1	0.0	0.2	0.0	**0.9**	**0.6**	0.7	0.6	0.3	0.0	0.5	0.0	**1.5**	**0.6**
9:00 AM	0.6	0.4	0.2	0.0	0.2	0.0	**1.0**	**0.4**	0.6	0.7	0.2	0.0	0.5	0.0	**1.4**	**0.7**
9:15 AM	0.5	0.5	0.2	0.0	0.2	0.0	**1.0**	**0.5**	0.7	1.0	0.1	0.0	0.6	0.0	**1.3**	**1.0**
9:30 AM	0.6	0.8	0.3	0.0	0.3	0.0	**1.1**	**0.8**	0.6	1.1	0.2	0.0	0.5	0.0	**1.2**	**1.1**
9:45 AM	0.5	1.0	0.3	0.1	0.2	0.0	**1.0**	**1.1**	0.7	1.1	0.2	0.0	0.4	0.0	**1.2**	**1.1**
10:00 AM	0.4	0.9	0.3	0.1	0.2	0.0	**0.9**	**1.0**	0.7	0.9	0.2	0.0	0.3	0.0	**1.3**	**0.9**
10:15 AM	0.4	1.1	0.3	0.2	0.2	0.0	**0.9**	**1.3**	0.8	0.9	0.2	0.0	0.4	0.0	**1.4**	**0.9**
10:30 AM	0.4	1.1	0.3	0.2	0.1	0.0	**0.8**	**1.2**	0.9	0.8	0.3	0.0	0.3	0.0	**1.5**	**0.8**
10:45 AM	0.5	1.1	0.4	0.1	0.2	0.0	**1.1**	**1.3**	0.8	0.8	0.3	0.0	0.3	0.0	**1.4**	**0.8**
11:00 AM	0.6	1.0	0.4	0.3	0.2	0.0	**1.1**	**1.3**	0.8	0.8	0.3	0.0	0.3	0.0	**1.5**	**0.8**
11:15 AM	0.6	1.0	0.4	0.3	0.2	0.1	**1.2**	**1.3**	0.8	1.0	0.3	0.0	0.4	0.0	**1.4**	**1.0**
11:30 AM	0.7	1.2	0.4	0.1	0.2	0.1	**1.2**	**1.3**	0.8	1.1	0.3	0.0	0.4	0.1	**1.5**	**1.2**
11:45 AM	0.9	1.2	0.3	0.1	0.1	0.0	**1.3**	**1.2**	0.8	1.1	0.3	0.1	0.4	0.1	**1.6**	**1.3**
12:00 PM	1.0	1.0	0.4	0.1	0.1	0.0	**1.5**	**1.1**	0.9	1.0	0.3	0.2	0.4	0.1	**1.7**	**1.3**
12:15 PM	1.1	1.2	0.4	0.1	0.1	0.0	**1.5**	**1.2**	1.0	1.0	0.3	0.3	0.4	0.1	**1.7**	**1.3**
12:30 PM	0.9	0.8	0.3	0.1	0.1	0.0	**1.3**	**0.9**	1.0	1.1	0.2	0.3	0.4	0.1	**1.6**	**1.4**
12:45 PM	1.0	0.7	0.3	0.1	0.1	0.0	**1.4**	**0.7**	0.8	1.0	0.2	0.2	0.4	0.1	**1.4**	**1.4**
1:00 PM	1.0	0.8	0.4	0.0	0.1	0.0	**1.5**	**0.8**	0.7	1.0	0.2	0.3	0.4	0.1	**1.4**	**1.3**

Hour	Work, Other: Wkdy-Aug.	Work, Other; Wked-Aug.	Work, Self; Wkdy-Aug.	Work, Self; Wked-Aug.	Work, OOS; Wkdy-Aug.	Work, OOS; Wked-Aug.	Work, Total; Wkdy-Aug.	Work, Total; Wked-Aug.	Work, Other; Wkdy-Feb.	Work, Other; Wked-Feb.	Work, Self; Wkdy-Feb.	Work, Self; Wked-Feb.	Work, OOS; Wkdy-Feb.	Work; OOS; Wked-Feb.	Work, Total; Wkdy-Feb.	Work, Total; Wked-Feb.
1:15 PM	1.0	0.8	0.5	0.1	0.1	0.0	**1.5**	**0.9**	0.7	1.0	0.2	0.2	0.4	0.1	**1.2**	**1.3**
1:30 PM	0.9	0.7	0.5	0.1	0.1	0.1	**1.6**	**0.9**	0.7	1.1	0.1	0.2	0.4	0.1	**1.2**	**1.4**
1:45 PM	1.0	0.7	0.4	0.2	0.1	0.1	**1.6**	**1.1**	0.9	1.0	0.2	0.3	0.4	0.1	**1.5**	**1.3**
2:00 PM	1.0	0.9	0.4	0.2	0.1	0.1	**1.5**	**1.1**	1.0	1.3	0.3	0.2	0.4	0.1	**1.7**	**1.6**
2:15 PM	1.0	1.0	0.4	0.1	0.1	0.1	**1.5**	**1.2**	1.1	1.4	0.3	0.1	0.4	0.1	**1.8**	**1.6**
2:30 PM	1.0	1.2	0.4	0.1	0.1	0.1	**1.6**	**1.4**	1.0	1.3	0.2	0.1	0.4	0.1	**1.6**	**1.5**
2:45 PM	1.0	1.0	0.3	0.1	0.1	0.2	**1.4**	**1.3**	1.0	1.4	0.2	0.1	0.4	0.1	**1.5**	**1.6**
3:00 PM	1.0	1.1	0.2	0.1	0.2	0.3	**1.4**	**1.4**	0.9	1.6	0.2	0.0	0.4	0.1	**1.5**	**1.7**
3:15 PM	1.2	1.4	0.3	0.1	0.3	0.3	**1.8**	**1.9**	0.9	1.6	0.3	0.0	0.5	0.1	**1.7**	**1.7**
3:30 PM	1.4	1.6	0.4	0.1	0.3	0.3	**2.1**	**2.0**	1.0	1.6	0.5	0.1	0.6	0.1	**2.1**	**1.7**
3:45 PM	1.3	1.5	0.4	0.2	0.4	0.2	**2.2**	**1.9**	1.4	1.8	0.4	0.1	0.5	0.0	**2.3**	**1.9**
4:00 PM	1.2	1.4	0.5	0.3	0.4	0.2	**2.1**	**1.9**	1.5	1.8	0.5	0.1	0.5	0.0	**2.5**	**1.9**
4:15 PM	0.9	1.5	0.5	0.2	0.4	0.2	**1.8**	**1.9**	1.5	1.5	0.5	0.2	0.4	0.1	**2.4**	**1.8**
4:30 PM	0.9	1.4	0.5	0.2	0.3	0.1	**1.8**	**1.8**	1.6	1.2	0.4	0.2	0.3	0.1	**2.3**	**1.5**
4:45 PM	1.1	1.4	0.4	0.1	0.3	0.0	**1.8**	**1.5**	1.7	1.0	0.3	0.2	0.2	0.1	**2.2**	**1.3**
5:00 PM	1.2	1.2	0.4	0.0	0.3	0.1	**1.9**	**1.3**	1.7	0.7	0.2	0.2	0.2	0.1	**2.1**	**1.0**
5:15 PM	1.4	1.2	0.4	0.1	0.3	0.0	**2.1**	**1.3**	1.6	0.6	0.2	0.1	0.2	0.0	**2.0**	**0.8**
5:30 PM	1.4	1.1	0.3	0.0	0.3	0.1	**2.0**	**1.1**	1.7	0.8	0.2	0.2	0.1	0.0	**2.0**	**1.0**
5:45 PM	1.4	1.3	0.2	0.1	0.2	0.1	**1.9**	**1.5**	1.6	0.8	0.2	0.2	0.1	0.0	**2.0**	**1.0**
6:00 PM	1.4	1.3	0.2	0.1	0.2	0.1	**1.7**	**1.6**	1.6	0.8	0.2	0.3	0.1	0.1	**1.9**	**1.1**
6:15 PM	1.3	1.2	0.2	0.0	0.1	0.1	**1.6**	**1.3**	1.5	0.9	0.2	0.2	0.1	0.1	**1.7**	**1.3**
6:30 PM	1.3	1.2	0.2	0.0	0.1	0.1	**1.5**	**1.3**	1.4	1.0	0.2	0.2	0.1	0.1	**1.7**	**1.2**
6:45 PM	1.2	1.4	0.2	0.0	0.1	0.1	**1.5**	**1.5**	1.5	0.9	0.1	0.2	0.1	0.1	**1.7**	**1.2**
7:00 PM	1.3	1.6	0.2	0.0	0.1	0.0	**1.6**	**1.7**	1.4	1.0	0.1	0.2	0.1	0.0	**1.5**	**1.2**
7:15 PM	1.1	1.4	0.2	0.1	0.1	0.0	**1.5**	**1.6**	1.3	0.9	0.1	0.2	0.1	0.0	**1.5**	**1.1**
7:30 PM	1.1	1.4	0.2	0.3	0.1	0.1	**1.4**	**1.7**	1.1	0.9	0.1	0.2	0.1	0.0	**1.3**	**1.2**
7:45 PM	1.2	1.5	0.2	0.3	0.0	0.0	**1.4**	**1.8**	1.0	0.9	0.1	0.2	0.1	0.0	**1.2**	**1.1**
8:00 PM	1.2	1.5	0.2	0.2	0.0	0.0	**1.4**	**1.7**	0.9	0.9	0.1	0.1	0.1	0.0	**1.1**	**1.0**

Hour	Work, Other: Wkdy-Aug.	Work, Other; Wked-Aug.	Work, Self; Wkdy-Aug.	Work, Self; Wked-Aug.	Work, OOS; Wkdy-Aug.	Work, OOS; Wked-Aug.	Work, Total; Wkdy-Aug.	Work, Total; Wked-Aug.	Work, Other; Wkdy-Feb.	Work, Other; Wked-Feb.	Work, Self; Wkdy-Feb.	Work, Self; Wked-Feb.	Work, OOS; Wkdy-Feb.	Work, OOS; Wked-Feb.	Work, Total; Wkdy-Feb.	Work, Total; Wked-Feb.
8:15 PM	1.2	1.4	0.1	0.2	0.0	0.0	**1.4**	**1.6**	0.9	0.8	0.1	0.1	0.1	0.0	**1.1**	**0.9**
8:30 PM	1.1	1.4	0.1	0.2	0.0	0.0	**1.3**	**1.6**	0.8	0.8	0.0	0.0	0.1	0.0	**1.0**	**0.8**
8:45 PM	1.1	1.2	0.1	0.2	0.0	0.0	**1.2**	**1.4**	0.8	0.7	0.0	0.1	0.2	0.0	**0.9**	**0.8**
9:00 PM	1.2	1.3	0.1	0.2	0.1	0.2	**1.4**	**1.6**	0.7	0.6	0.0	0.0	0.2	0.0	**0.9**	**0.6**
9:15 PM	1.3	1.3	0.2	0.2	0.3	0.4	**1.8**	**1.9**	0.9	0.6	0.0	0.1	0.3	0.0	**1.2**	**0.7**
9:30 PM	1.3	1.3	0.2	0.2	0.3	0.3	**1.7**	**1.7**	1.0	0.8	0.0	0.2	0.3	0.0	**1.3**	**0.9**
9:45 PM	1.1	1.3	0.2	0.3	0.2	0.3	**1.5**	**1.9**	1.0	0.7	0.1	0.2	0.2	0.0	**1.3**	**1.0**
10:00 PM	0.9	1.3	0.2	0.3	0.3	0.3	**1.3**	**1.8**	0.9	0.7	0.2	0.2	0.1	0.0	**1.2**	**1.0**
10:15 PM	1.1	1.4	0.2	0.2	0.2	0.3	**1.5**	**1.9**	0.9	0.6	0.3	0.4	0.1	0.1	**1.2**	**1.1**
10:30 PM	1.1	1.2	0.3	0.2	0.2	0.3	**1.6**	**1.6**	0.8	0.6	0.3	0.3	0.1	0.1	**1.1**	**1.0**
10:45 PM	1.2	1.2	0.2	0.1	0.2	0.3	**1.6**	**1.5**	0.7	0.5	0.4	0.5	0.1	0.1	**1.2**	**1.1**
11:00 PM	1.3	1.4	0.3	0.0	0.2	0.2	**1.8**	**1.6**	0.6	0.5	0.3	0.4	0.1	0.0	**1.0**	**0.9**
11:15 PM	1.2	1.4	0.4	0.1	0.1	0.3	**1.7**	**1.7**	0.5	0.5	0.4	0.6	0.1	0.0	**1.0**	**1.1**
11:30 PM	1.0	1.2	0.3	0.1	0.1	0.3	**1.5**	**1.5**	0.5	0.6	0.4	0.5	0.1	0.0	**1.0**	**1.1**
11:45 PM	0.9	1.2	0.3	0.0	0.1	0.4	**1.3**	**1.5**	0.4	0.7	0.5	0.5	0.0	0.0	**0.9**	**1.2**
Ave.	0.8	0.9	0.2	0.1	0.1	0.1	**1.2**	**1.1**	0.7	0.8	0.2	0.2	0.2	0.1	**1.1**	**1.0**

TABLE 4-3: Workload Percent of Officers on Patrol, by Quarter Hour

| Hour	Pct. Other, Wkday-Feb.	Pct. Other, Wkend-Feb-	Pct. Other, Wkday-Aug.	Pct. Other; Wkend-Aug.	Pct. Most, Wkday-Feb.	Pct. Most; Wkend-Feb.	Pct. Most; Wkday-Aug.	Pct. Most; Wkend-Aug.	Pct. Total Work; Wkday-Feb.	Pct. Total Work; Wkend-Feb.	Pct. Total Work; Wkday-Aug.	Pct. Total Work; Wkend-Aug.
12:00 AM	8.7	22.6	21.1	29.6	17.7	31.3	26.4	33.2	17.9	33.3	30.9	37.7
12:15 AM	8.2	22.1	19.9	32.3	16.4	32.0	24.6	36.5	16.4	32.6	28.5	42.6
12:30 AM	6.7	19.7	16.4	31.4	11.7	25.8	21.5	35.3	12.3	26.2	25.3	39.7
12:45 AM	7.4	14.4	15.5	25.9	10.7	18.5	20.3	29.6	11.8	22.1	22.9	32.2
1:00 AM	19.8	29.9	27.7	42.1	24.3	36.6	35.1	48.3	26.5	70.6	41.2	58.8
1:15 AM	19.3	33.0	21.6	36.7	22.9	48.1	26.9	43.1	25.1	82.7	34.2	56.8
1:30 AM	17.7	25.7	24.7	40.2	19.9	47.7	30.9	46.6	21.3	78.3	39.3	67.3
1:45 AM	14.1	24.1	26.6	31.3	17.1	45.8	33.4	38.0	18.2	79.4	41.3	62.5
2:00 AM	7.8	31.1	26.0	27.8	12.6	46.4	31.1	32.4	15.6	72.6	36.5	57.4
2:15 AM	3.8	26.9	23.9	24.9	8.9	38.3	27.7	26.0	11.6	69.4	31.7	46.8
2:30 AM	5.9	31.1	17.0	20.6	8.5	43.9	20.1	24.1	10.7	64.4	23.8	33.7
2:45 AM	7.9	32.0	13.2	14.2	9.1	44.2	16.7	17.8	11.4	51.7	20.3	19.3
3:00 AM	5.4	10.2	14.0	12.8	7.0	23.2	16.4	14.6	9.2	27.5	18.5	14.6
3:15 AM	4.7	14.6	13.9	15.2	6.3	25.1	19.3	17.1	8.6	30.3	22.1	17.1
3:30 AM	6.5	10.9	12.1	19.7	6.8	21.9	16.5	26.3	9.0	23.0	19.9	26.3
3:45 AM	6.6	7.1	10.0	19.5	6.8	15.9	13.2	26.9	9.0	15.9	13.8	26.9
4:00 AM	9.1	8.1	10.3	19.1	10.2	16.7	13.0	23.6	11.3	16.7	13.0	23.6
4:15 AM	7.1	10.3	11.3	15.6	7.2	21.5	13.7	18.4	7.2	21.5	13.7	21.0
4:30 AM	11.8	17.1	12.2	15.3	12.5	25.2	14.5	21.1	12.5	25.2	14.5	24.0
4:45 AM	10.7	18.2	11.9	11.0	11.8	23.9	13.5	19.9	11.8	23.9	13.5	20.9
5:00 AM	11.4	15.1	9.2	9.4	12.2	20.8	11.2	15.5	12.2	20.8	11.6	15.5
5:15 AM	10.1	11.4	9.8	6.2	10.1	16.8	11.7	9.0	10.1	16.8	12.9	9.0
5:30 AM	10.3	9.9	12.1	8.9	10.3	13.9	14.3	9.3	10.3	13.9	16.4	9.3
5:45 AM	6.8	13.9	15.3	5.7	6.8	14.8	17.3	5.7	6.8	14.8	20.5	5.7

Hour	Pct. Other, Wkday-Feb.	Pct. Other, Wkend-Feb-	Pct. Other, Wkday-Aug.	Pct. Other; Wkend-Aug.	Pct. Most, Wkday-Feb.	Pct. Most; Wkend-Feb.	Pct. Most; Wkday-Aug.	Pct. Most; Wkend-Aug.	Pct. Total Work; Wkday-Feb.	Pct. Total Work; Wkend-Feb.	Pct. Total Work; Wkday-Aug.	Pct. Total Work; Wkend-Aug.
6:00 AM	5.0	12.7	12.7	5.6	5.0	12.7	14.2	5.7	5.0	12.7	17.7	5.7
6:15 AM	5.3	7.8	10.8	5.0	5.3	7.8	12.4	6.5	5.4	7.8	15.9	6.5
6:30 AM	3.5	3.6	4.9	4.8	3.5	3.6	6.0	6.4	7.6	3.6	6.7	6.4
6:45 AM	5.3	2.1	5.9	6.8	5.3	2.1	7.0	8.4	13.1	2.1	7.6	8.4
7:00 AM	18.5	9.3	14.5	16.9	18.5	9.3	15.8	19.8	36.9	9.3	17.0	19.8
7:15 AM	21.2	12.9	18.7	13.5	21.2	12.9	19.8	16.3	41.3	12.9	21.7	16.3
7:30 AM	25.4	12.4	19.5	10.1	25.4	13.0	22.8	13.0	47.2	13.0	25.9	13.0
7:45 AM	27.3	12.6	21.8	11.6	27.6	15.5	26.7	12.9	51.0	15.5	31.0	12.9
8:00 AM	22.8	17.7	17.5	14.2	28.7	18.3	23.8	14.2	51.6	18.3	30.2	14.2
8:15 AM	28.7	20.4	18.9	21.0	35.1	20.4	22.7	21.0	57.2	20.4	29.3	21.0
8:30 AM	31.1	23.7	21.8	21.1	44.0	26.3	25.6	22.0	64.9	26.3	32.3	22.0
8:45 AM	33.1	27.2	20.1	25.5	45.0	28.0	25.1	27.5	68.2	28.0	33.1	27.5
9:00 AM	29.4	31.1	21.8	19.8	36.4	31.1	28.1	19.8	61.4	31.1	37.1	19.8
9:15 AM	30.1	47.8	19.1	21.6	35.9	47.8	28.4	21.6	61.0	47.8	36.4	21.6
9:30 AM	28.2	48.7	21.1	36.9	35.1	48.7	31.6	36.9	55.5	48.7	41.1	36.9
9:45 AM	29.8	48.6	19.9	44.7	38.6	48.6	30.8	47.6	55.7	48.6	39.1	47.6
10:00 AM	34.0	42.9	16.4	41.4	42.8	42.9	26.1	44.6	58.1	42.9	33.7	44.6
10:15 AM	36.1	40.3	15.1	47.5	46.8	40.3	26.9	56.4	63.6	40.3	33.3	56.4
10:30 AM	39.2	38.7	14.4	47.7	52.8	38.7	25.7	55.3	68.6	38.7	31.4	55.3
10:45 AM	38.2	36.5	19.2	50.8	50.0	36.5	35.0	57.0	65.2	36.5	41.4	57.0
11:00 AM	31.9	33.0	19.6	43.1	44.3	33.0	32.2	54.0	56.4	33.0	38.3	55.1
11:15 AM	29.6	39.0	22.0	43.3	41.2	39.0	35.4	54.8	54.5	39.9	41.1	57.5
11:30 AM	29.0	42.7	25.2	49.9	40.6	44.3	39.1	53.2	56.6	46.7	45.2	55.9
11:45 AM	30.3	44.8	32.0	49.9	42.7	49.7	43.5	52.6	59.1	52.1	48.2	52.9
12:00 PM	34.8	39.4	37.3	42.1	48.1	46.5	51.6	44.7	64.2	49.0	55.4	44.7
12:15 PM	36.7	38.6	39.6	47.2	49.4	49.3	52.6	51.0	64.9	51.8	55.9	51.0
12:30 PM	36.5	42.6	34.7	34.1	44.5	53.6	45.3	37.1	60.6	56.2	48.5	37.1

Hour	Pct. Other, Wkday-Feb.	Pct. Other, Wkend-Feb-	Pct. Other, Wkday-Aug.	Pct. Other; Wkend-Aug.	Pct. Most, Wkday-Feb.	Pct. Most; Wkend-Feb.	Pct. Most; Wkday-Aug.	Pct. Most; Wkend-Aug.	Pct. Total Work; Wkday-Feb.	Pct. Total Work; Wkend-Feb.	Pct. Total Work; Wkday-Aug.	Pct. Total Work; Wkend-Aug.
12:45 PM	29.8	40.4	36.7	27.2	37.6	50.1	48.3	29.6	53.9	55.0	51.3	29.6
1:00 PM	28.6	37.2	37.1	33.5	35.7	46.9	51.1	34.8	51.9	51.8	54.1	34.8
1:15 PM	26.0	38.8	36.6	31.1	32.6	48.6	53.6	35.5	47.5	52.2	56.5	35.5
1:30 PM	26.4	43.9	35.1	29.5	30.8	53.6	54.9	34.1	45.5	56.0	59.4	37.1
1:45 PM	34.9	40.4	37.8	30.8	42.5	50.2	54.1	38.1	59.4	52.6	58.9	43.3
2:00 PM	36.9	49.0	37.4	35.1	47.1	58.2	52.2	41.5	64.1	60.7	56.3	46.7
2:15 PM	40.4	53.4	36.6	40.5	50.3	58.3	50.4	43.4	67.5	60.7	54.6	48.5
2:30 PM	38.0	52.2	37.5	48.5	47.1	55.5	51.5	51.9	61.6	57.9	57.0	57.2
2:45 PM	37.7	56.0	37.6	42.8	45.5	58.4	48.5	45.4	59.1	60.9	53.2	54.0
3:00 PM	18.4	34.1	20.4	25.0	22.7	34.8	24.8	27.0	29.8	36.1	28.8	33.3
3:15 PM	18.5	34.1	24.5	33.6	24.7	34.1	29.9	36.1	34.4	35.4	35.7	44.3
3:30 PM	21.0	34.7	27.4	37.4	30.5	36.1	36.1	39.8	41.8	37.4	43.1	48.0
3:45 PM	27.8	38.9	26.9	34.3	35.7	41.7	35.6	38.5	46.4	41.7	43.8	44.2
4:00 PM	30.3	37.0	22.6	30.1	40.0	39.6	31.5	36.8	49.7	40.4	40.2	40.5
4:15 PM	30.7	32.2	17.0	32.5	40.1	35.6	26.8	36.5	47.1	36.9	35.4	40.9
4:30 PM	53.9	41.6	30.5	46.2	67.7	48.0	47.8	53.3	78.0	50.2	58.1	57.2
4:45 PM	55.8	34.6	37.5	44.3	67.2	41.8	50.8	48.6	75.3	43.9	59.3	50.1
5:00 PM	56.0	25.0	39.9	40.0	62.9	31.1	54.0	40.8	69.0	33.3	64.2	42.9
5:15 PM	54.6	21.3	46.0	39.0	61.2	25.9	58.3	41.0	67.1	27.6	67.8	41.1
5:30 PM	55.7	27.1	47.7	35.2	63.1	32.5	57.5	35.2	67.8	32.5	66.4	37.2
5:45 PM	55.4	26.4	47.7	43.8	62.7	33.4	55.3	48.1	66.4	33.7	63.4	50.2
6:00 PM	54.2	26.1	45.1	43.5	59.7	34.7	50.9	48.0	63.8	39.0	56.6	51.2
6:15 PM	48.8	31.8	43.2	39.4	54.2	40.0	49.8	39.4	56.9	44.2	52.7	43.5
6:30 PM	46.4	33.3	43.0	39.9	51.8	39.0	48.4	40.7	54.1	40.8	51.2	43.2
6:45 PM	49.5	30.9	41.0	44.9	53.0	38.5	47.0	45.0	55.6	41.5	49.6	48.2
7:00 PM	43.6	32.6	41.5	52.0	45.5	40.6	48.8	53.3	48.8	41.9	52.5	53.9
7:15 PM	41.2	31.5	37.2	45.4	44.0	39.1	45.4	50.3	47.3	39.1	48.0	50.7

Hour	Pct. Other, Wkday-Feb.	Pct. Other, Wkend-Feb-	Pct. Other, Wkday-Aug.	Pct. Other; Wkend-Aug.	Pct. Most, Wkday-Feb.	Pct. Most; Wkend-Feb.	Pct. Most; Wkday-Aug.	Pct. Most; Wkend-Aug.	Pct. Total Work; Wkday-Feb.	Pct. Total Work; Wkend-Feb.	Pct. Total Work; Wkday-Aug.	Pct. Total Work; Wkend-Aug.
7:30 PM	36.7	32.2	36.1	44.3	39.5	40.6	44.0	54.2	42.7	40.6	46.4	56.2
7:45 PM	33.5	31.0	38.6	47.5	36.7	36.5	45.4	56.4	39.9	36.5	46.2	57.7
8:00 PM	28.3	31.3	39.5	47.9	33.0	35.1	46.2	54.1	36.2	35.1	47.0	54.1
8:15 PM	28.5	28.7	40.6	44.7	32.5	30.8	45.3	50.6	35.7	30.8	46.7	50.6
8:30 PM	26.7	27.8	37.1	44.7	28.3	27.8	40.7	52.2	32.1	27.8	42.3	52.2
8:45 PM	24.3	24.3	36.0	40.5	24.5	26.1	39.3	46.7	29.3	26.1	40.3	46.7
9:00 PM	16.4	15.4	27.9	33.0	17.0	15.5	30.3	38.3	20.7	15.5	33.1	42.5
9:15 PM	20.1	15.2	30.0	35.0	20.7	16.7	33.9	40.2	26.4	16.7	40.8	49.6
9:30 PM	21.6	18.7	29.0	34.3	21.6	22.5	33.0	39.2	27.8	22.5	39.7	45.9
9:45 PM	21.6	17.4	24.7	34.9	24.2	21.9	28.4	42.3	28.9	22.8	34.1	50.2
10:00 PM	19.9	17.2	20.4	35.1	23.8	22.8	24.0	41.9	26.2	23.5	29.9	49.5
10:15 PM	19.4	14.8	24.3	37.1	25.6	23.9	29.6	43.8	27.6	26.1	35.2	51.0
10:30 PM	16.6	15.4	25.5	32.0	23.0	22.6	32.1	36.6	25.2	24.5	37.0	43.9
10:45 PM	14.5	11.1	26.9	32.9	23.3	24.1	32.6	36.5	25.7	25.7	37.3	41.2
11:00 PM	13.3	12.8	29.9	36.3	20.4	21.7	37.7	37.5	22.7	22.5	41.8	41.5
11:15 PM	11.0	12.7	27.1	36.8	19.5	26.7	35.4	39.0	21.9	26.7	38.9	44.1
11:30 PM	11.1	13.9	23.8	31.2	20.9	27.6	31.5	33.3	23.1	27.6	34.4	40.5
11:45 PM	8.2	18.3	21.4	31.5	19.4	30.0	28.2	32.1	20.5	30.3	30.7	41.0
Ave.	24.2	26.2	25.8	31.8	29.9	32.0	33.0	35.6	37.3	34.7	37.7	39.3

FIGURE 4-9: Crime Runs Heat Map
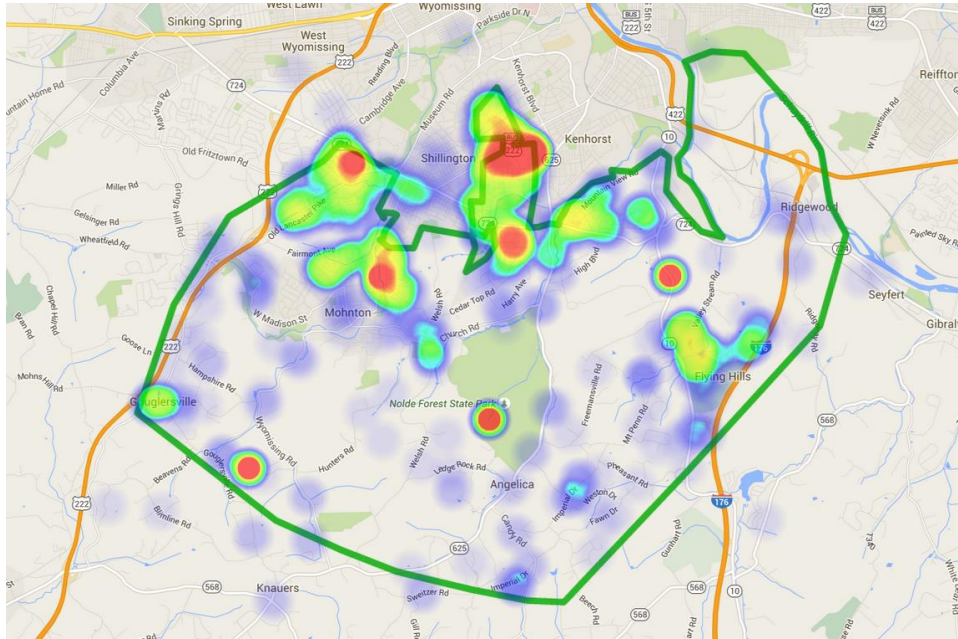
(Red>10 runs.)

Count	Location
72	1775 WELSH RD (Police HQ)*
52	1 PARKSIDE AVE (Wells Fargo)
49	600 E LANCASTER AVE (Shillington Shopping Center)
15	20 S SUMMIT AVE (King's Country Kitchen)
14	RT 422/RT 176
13	206 COMMUNITY DR (Twp Ofc)
13	130 BOAS LN (Private Residence)
12	1623 MORGANTOWN RD (Hospital)
10	330 E WYOMISSING AVE (Country Inn)
9	602 E LANCASTER AVE (Goodwill)
9	304 COMMUNITY DR (Twp Ofc)
7	1 COMMUNITY DR
7	113 COMMUNITY DR
6	208 MANSION DR (Private Residence)
6	17 CHASER CT (Private Residence)
6	500 E LANCASTER AVE (Rumba Martini)
6	308 E WYOMISSING AVE (Exxon)
6	111 PENNWYN PL (Private Residence)
6	229 PENNWYN PL (Private Residence)
6	408 COMMUNITY DR
6	663 SHEERLUND RD (Private Residence)

* = Excluded from heat map.

FIGURE 4-10: Other Runs Heat Map
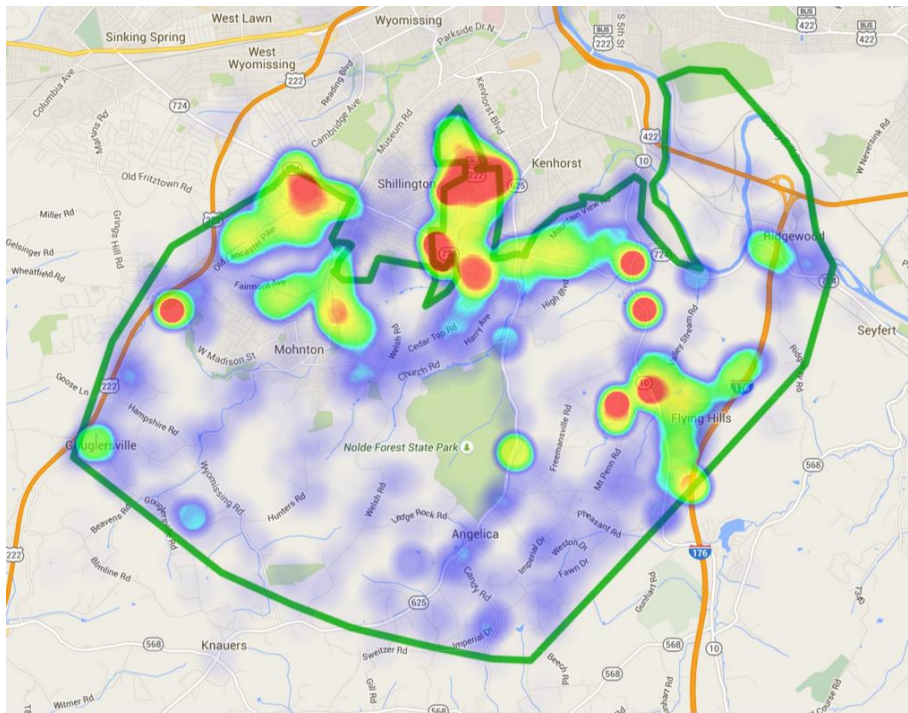
Red>50 runs.

Count	Location
621	1775 WELSH RD (Police HQ)*
330	RAMP R / WEST SHORE BYP W (Court)
232	20 S SUMMIT AVE (King's Country Kitchen)
173	1623 MORGANTOWN RD (Hospital)
128	RAMP N / WEST SHORE BYP E
113	600 E LANCASTER AVE (Shillington Shopping Center)
100	1 PARKSIDE AVE (Wells Fargo)
86	500 PHILADELPHIA AVE (Shillington Park)
75	10 TRANQUILITY LN
65	200 TRANQUILITY LN (Heritage of Green Hills)
56	602 E LANCASTER AVE (Goodwill)
52	450 PHILADELPHIA AVE (Genesis Healthcare)
46	203 COMMUNITY DR (Township Ofc)
43	1020 GRINGS HILL RD (Reading Hospital)
42	500 E LANCASTER AVE (Rumba Martini)
41	PHILADELPHIA AVE / MORGANTOWN RD
37	890 INTERSTATE 176 N
36	201 INSPIRATION BLVD (Private Residence)
35	2910 NEW HOLLAND RD (Node Forest)
33	330 WYOMISSING AVE (Country Inn)
32	101 COMMUNITY DR (Apartments)
32	303 COMMUNITY DR

* = Excluded from heat map.

Investigations

The Investigations unit is comprised of three detectives and one detective sergeant. One of these detectives was previously assigned to a task force but was returned to the department and placed back in the Investigations unit. The unit reports that it assigned 373 cases to detectives in 2013 and 383 cases in 2014 thru November 10. The 2014 annual report of the department shows 343 Class I crimes and 239 Class II crimes for the year.

There are some aspects of reported crime figures that raise questions. The annual report shows that in 2013 there were 293 Part I crimes reported. However, the FBI Uniform Crime Report for 2013 (last year available) shows 257. Thus, there appears to be a discrepancy in the number of crimes being reported to the township and to the FBI. Further, the report shows that the ratio of Part I crimes to total crimes (Part I and Part II) is significantly different than would be expected in a community such as Cumru.

In 2012, 2013, and 2014 the annual report shows that the number of Part I crimes exceeded the number of Part II crimes. For example, in 2014 the report shows 343 reported Part I crimes and only 239 Part II crimes. We find it difficult to understand how the community could have more serious crimes than minor crimes.

We believe that this anomaly may be caused by deficiencies in the manner in which crimes are classified; this classification and reporting are areas that should be examined in detail.

We reviewed the crime rates for Pennsylvania municipalities with a population between 15,000 and 16,000, and the results of this review are shown in Table 4-4. Note that Cumru has one of the higher violent and property crimes rates of the group.

TABLE 4-4: Part I Crime Rates in 2013 of Pennsylvania Municipalities with a Population between 15,000 and 16,000

Jurisdiction	Pop.	Violent Crimes					Property Crimes					Crime Rates (per 100,000)	
		Total	Murder	Rape	Robbery	Agg. Assault	Total	Burglary	Larceny	MV Theft	Arson	Violent	Property
Cumru Township	15,222	17	0	1	11	5	240	45	182	13	2	**111.7**	**1,576.7**
Forks Township	15,131	3	0	0	0	3	125	11	109	5	1	19.8	826.1
Hanover	15,362	24	1	1	8	14	505	36	465	4	0	156.2	3,287.3
Hilltown Township	15,199	13	1	2	2	8	222	40	180	2	0	85.5	1,460.6
Lower Salford Twp.	15,319	5	0	0	0	5	63	17	45	1	0	32.6	411.3
Newberry Twp.	15,361	9	0	2	1	6	270	52	212	6	1	58.6	1,757.7
Patton Township	15,513	6	0	1	4	1	195	16	178	1	0	38.7	1,257.0
Penn Township, York	15,688	24	0	0	3	21	264	17	243	4	1	153.0	1,682.8
South Fayette Twp.	15,079	5	0	1	2	2	80	12	64	4	1	33.2	530.5
Upper Gwynedd Twp.	15,848	11	0	4	0	7	82	18	61	3	1	69.4	517.4
Upper Saucon Township	15,606	4	0	2	0	2	200	28	168	4	0	25.6	1,281.6
Upper Southampton Twp.	15,199	8	0	0	1	7	200	36	160	4	0	52.6	1,315.9
West Lampeter Twp.	15,465	4	0	0	2	2	159	26	130	3	0	25.9	1,028.1
West Norriton Twp.	15,781	43	0	2	13	28	409	31	369	9	0	272.5	2,591.7

Section 5. Operations

Training

The department does not have a formal departmental training plan or identified training objectives for its personnel.

A patrol sergeant is designated as the department's training officer. This individual is primarily responsible for scheduling and coordinating training for department personnel and maintaining appropriate training records. CPSM was advised that the training officer does not typically deliver in-service training to department personnel.

Training records for members of the department (i.e., documentation of courses attended, certificates received, etc.) are adequately maintained. The CODY system has the capability of maintaining training records for all members of the department.

The department does not operate its own police academy. Recruit training for candidates is performed in regional police academies operated by other agencies.

The county chiefs of police association sponsors a testing consortium that publishes a standardized written test for police officer candidates. The association also promulgates standards regarding preemployment physical agility tests. Candidates pay for their own testing and participating police departments pay a small stipend to the association. This process relieves candidates of the burden of taking multiple exams for multiple police departments in the region.

Once a candidate has passed the test, he or she can then apply for employment to the department. The department's detectives perform background investigations on candidates. A list of eligible candidates is generated and the chief recommends to the board which individuals to hire. A "conditional" offer of employment is then made. Psychological exams are then performed and the individual is then sent to one of several police academies located throughout the state of Pennsylvania. The city of Reading runs its own academy. The state police operate an academy at a community college in Harrisburg. The decision of which academy to send a newly hired officer is driven largely by scheduling, as the department typically wishes the recruit officer to begin formal recruit training as soon as possible. Police academy training typically lasts approximately five months. The Municipal Police Officers' Education & Training commission of Pennsylvania (MPOETC) and the state chiefs of police association set standards for the basic training curriculum of all police academies operating within the state. After graduating from a police academy the recruit officer must pass an MPOETC exam in order to be certified as a police officer.

Newly hired officers must undergo a one-year probation period. During this time probationary officers will participate in field training supervised by department personnel. Several uniformed members of the department have been certified as field training officers. One sergeant is assigned as the department's field training supervisor.

CPSM reviewed the department's field training manual and found that it conforms to those used by similarly sized police departments throughout the country. The first two weeks of the department's field training program consists of "general orientation." The training is then broken down into three successive phases. Phase 1 consists of a four-week period during which the probationary officer is assigned with a primary field training officer. Phase 2 is a four-week period in which the probationary officer is assigned to a secondary field training officer. Phase 3 consists of four weeks with a third field training officer.

CPSM was advised that, while the department has received lateral transfers (that is, it has hired officers previously employed by other police departments), most hires have not had prior law enforcement experience and must undergo the full period of field training.

The MPOETC mandates that all sworn police officers in the state obtain a total of 16 hours of in-service training each year. The MPOETC also requires semiannual recertification in the areas of first aid, CPR, and firearms. The department operates its own outdoor firearms range and has its officers qualify with their service weapons every six months. The firearms range is leased out to other law enforcement agencies, which pay an annual fee for this access. At the time of the site visit, the department had two certified firearms instructors.

The 16 hours of mandated in-service training can be taken at a regional police Academy (such as the Reading Police Academy located at Alvernia University) or can be taken online. The mandated training topics and the cycles of lessons offered are chosen by the state, which publishes a training catalog and calendar. These include such topics as legal updates, handling domestic violence cases, officer safety, evidence processing, etc. While some of these topics involve tactical training (i.e., hands-on, practical exercises), the majority are offered via traditional classroom instruction. The NCTC also provides training. Private entities (such as the Public Agency Training Council, PATC) offer public safety training courses, as do other agencies such as the Pennsylvania state police, who run a conference for accident reconstruction.

Officers promoted to the rank of sergeant attend a first-line supervisor course (NCTC). The department does not offer in-house executive training to its supervisors.

The department has a designated training room located at its headquarters building. This room is primarily used for conducting meetings and interviews (as discussed elsewhere in this report, the room also provides two large, self-contained interview rooms). The room contains equipment for the viewing of training videos. Little to no in-service training is delivered in house by department personnel as the department "typically sends cops out for training." CPSM was advised that officers who previously attended patrol tactics school or defensive tactics school have been asked to make presentations to other officers during scheduled firearms training sessions. Additionally, patrol supervisors have an opportunity to provide informal training to patrol officers during roll call at the commencement of the shift. No comprehensive records are retained, however, for this type of training.

The department has engaged in tactical exercises such as a building search techniques exercise, which was conducted at a nearby building, and active shooter exercises conducted at a local school and church. Neighboring police departments were invited.

Recommendations:

- The department should carefully review the duties and responsibilities associated with the role of primary department training officer and consider whether the sergeant who is currently performing this function requires additional support.

- The training officer must continue to attend and actively participate in all command staff meetings and should be chiefly responsible for identifying possible training or retraining needs and opportunities.

- The training officer should be charged with the periodic review of department records concerning vehicle pursuits, use of force, weapons and Taser discharge, department vehicle accidents, arrest reports, etc. to determine whether any training, retraining, or equipment issues need to be addressed. This review should be documented.

- The department must immediately develop a comprehensive, multiyear training plan. This plan must outline specific training plans and goals for all operational units such as patrol, detectives, community affairs officer, etc., and must be fully integrated with the department's new strategic plan and ongoing management processes. The departments training plan must be reviewed semiannually and it must track specific training goals and objectives. The plan should describe the process for selecting, planning, developing, and delivering in-service training. The department's annual report should describe all training needs, challenges, and accomplishments (in terms of topics, training hours performed, and total number of personnel trained).

- The training officer should be charged with developing a plan for in-service training that will be delivered on site at police headquarters (preferably in the department's training room), at the firearms range, or at another appropriate location. Special emphasis should be placed upon the development of scenario-based training for use-of-force encounters.

- The department should develop a distinct community policing training program. Since the department does not have a separate community policing unit , it is imperative that patrol officers be instructed with regard to specific community policing techniques and procedures, community expectations, as well as the overall community policing philosophy. This community policing program should be developed internally and should include measurable training goals to be included in the department's newly developed multiyear training plan. If and when the department designates individual community service officers, these officers should be provided ongoing in-service training specific to the community policing philosophy and related techniques and procedures.

Internal Affairs/Professional Standards

The detective sergeant was identified as the internal affairs officer. Within approximately the past five years two internal investigations led to the termination of uniformed members of the department.

The procedures for the receipt and the investigation of civilian complaints is outlined in standard operating procedure number 13.2. This SOP was last revised in June 2007. The procedures are also listed on the department's website.

The policy indicates that the department will investigate "any and all complaints, whether in written or oral form and whether anonymous or signed by the complainant." SOP 13.2.6.1 indicates that "all citizen complaints pertaining to departmental policies and procedures or that alleges (sic) officer misconduct, shall be documented and investigated by the department."

The policy states that "any police officer of the department who was approached by the complainant may forward a citizen complaint form to same, advising them to complete the form, have it properly notarized, and delivered to the chief of police in a timely manner" (13.2.6.2.). The policy does not provide for the receipt of citizen complaints by nonsworn members of the department.

The policy indicates that the complaint "will initially be reviewed by the chief of police, who will then assign an appropriate investigator or conduct the investigation himself, depending upon the allegations" (Department website). If the chief determines that the complaint does not rise to the level of a significant act of malfeasance or nonfeasance, the complaint will be directed to the identified officer's patrol supervisor for further action (i.e. "Supervisor investigation," SOP 13.2.7.).

Complainants are directed to file a citizen's complaint form "in person, by telephone, by email or by writing" (Department website). All written complaints are initially directed to the office of the chief of police. Written complaint forms are made available to citizens in person at police headquarters or forwarded upon request by mail. While citizen complaint procedures are detailed on the website, complaint forms are not made available via the website.

The department's policy calls for having citizen complaint forms notarized. (SOP 13.2.6.1.)

Hard copies of reports produced in connection with internal investigations were found to be properly secured.

The department does not use separate forms for recording *Terry* stops (i.e., stop, question, and frisk) or the use of force by police officers. Rather, information concerning these activities and events are recorded on a standard police report form (the "A2"). CPSM was advised that the A2 form is prepared for any use of force ranging from "verbal commands up to the use of deadly physical force." Both the chief and the detective sergeant review these forms as they are prepared; therefore, they are made aware of these events as they occur.

There is not, however, a document or source that contains aggregate data concerning these events; therefore, it is impossible for any member of the department to state with certainty exactly *who* (in terms of sex, age, and race) is being stopped by police officers, or to answer question such as: *Where* are they being stopped? When (in terms of which shift)? *Why* are they being stopped? *Which* officers are using force? During what time of day? *Why* is this force being used?

Despite the analysis being performed by the chief and the detective sergeant, no member of the department is currently able to state with certainty what rate of the use of force by police officers would be considered baseline normal for this department.

The department's designated internal affairs officer does not perform any proactive, random audits of property, records, etc.

Recommendations:

- The department should carefully review both SOP 13 .2 and the information that is provided on the department website to ensure that all information provided and the described procedures are consistent with one another and with current practice.

- The department should alter SOP 13.2 in relation to the chief's role in connection with the initial receipt and review of citizen complaints. As the chief must serve as the final arbiter of discipline if necessary, he/she should not be the individual who makes the Initial determination of whether or not to commence an internal affairs investigation. It is common practice in American police departments to have "the internal affairs supervisor" make this determination.

- The department should establish the position of professional standards officer (PSO). This position should be filled by a uniformed supervisor. This individual could be charged with overseeing the internal affairs and hiring functions (and could possibly also assume responsibility for the training function).

- The department should discontinue the practice of requiring that citizen complainants have their written complaints notarized. This is an unnecessary practice that can only serve to dissuade individuals from making such complaints.

- Citizen complaint forms should be available via the department's website, and citizens should also be able to submit a complaint form electronically via the website.

- An essential feature of the professional standards function in modern American police departments is not only to advise officers "what not to do," but to actually tell them "what *to* do." In other words, as part of a comprehensive integrity management and professional standards program, the department should encourage the modeling of positive work behaviors by highlighting exceptional police service as it occurs. For that reason, the department should reinstitute its medal day ceremony and encourage township officials, business leaders, and community members to actively participate in recognizing and commending noteworthy accomplishments such as performing a rescue with an AED.

Property and Evidence Management

The department does not employ evidence technicians for performing field investigations. CPSM was advised that "most every police officer has been to evidence school "and that patrol officers and detectives conduct their own investigations. The district attorney's office operates a county forensic unit that can be called upon as necessary.

The administrative sergeant serves as the department's property and evidence manager, and was recently certified as a property and evidence specialist by the International Association for Property and Evidence (IAPE).

The department's CODY system is used for property and evidence management. This includes a scanning and bar-coding function to preserve chain of custody. This bar-coding function has been used only for the past five years. Prior to that, no bar-coding capability was available and the department used handwritten, hard-copy reports to document storage and transfer of items. The CODY system has the ability to review inventory and perform an audit function, but only for items that have come into the department's possession during the past five years. Prior to that, all records were maintained in hard-copy; therefore, the CODY system cannot be used. CPSM was advised that the property custodian is unable to state with certainty exactly where every piece of evidence is located. Once the year of intake is known, the custodian can go to a specific area within the property room but must then go "box to box" in order to determine the item's exact location.

The department's current practice is to have police officers package and seal items "to laboratory standards," affix their signature on a tamper-proof seal, and place items in the lockers used for property storage at the headquarters building. Once an item is placed in a locker, the officer no longer has access to the locker's contents. All property lockers are keyed with the same key. The master keys for the headquarters building will not open these doors. The chief, the detective sergeant, the administrative sergeant, and the three detectives all have keys for these lockers. The administrative sergeant is charged with removing items from the property lockers and entering necessary information into the CODY system. The sergeant prepares a sticker with a bar code (if it has not already been done) and reviews the original entry made in the CODY system by the police officer.

There are two main locations where the department stores property and evidence: one in the headquarters building (the main evidence room) and which contains "approximately two years' worth of property," and one off-site in the court building (the "evidence building"). The off-site location is used for long-term storage, bulk storage (in a bay of the garage), and for specialized equipment (such as photography and fingerprinting equipment) and the examination of vehicles. Patrol officers are authorized to package property and evidence either in the headquarters building or at the property building across the street.

Property maintained in the off-site location is contained in two different rooms. This facility also contains property lockers, which were not in use at the time of the site visit. The department also utilizes a property storage trailer.

At the time of the site visit, the following individuals had access (i.e., their own key) to these property rooms: the administrative sergeant, the chief, the detective sergeant, and the department's three detectives. CPSM was advised that all detectives have traditionally been provided access to the property rooms. One member of the department estimated that, over the past 10 years, perhaps 10 different individuals have had access to these property rooms.

It is the opinion of the consultants that the department has traditionally provided far too many individuals with access to these property rooms.

CPSM performed a physical inspection of both locations. The doors to all evidence rooms were secured and alarmed at the time of inspection. Alarms are centrally monitored: the chief is alerted when an alarm is received and a patrol unit will be dispatched to investigate. Rooms are also equipped with motion detectors. None of these doors are protected by a video camera.

CPSM was advised by numerous members of the department that *the department has never performed either an internal or external comprehensive audit of all property and evidence in its possession*. We view this as a very significant issue, since failure to periodically perform such audits unnecessarily exposes the township, the department, and its personnel to potential liability stemming from claims of lost or mislaid property or evidence.

Similarly, the department does not have a formal policy for periodically performing "mini-audits" of property and evidence. This also varies considerably from standard police practice. We were advised that the administrative sergeant has, at times, periodically audited items that have come into the department's possession within the last several years (since the bar-coding function of CODY has been used). There is, however, no written policy calling for such audits. No audits of any type have been conducted, however, for items coming into the department's possession prior to that period.

CPSM was advised that it is not the department's policy to mandate the weighing of suspected illegal narcotics that have come into the possession of the department. CPSM was also advised that the department has a scale and that "some officers do [weigh suspected narcotics] and some do not." Again, this represents a dramatic departure from standard police practice. Failure to do so unnecessarily subjects the township, the department, and its personnel to liability.

There is no policy for photographing items.

Note: *CPSM has no evidence whatsoever to indicate or suggest that any items of property or evidence have in fact actually been lost or mislaid by the department or any of its employees. Nevertheless, it is the opinion of CPSM that the department and the township are currently exposed unnecessarily to liability due to lax policies and practices concerning the department's handling of property and evidence.*

It also appears that the department currently retains property and evidence that should have previously been disposed of in the ordinary course of business. The department does not have a clear policy for item retention.

The department's current policy for the handling of currency is to deposit currency into the department's bank account. This has only become a policy recently. We were advised that there is "most likely currency at the other property room" but that it would be impossible to know for certain. The CODY system cannot be used to identify the location of this currency as its initial intake was recorded in hard-copy and never entered into the CODY system.

Handguns are segregated in a separate section of the property room but they are not secured. Illegal narcotics are not segregated. Failure to segregate and properly secure narcotics represents a deviation from standard police practice.

During the physical inspection of the headquarters building, CPSM consultants observed a tagged item of property that was placed inside the weapons room. We were advised that, on occasion, bulk items are temporarily placed in this secured area (rather than in any of the department's other property storage locations). On this occasion, however, it appeared that the administrative sergeant was not advised that the item had been placed in this particular area. Without inspecting the item's tag, the administrative sergeant was unable to explain either who had placed it there or how long the item had been there.

Firearms and narcotics that are no longer needed for evidence purposes are periodically destroyed by forwarding them to the district attorney's office. The last time this was done was approximately two to three years ago.

Recommendations:

- It is very strongly recommended that a comprehensive audit of all property and evidence currently in the department's possession (at all locations) be performed immediately. This comprehensive audit should be performed by an outside party, that is, by a properly trained official from another law enforcement agency (such as the state police) or by a properly certified property and evidence technician. Failure to have done so in the past represents a dramatic departure from standard police practice and unnecessarily subjects the township, the department, and its personnel to a substantial risk of liability.

- The above referenced audit should include a comprehensive and careful (external) review of the department's current policies and practices concerning the receipt, storage, and transfer of property and evidence.

- It is strongly recommended that the department immediately develop a clear evidence retention policy that mandates the disposal of property and evidence.

- We believe that too many members of the department currently have (and have historically had) access to the department's two evidence rooms. The department should immediately limit the number of people who have such access. It is recommended that any individual serving as chief not have access to these rooms.

- The department should replace and upgrade the property lockers that are currently being used. It is recommended that "pass-through" lockers be utilized.

Information Technology (IT)/Records Management

The department does not have a full-time, designated IT support person. This role is currently being performed by the department's administrative sergeant. Several members of the department indicated that the department's current IT needs are generally being satisfied. The department has its own server, which is less than the one year old.

Members of the department report a high level of satisfaction with the current records management system (RMS), which is known as CODY. CODY is a proprietary product that is used by police departments throughout the county. The department has used the CODY system since 1999. The CODY system contains electronic data from approximately 1994. Members of the department uniformly reported satisfaction with the capabilities of the CODY system. CODY allows the department to operate a large database with interlinked master files so that a user may, for example, create a live link from a particular piece of property, to a particular incident, to a particular name, to a particular vehicle, etc. The CODY system is used by the department for report writing, internal affairs investigations, maintenance of personnel files (including training records, certificates, and records of promotion in rank), maintenance of business files (emergency contacts for commercial business owners), a residential alarm registry, "booking" of arrested persons, and property and evidence management. Information concerning "reportable" vehicle crashes is maintained on a system operated by the state department of transportation (the Crash Reporting System, or CRS). Information concerning vehicle accidents that are not considered "reportable," that is, are relatively minor in terms of property damage and do not involve personal injuries, are maintained in the CODY system. The vehicle and fleet management function of CODY is not used, as the township's public works department is currently charged with actively monitoring vehicle mileage, maintenance, etc.

CODY allows patrol officers to prepare reports in the field (such as criminal incident reports and vehicle accident reports). Patrol units are equipped with new mobile data terminals (MDTs) that allow officers to enter necessary data and to forward electronic reports to the supervisors for approval. The CODY system should therefore enable the department to be virtually paperless. However, it has become the department's practice to allow officers to: 1) enter data into CODY; 2) print out a hard-copy of the report; 3) submit a hard-copy of the report to the supervisor for review; 4) forward reports for further review (by the chief and the administrative assistant); and 5) file hard-copies of the reports in the department's records room.

The department currently maintains a large volume of hard-copy records in its records room at headquarters (approximately three years of reports), as well as additional storage for older records at the department evidence building located nearby. CPSM asked numerous members of the department why it was necessary to print out and store hard-copies of these reports but no one was able to offer any type of rationale or explanation. Even more surprisingly, as part of the filing and storage process, hard-copy reports are scanned and once again added into the CODY system. It goes without saying that this process is unnecessarily complicated and represents a significant waste of manpower. The CODY system has an approval feature that would alleviate the necessity for printing out hard-copies for a supervisor's review. We were advised that some sergeants within

the department are currently electronically approving reports, while others are not. The chief apparently reviews all reports prepared by members of the department. The chief is not provided with written daily or weekly summary activity reports for patrol and investigative functions.

CPSM was advised that it is common practice for patrol officers to return to headquarters during their shifts in order to prepare reports. We were told that many patrol officers preferred this practice due to "ergonomics issues" related to the limited space in the front seat of patrol vehicles.

At the time of the site visit, patrol officers were preparing citations in hard-copy. Data contained in hard-copy summonses must be entered by the administrative assistant into the department's CODY system. We were advised that the department is currently awaiting an electronic citation tracking system that will allow officers to utilize their MDTs to simultaneously upload citations directly to the CODY system and the state records.

The administrative sergeant serves as the department's terminal agency coordinator for the Commonwealth Law Enforcement Assistance Network (CLEAN). This system is used for the purpose of checking criminal histories, performing motor vehicle license inquiries, and for performing online training. The administrative sergeant or his designee are mandated to perform annual database audits in order to detect improper or unauthorized use of this system.

The department's website contains useful information concerning abandoned vehicles, auto inspections, auto registration, bicycle registration, etc. There is a separate link to a page which describes the department's policy for the receipt and investigation of citizen complaints.

The department's website does not contain personalized message from the chief, nor does it have photographs of supervisors, or e-mail addresses and specific telephone extensions for all members of the department. Visitors to the website are not able to download complaint reports or commonly used forms. The department's website does not have a link to any form of social media.

The website does include a link to crimemapping.com. This website displays crime mapping information for the township. Members of the public can register with crimemapping.com in order to receive crime alerts concerning issues in their particular neighborhoods. The department's records management system (CODY) performs a data dump directly to this system. We were advised that the district attorney's office has been funding this service.

Patrol units are equipped with GPS tracking systems. Data obtained from the GPS system are used for vehicle tracking and fleet maintenance purposes. Patrol supervisors have the capability of performing status checks from their patrol vehicles and seeing in real time where all patrol units are located.

All members of the department have individual e-mail and voicemail accounts.

Recommendations:

- The department should analyze the amount of time that patrol officers spend in connection with the preparation of reports at headquarters (rather than in the field). The department should engage in an effort to maximize the amount of time that patrol officers spend in the field, by encouraging officers to prepare reports via the mobile data terminals (MDTs) in their patrol vehicles.

- The department should explore the possibility of providing patrol units with the ability to electronically scan driver's license information.

- The department should immediately alter its report writing, review, and storage policies in order to remove the requirement of printing a copy. The current practice represents a needless waste of time and resources. The department should make every effort to move to an entirely paperless system. The CODY system is capable of streamlining this process considerably.

- Although the IT function is currently being adequately performed by the administrative sergeant, the department should consider the creation of a technology task force. This would be a group of sworn and nonsworn employees of various ranks who would be charged with meeting regularly to determine the department's current and future technology needs as well as any necessary steps toward ensuring that the department remains current with regard to technological advancements.

- The department's the newly formed technology task force should be charged with developing a detailed, multiyear technology plan for the department. This plan would include a statement of current needs, as well as a detailed strategy for replacing old systems and equipment and acquiring new technology and equipment (software, hardware, etc.), adequately training personnel, and implementing a variety of advanced technologies to enhance organizational performance.

- It is recommended that the department substantially enhance its website. The technology task force should be charged with leading this effort and should consider the development of an interactive electronic report submission function for the website. Photographs of supervisors should appear on the website as well as e-mail contact information for all uniformed members of the service.

Dispatch/Communications

The patrol dispatch function is performed by the Berks County Dispatch Center (Department of Emergency Services). This facility dispatches police, fire, and emergency medical services within the county. Its computer-assisted dispatch (CAD) system is a New World product. Members of the Cumru department generally reported an overall sense of satisfaction with the quality of service performed by the county. The use of a regional dispatch center is quite common for a department of this size and typically results in certain operational efficiencies and cost savings.

Recommendation:

- It is recommended that the department continue to avail itself of the services of the Berks County Dispatch Center.

Physical Plant/Resources

The police headquarters building was built in 1993 and generally contains sufficient space for the department's operations. It includes a large main office area and records room that contains hard-copy records dating back to approximately 2001. Microfilm records of documents prepared prior to 2001 are maintained in the records room. There is a workstation for a second administrative assistant located in the records room.

A large office is utilized by detective investigators. There is an interview room that is currently vacant, as the department has recently purchased two self-contained interview rooms (with video and sound recording devices) that have been placed in the large training room. These interview rooms were purchased with "equitable sharing money" obtained by the department.

There is a large squad room that is used for conducting roll calls. Several computer terminals are located in the squad room. Additional office space is provided for sergeants.

There is a weapons room used for the storage of patrol rifles. This room was found to be properly secured at the time of the site visit.

The headquarters building has a cellblock with two functional adult cells; however, these cells are not presently being used for overnight lodging of prisoners. If these cells are used at all, it is only for the temporary holding off arrested persons. The cellblock is not equipped with video surveillance.

Patrol officers carry .40 caliber Glock handguns. All patrol officers qualify with both shotgun and rifle. Shotguns are carried in all patrol vehicles except the department's SUVs (in which they cannot be secured properly). All patrol officers are assigned a personal AR-15 rifle. Approximately four or five Tasers are available and shared by patrol officers who are qualified in their use. The department's armory was found to be properly secured.

A member of the patrol division is assigned as the department's quartermaster.

Upon physical inspection, vehicles were found to be clean, well-equipped, and well-maintained. It should be noted that CPSM has generally observed that well-maintained patrol vehicles should perform well for at least 120,000 miles. All patrol vehicles are equipped with AED's.

Interestingly, at the time of the site visit, patrol officers were wearing two distinct uniforms. We were advised that the department is in the process of transitioning to a new standard uniform; however, only a portion of its officers had been outfitted with the new uniform. Similarly, patrol vehicles were painted and marked in two different styles. Once again, we were advised that be department "is in the process of transitioning" to a new style for marked patrol units.

Recommendations:

- In the future, when purchasing or introducing a new type or style of equipment, the department should make every effort to change its inventory quickly and comprehensively rather than doing so incrementally. This includes adequately planning for and executing budgetary expenditures. Failure to have a uniform appearance (whether in terms of patrol car markings or the uniforms worn by officers) conveys a subtle sense of nonconformity within the department that diminishes the professional appearance of the department and its personnel.

- The department's quartermaster should be charged with the development and oversight of a specific schedule to introduce and replace police vehicles and equipment.

- The department should continue to actively pursue any and all available grants.

Miscellaneous

The board should adopt the recommendations contained in this report and direct the department to: 1) include them in the department's new strategic plan; 2) prepare a timeline for implementation, including milestones and responsible parties; and 3) to make monthly progress reports to the liaisons regarding the department's relative degree of progress toward these goals.

Section 6. Data Analysis

This data analysis section of the report on police patrol operations for the township of Cumru 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 preliminary report was developed directly from the data collected by the Cumru Police Department.

The majority of the first section of the report, concluding with Table 6-8, uses call data for the period of one year, from May 1, 2014, to April 30, 2015. For the detailed workload analysis and the response-time analysis, we use two eight-week sample periods. The first period is from July 7 through August 31, 2014, or summer, and the second period is from January 4 through February 28, 2015, or winter.

Workload Analysis

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

1. 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-stamp information to evaluate the record.

2. 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 "other-initiated."

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

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

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 a number of issues when analyzing the dispatch data from Cumru. We made assumptions and decisions to address these issues.

- About 626 events (6.1 percent) involved patrol units spending zero time on scene.

- Approximately 47 percent of other-initiated calls lacked a valid arrival time. We used the remaining calls when measuring the department's overall response times.

- The computer-aided dispatch (CAD) system used 74 different event descriptions (or "call types"), which we condensed to 12 categories for our tables and 7 categories for our figures (shown in Chart 6-1). Table 6-17 in the appendix shows how each call description was categorized.

Between May 1, 2014, and April 30, 2015, the communications center recorded approximately 10,263 events that were assigned call numbers and which included an adequate record of a responding patrol unit as either the primary or secondary unit. When measured daily, the department reported an average of 28.1 patrol-related events per day, approximately 6 percent of which (1.7 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 6-1: Event Descriptions for Tables and Figures

Table Category	Figure Category
Prisoner–arrest	Arrest
Assist other agency	Assist
Crime–persons	Crime
Crime–property	
Animal calls	General noncriminal
Miscellaneous	
Alarm	Investigations
Check/investigation	
Disturbance	Suspicious incident
Suspicious person/vehicle	
Accidents	Traffic
Traffic enforcement	

FIGURE 6-1: Percentage Events per Day, by Initiator
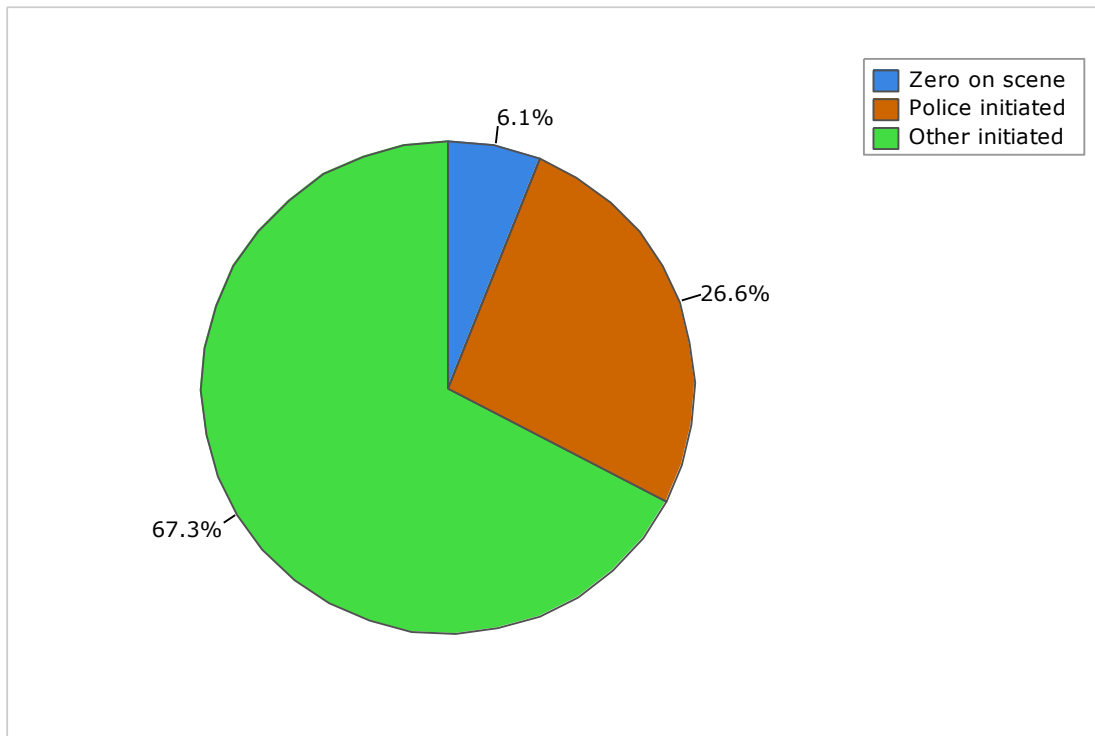
Note: Percentages are based on a total of 10,263 events.

TABLE 6-1: Events per Day, by Initiator

Initiator	Total Events	Events per Day
Zero on-scene	626	1.7
Police-initiated	2,731	7.5
Other-initiated	6,906	18.9
Total	**10,263**	**28.1**

Observations:

- 6 percent of the events had zero time on scene.
- 27 percent of all events were police initiated.
- 67 percent of all events were other initiated.
- On average, there were 28 events per day, or 1.2 per hour.

FIGURE 6-2: Percentage Calls per Day, by Category
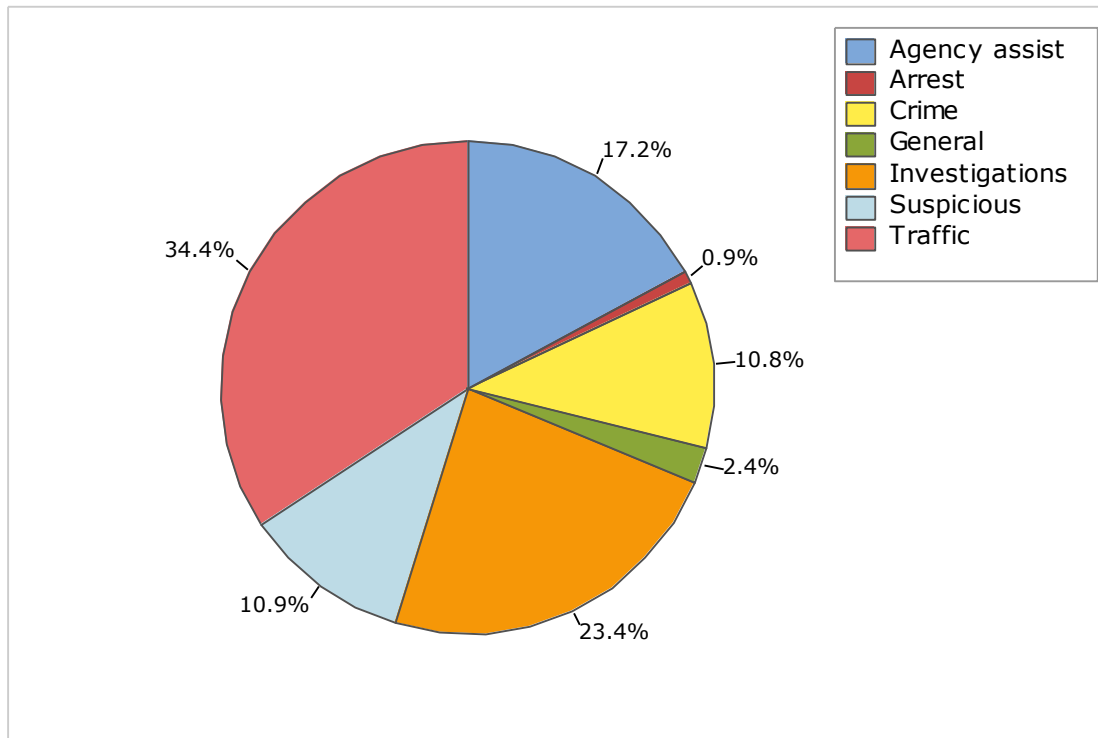
Note: The figure combines categories in the following table according to the description in Chart 6-1.

TABLE 6-2: Calls per Day, by Category

Category	Total Calls	Calls per Day
Accidents	541	1.5
Alarm	641	1.8
Animal calls	193	0.5
Assist other agency	1,659	4.5
Check/investigation	1,616	4.4
Crime–persons	457	1.3
Crime–property	584	1.6
Disturbance	505	1.4
Miscellaneous	40	0.1
Prisoner–arrest	84	0.2
Suspicious person/vehicle	547	1.5
Traffic enforcement	2,770	7.6
Total	**9,637**	**26.4**

Note: The focus here is on recorded calls rather than recorded events. We removed 626 events with zero time on scene.

Observations:

- On average, there were 26.4 calls per day, or 1.1 per hour.

- The top three categories (traffic, investigations, and assist other agency) accounted for 75 percent of calls.

  - 34 percent of calls were traffic-related.

  - 23 percent of calls were investigations.

  - 17 percent of calls were agency assists.

- 11 percent of calls were crimes.

FIGURE 6-3: Calls per Day, by Initiator and Months
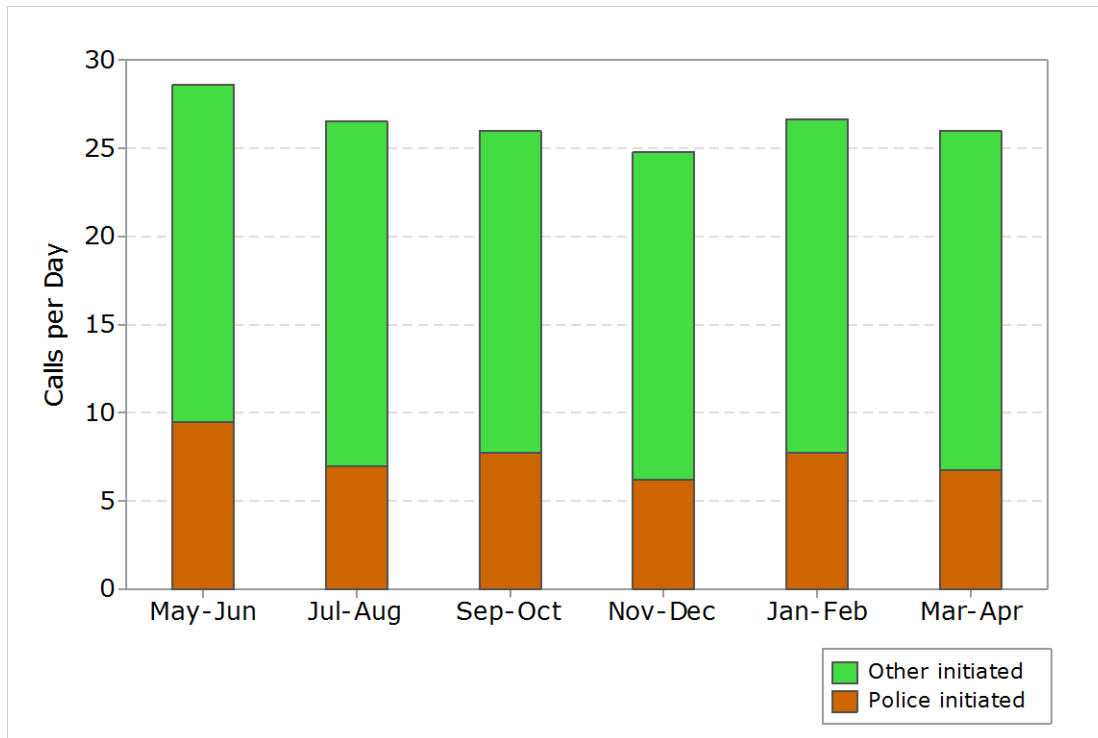
TABLE 6-3: Calls per Day, by Initiator and Months

Initiator	May-Jun	Jul-Aug	Sep-Oct	Nov-Dec	Jan-Feb	Mar-Apr
Police initiated	9.5	7.0	7.8	6.2	7.7	6.7
Other initiated	19.1	19.5	18.2	18.5	19.0	19.2
Total	**28.6**	**26.5**	**26.0**	**24.7**	**26.7**	**26.0**

Observations:

- The number of calls per day was lowest in November-December.

- The number of calls per day was highest in May-June.

- The months with the most calls had 16 percent more calls than the months with the fewest calls.

- May-June had the most police-initiated calls, with 52 percent more than the period of November-December, which had the fewest.

- July-August had the most other-initiated calls, with 7 percent more than the period of September-October, which had the fewest.

FIGURE 6-4: Calls per Day, by Category and Months
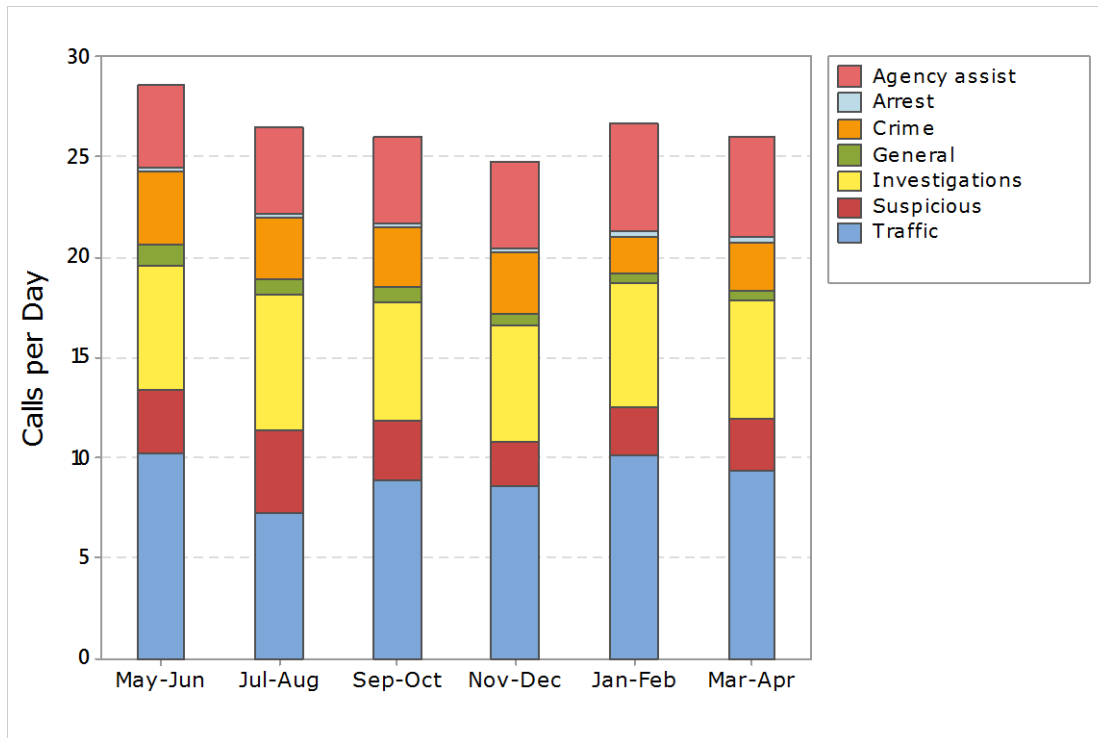
Note: The figure combines categories in the following table according to the description in Chart 6-1.

TABLE 6-4: Calls per Day, by Category and Months

Category	May-Jun	Jul-Aug	Sep-Oct	Nov-Dec	Jan-Feb	Mar-Apr
Accidents	1.0	1.2	1.6	1.6	1.9	1.6
Alarm	1.8	1.8	1.7	1.8	1.8	1.7
Animal calls	0.8	0.5	0.6	0.5	0.4	0.4
Assist other agency	4.1	4.3	4.3	4.3	5.4	4.9
Check/investigation	4.4	5.1	4.3	4.0	4.5	4.3
Crime–persons	1.4	1.5	1.2	1.3	0.9	1.2
Crime–property	2.3	1.6	1.8	1.8	0.9	1.2
Disturbance	1.6	2.1	1.3	0.9	1.1	1.3
Miscellaneous	0.1	0.2	0.1	0.1	0.0	0.1
Prisoner–arrest	0.2	0.2	0.2	0.2	0.3	0.3
Suspicious person/vehicle	1.5	2.0	1.7	1.4	1.3	1.2
Traffic enforcement	9.3	6.1	7.2	7.0	8.2	7.7
Total	**28.6**	**26.5**	**26.0**	**24.7**	**26.7**	**26.0**

Note: Calculations were limited to calls rather than events.

Observations:

- The top three categories (traffic, investigations, and assist other agency) averaged between 70 and 82 percent of calls per day throughout the year:

  ○ Traffic calls averaged between 7.3 and 10.3 calls per day throughout the year.

  ○ Investigations calls averaged between 5.8 and 6.8 calls per day throughout the year.

  ○ Assist other agency calls averaged between 4.1 and 5.4 calls per day throughout the year.

- Crime calls averaged between 1.8 and 3.7 calls per day throughout the year.

- Crime calls accounted for 7 to 13 percent of total calls.

FIGURE 6-5: Average Occupied Times, by Category and Initiator
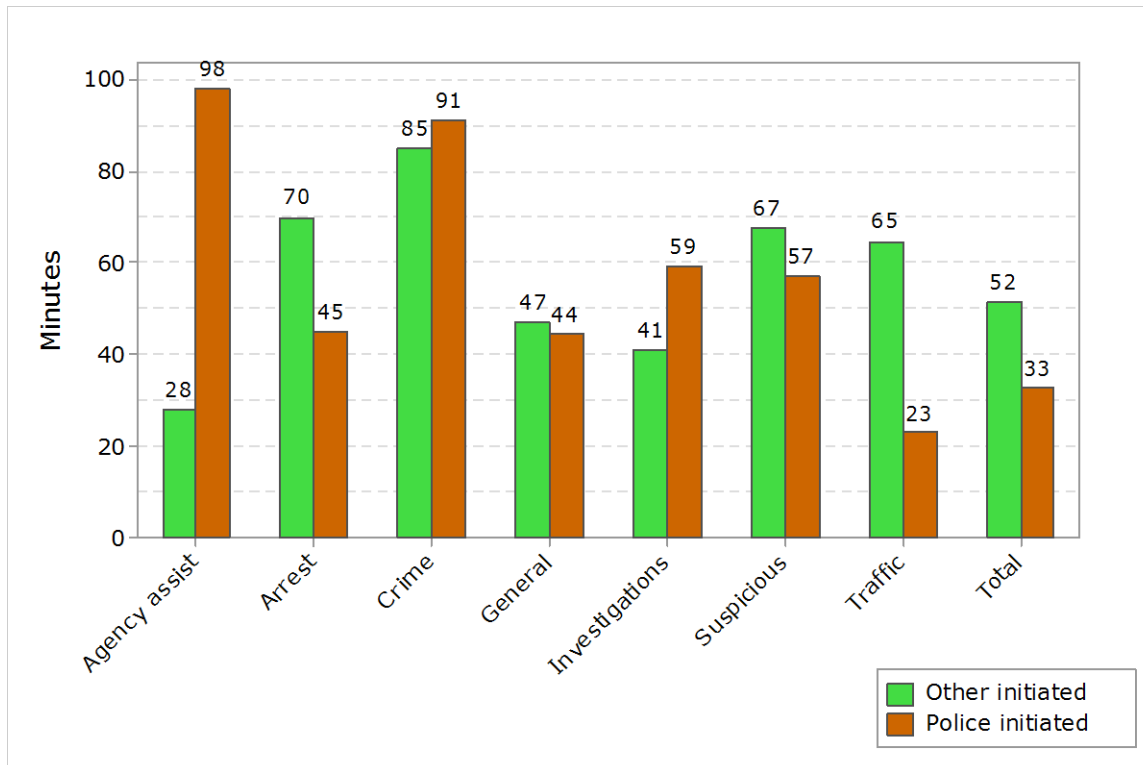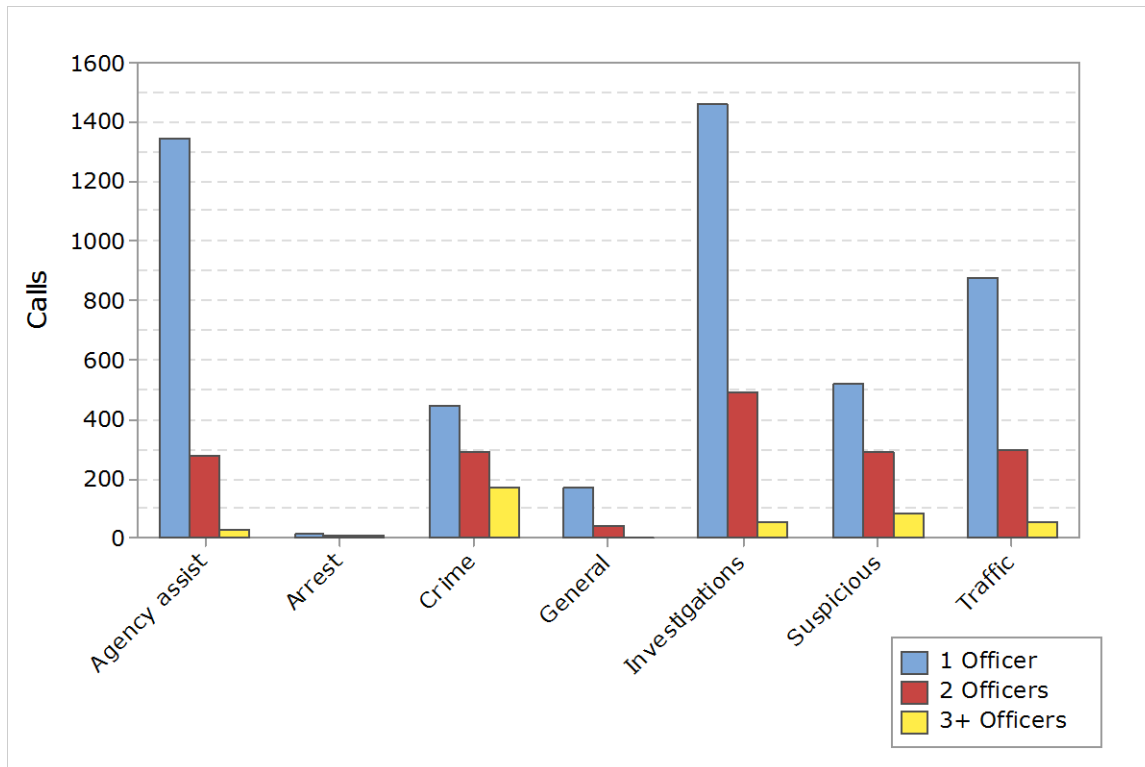

Note: The figure combines categories using weighted averages from the following table according to the description in Chart 6-1. For this graph we removed 20 calls with inaccurate busy times.

TABLE 6-5: Primary Unit's Average Occupied Times, by Category and Initiator

Category	Police-Initiated		Other-Initiated	
	Total Calls	Minutes	Total Calls	Minutes
Accidents	47	88.1	493	91.1
Alarm	1	14.6	640	34.1
Animal calls	16	41.6	177	46.6
Assist other agency	8	97.9	1,648	28.1
Check/investigation	252	59.6	1,362	44.1
Crime–persons	19	106.2	432	85.6
Crime–property	120	88.8	460	84.6
Disturbance	67	70.2	437	71.9
Miscellaneous	8	49.9	32	48.9
Prisoner–arrest	53	45.0	30	69.9
Suspicious person/vehicle	95	48.0	450	63.2
Traffic enforcement	2,042	21.4	728	46.8
Total	**2,728**	**32.6**	**6,889**	**51.5**

Note: The information in Figure 6-5 and Table 6-5 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 call was received 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 23 to 98 minutes overall.

- The longest average times were for police-initiated agency assists.

- The average time spent on crime calls was 85 minutes for other-initiated calls and 91 minutes for police-initiated calls.

FIGURE 6-6: Number of Responding Units, by Initiator and Category
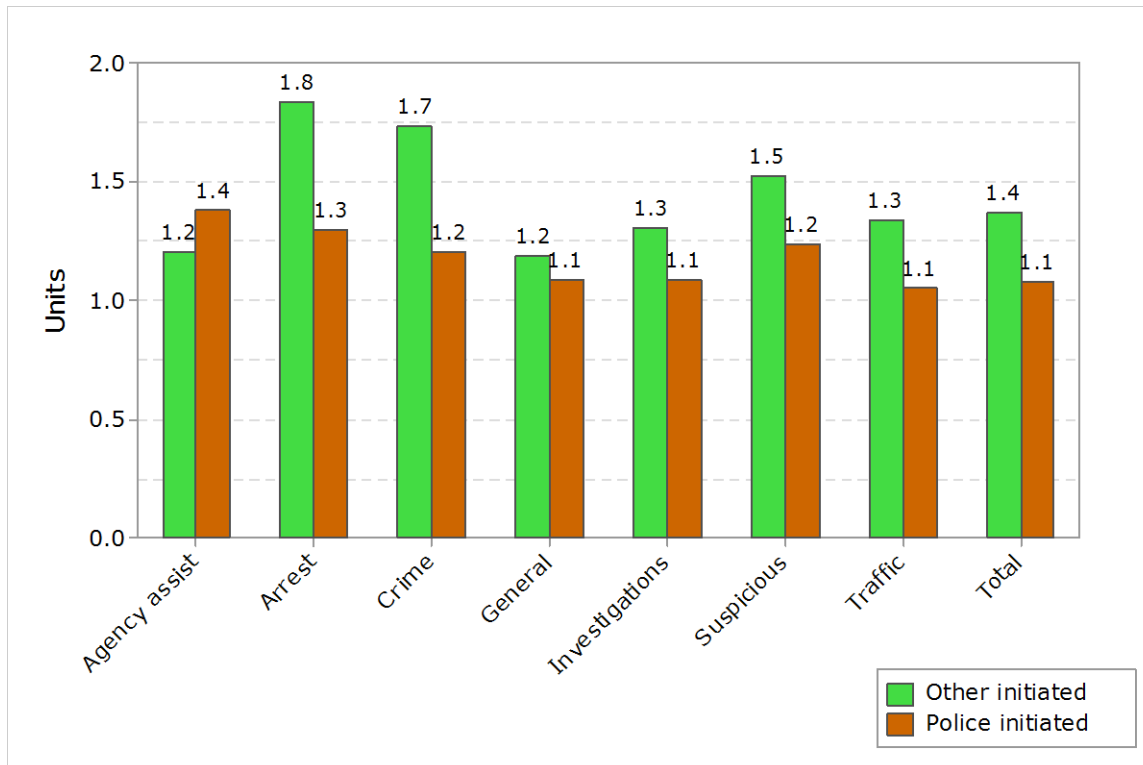
Note: The figure combines categories using weighted averages from the following table according to the description in Chart 6-1.

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

Category	Police-Initiated		Other-Initiated	
	Average	Total Calls	Average	Total Calls
Accidents	1.1	47	1.4	494
Alarm	1.0	1	1.5	640
Animal calls	1.0	16	1.2	177
Assist other agency	1.4	8	1.2	1,651
Check/investigation	1.1	253	1.2	1,363
Crime–persons	1.7	20	2.0	437
Crime–property	1.1	120	1.5	464
Disturbance	1.2	67	1.5	438
Miscellaneous	1.3	8	1.2	32
Prisoner–arrest	1.3	54	1.8	30
Suspicious person/vehicle	1.3	95	1.5	452
Traffic enforcement	1.1	2,042	1.3	728
Total	**1.1**	**2,731**	**1.4**	**6,906**

FIGURE 6-7: Number of Responding Units, by Category, Other-initiated Calls

Note: The figure combines categories using weighted averages from the following table according to the description in Chart 6-1.

TABLE 6-7: Number of Responding Units, by Category, Other-initiated Calls

Category	Responding units		
	One	Two	Three or more
Accidents	325	136	33
Alarm	358	255	27
Animal calls	143	34	0
Assist other agency	1,346	278	27
Check/investigation	1,099	237	27
Crime–persons	145	169	123
Crime–property	299	120	45
Disturbance	263	130	45
Miscellaneous	28	3	1
Prisoner–arrest	13	10	7
Suspicious person/vehicle	257	157	38
Traffic enforcement	549	159	20
Total	**4,825**	**1,688**	**393**

Observations:

- The overall mean number of responding units was 1.1 for police-initiated calls and 1.4 for other-initiated calls.

- The mean number of responding units was as high as 1.8 for arrest calls that were other-initiated.

- 70 percent of other-initiated calls involved one responding unit.

- 24 percent of other-initiated calls involved two responding units.

- 6 percent of other-initiated calls involved three or more responding units.

- The largest group of calls with three or more responding units involved crime.

FIGURE 6-8: Percentage Calls and Work Hours, by Patrol Area

Call Activity   Workload
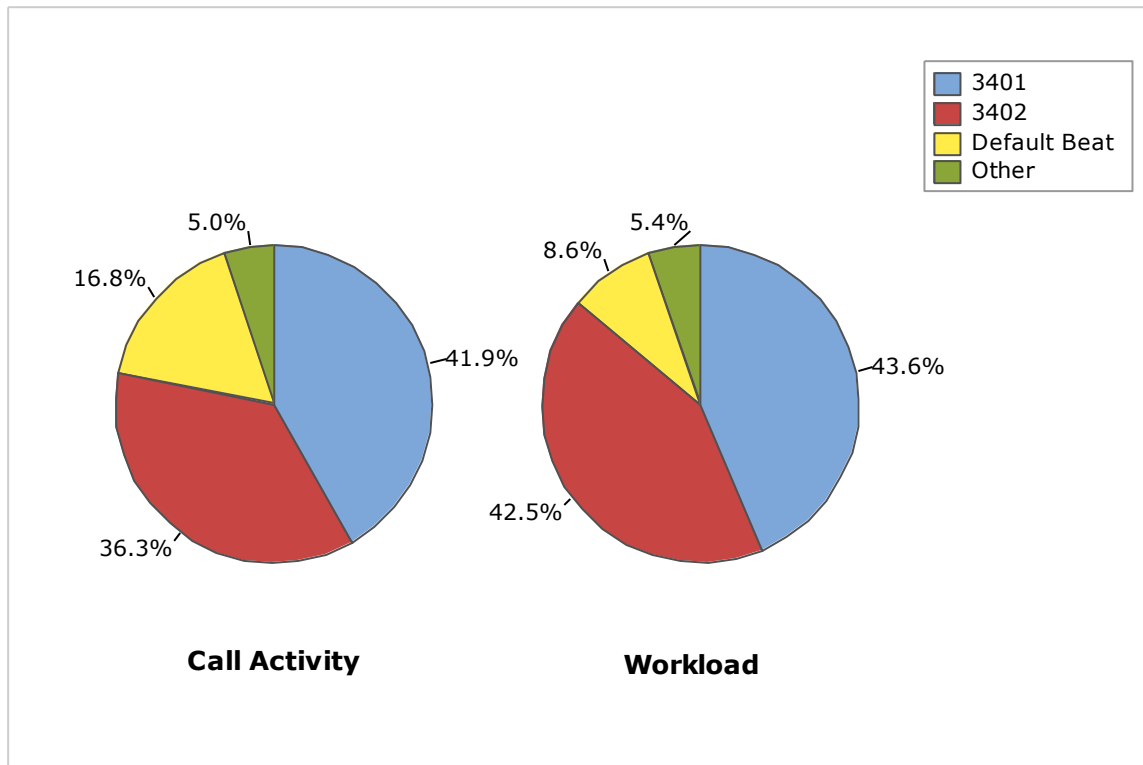
Note: Calls with beats other than 3401, 3402, and "Default" are included in the "Other" category.

TABLE 6-8: Calls and Work Hours by Patrol Area, per Day

Beat	Per Day	
	Calls	Work Hours
3401	11.1	10.3
3402	9.6	10.1
Default	4.4	2.0
Other	1.3	1.3
Total	**26.4**	**23.7**

Observations:

- Beat 3401 had the most calls and workload. It accounted for 42 percent of total calls and 44 percent of total workload.

FIGURE 6-9: Percentage Calls and Work Hours, by Category, Summer 2014
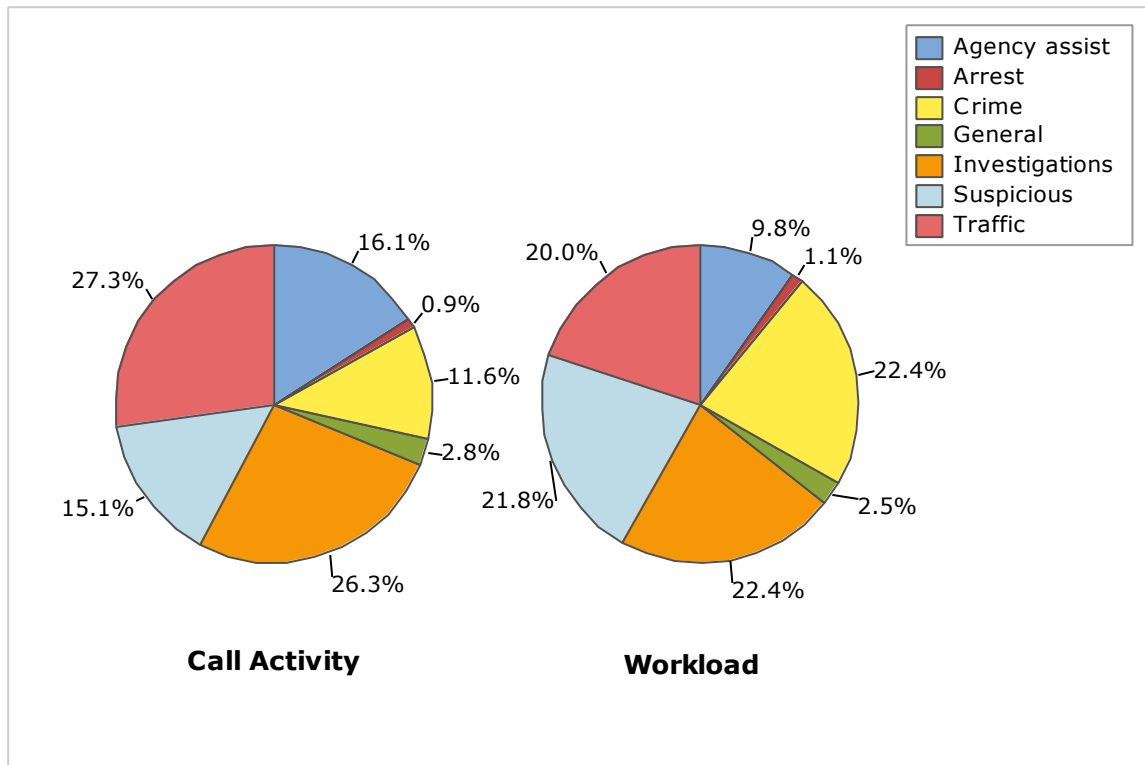
TABLE 6-9: Calls and Work Hours per Day, by Category, Summer 2014

	Per Day	
Category	**Calls**	**Work Hours**
Arrest	0.2	0.3
Agency assist	4.2	2.4
Crime	3.0	5.5
General noncriminal	0.7	0.6
Investigations	6.8	5.5
Suspicious incident	3.9	5.3
Traffic	7.1	4.9
Total	**25.9**	**24.5**

Observations:

- Total calls averaged 26 per day, or 1.1 per hour.

- Total workload averaged 24 hours per day, meaning that on average 1.0 officer per hour was busy responding to calls.

- Traffic-related calls (enforcement and accidents) constituted 27 percent of calls and 20 percent of workload.

- Investigations constituted 26 percent of calls and 22 percent of workload.

- Agency assists constituted 16 percent of calls and 10 percent of workload.

- These top three categories constituted 70 percent of calls and 52 percent of workload.

- Crimes constituted 12 percent of calls and 22 percent of workload.

FIGURE 6-10: Percentage Calls and Work Hours, by Category, Winter 2015
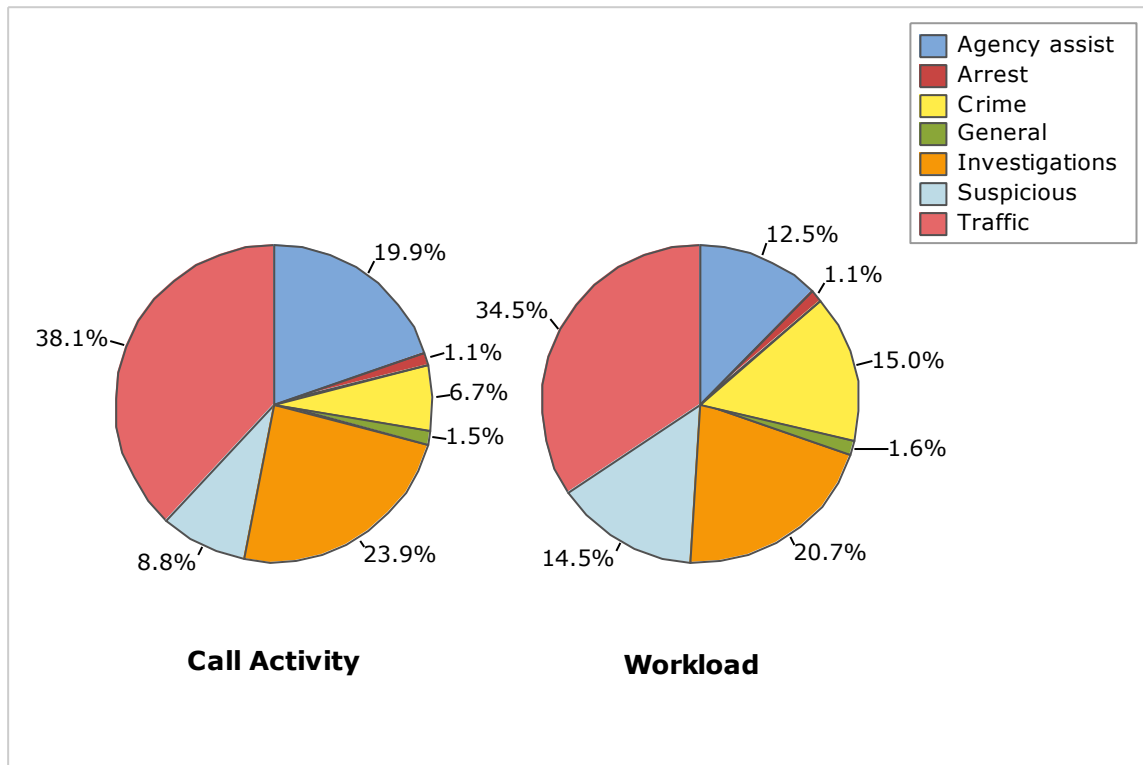
TABLE 6-10: Calls and Work Hours per Day, by Category, Winter 2015

Category	Per Day	
	Calls	Work Hours
Arrest	0.3	0.3
Agency assist	5.3	2.7
Crime	1.8	3.3
General noncriminal	0.4	0.4
Investigations	6.3	4.5
Suspicious incident	2.3	3.2
Traffic	10.1	7.6
Total	**26.5**	**21.9**

Note: Workload calculations focused on calls rather than events.

Observations:

- The average daily workload was higher in summer than in winter.

- The average number of calls per day was higher in winter than in summer.

- Total calls averaged 26 per day, or 1.1 per hour.

- Total workload averaged 22 hours per day, meaning that on average 0.9 officers per hour were busy responding to calls.

- Traffic-related calls constituted 38 percent of calls and 34 percent of workload.

- Investigations constituted 24 percent of calls and 21 percent of workload.

- Agency assists constituted 20 percent of calls and 13 percent of workload.

- These top three categories constituted 82 percent of calls and 68 percent of workload.

- Crimes constituted 7 percent of calls and 15 percent of workload.

Noncall Activities

In the period from May 2014 to April 2015, the dispatch center recorded some activities that were not assigned a call number. We focused on those activities that involved a patrol unit. 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 activities lasted more than 8 hours. As an activity is unlikely to last more than 8 hours, we assumed that these records were inaccurate.

- After these exclusions, 1,205 activities remained.

There were three categories of noncall activities recorded by the dispatch center. These were "Busy," "Unavailable," and "Uncontrolled". In this section, we describe an activity's average duration, and report on the variation of noncall activities by month, day of week, and time of day. In the next section, we include these activities in the overall workload when comparing the total workload against available personnel in summer and winter.

FIGURE 6-11: Percentage Activities and Work Hours, by Category
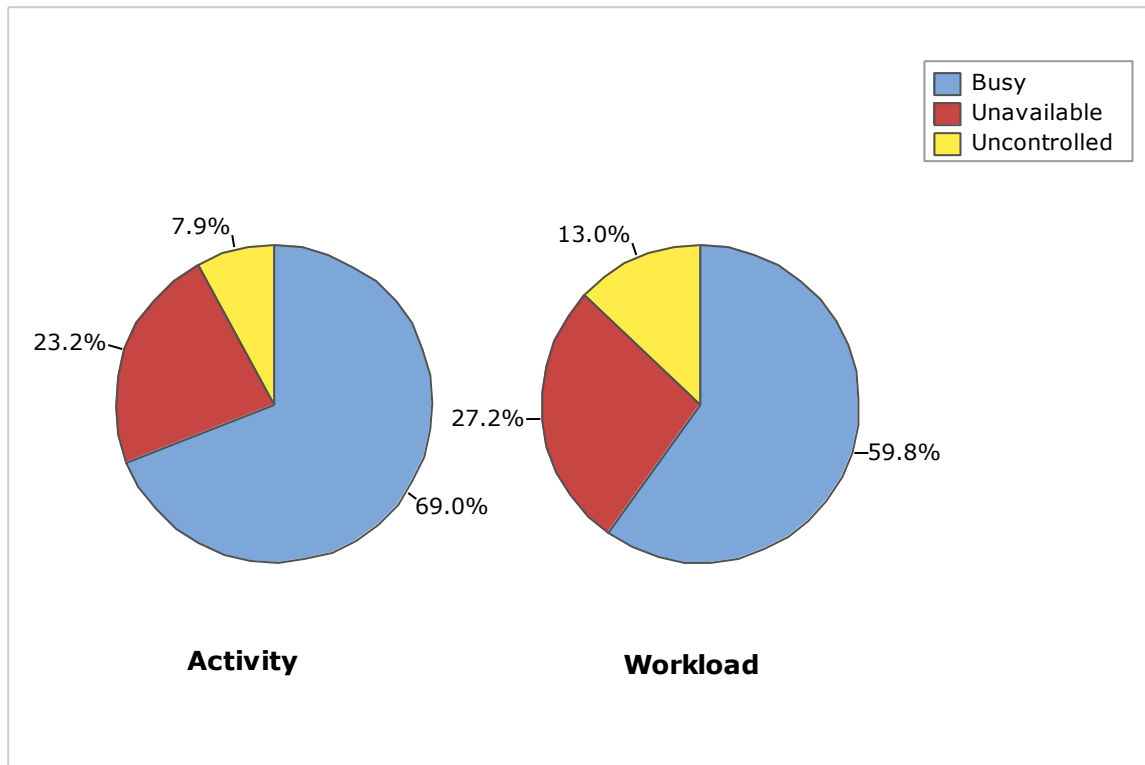
TABLE 6-11: Average Occupied Times, by Category

Category	Per Day	
	Activity	Work Hours
Busy	2.1	2.4
Unavailable	0.7	1.1
Uncontrolled	0.2	0.5
Total	**3.1**	**3.9**

Observations:

- The number of activities averaged about three per day and the workload averaged about four hours per day.

FIGURE 6-12: Activities per Day, by Month
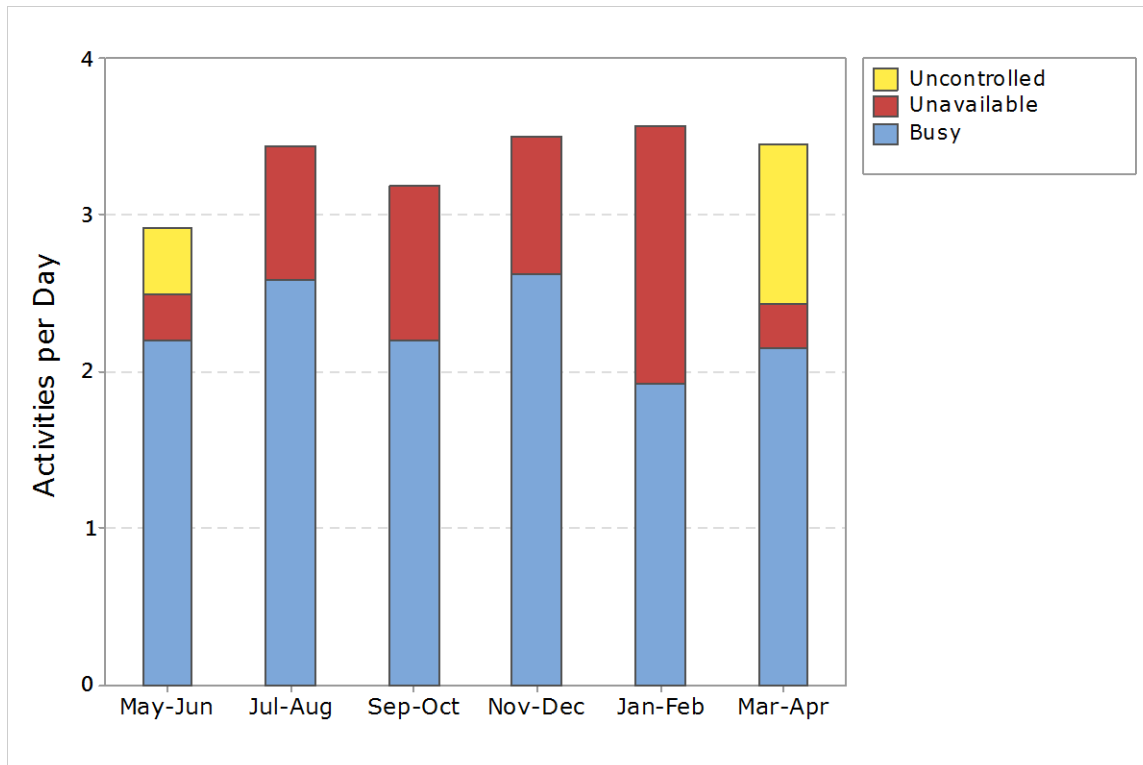
TABLE 6-12: Activities per Day, by Month

Months	Activities per Day			
	Busy	**Unavailable**	**Uncontrolled**	**Total**
May-June	2.2	0.3	0.4	2.9
July-August	2.6	0.9	0.0	3.4
September-October	2.2	1.0	0.0	3.2
November-December	2.6	0.9	0.0	3.5
January-February	1.9	1.6	0.0	3.6
March-April	2.2	0.3	1.0	3.4
Yearly Average	**2.1**	**0.7**	**0.2**	**3.1**

Observations:

- The percentage of activities categorized as "Busy" ranged between 54 and 75 percentage of the total throughout the year.

- Uncontrolled activities were only recorded in the periods from May 2014 to June 2014 and from March 2015 to April 2015.

FIGURE 6-13: Activities per Hour, by Hour of Day
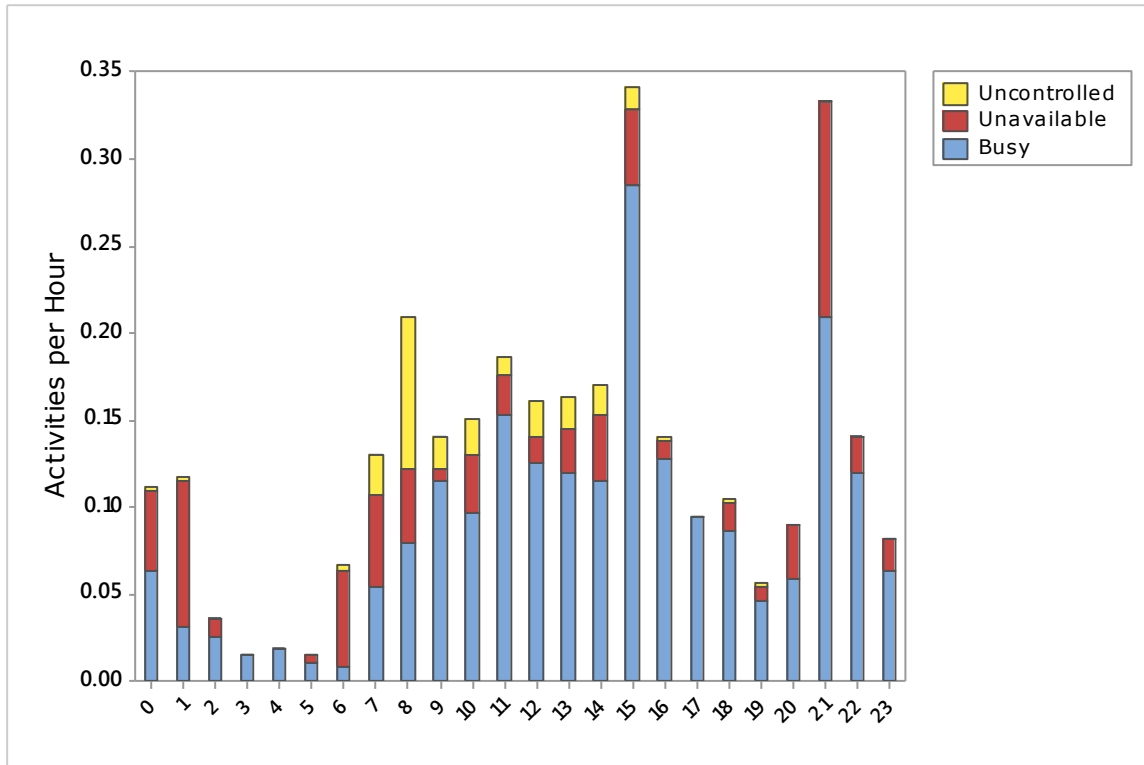
TABLE 6-13: Activities per Hour, by Hour of Day

Hour	Activities per Hour			
	Busy	Unavailable	Uncontrolled	Total
0	0.06	0.05	0.00	0.11
1	0.03	0.08	0.00	0.12
2	0.03	0.01	0.00	0.04
3	0.02	0.00	0.00	0.02
4	0.02	0.00	0.00	0.02
5	0.01	0.01	0.00	0.02
6	0.01	0.06	0.00	0.07
7	0.05	0.05	0.02	0.13
8	0.08	0.04	0.09	0.21
9	0.11	0.01	0.02	0.14
10	0.10	0.03	0.02	0.15
11	0.15	0.02	0.01	0.19
12	0.13	0.02	0.02	0.16
13	0.12	0.03	0.02	0.16
14	0.11	0.04	0.02	0.17
15	0.29	0.04	0.01	0.34
16	0.13	0.01	0.00	0.14
17	0.09	0.00	0.00	0.09
18	0.09	0.02	0.00	0.10
19	0.05	0.01	0.00	0.06
20	0.06	0.03	0.00	0.09
21	0.21	0.13	0.00	0.33
22	0.12	0.02	0.00	0.14
23	0.06	0.02	0.00	0.08
Total	**2.12**	**0.71**	**0.24**	**3.07**

Observations:

- The number of activities was highest between 3:00 p.m. and 4:00 p.m. and between 9:00 p.m. and 10:00 p.m., with the 'Busy' category accounting for a majority of the work.

Deployment

For this study, CPSM examined deployment information for eight weeks in summer (July 7 through August 31, 2014) and eight weeks in winter (January 4 through February 28, 2015). The police department's patrol force includes patrol officers and sergeants.

The Cumru Police Department's patrol force is scheduled in three 10-hour shifts starting at 6:30 a.m., 3:00 p.m., and 9:00 p.m. This leads to a 30-minute overlap from 6:30 a.m. to 7:00 a.m., a 90-minute overlap from 3:00 p.m. to 4:30 p.m., and a four-hour overlap from 9:00 p.m. to 1:00 a.m. The police department's patrol force deployed an average of 3.0 officers per hour during the 24-hour day in the eight weeks in summer 2014 and in winter 2015.

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 deployment against workload based on other-initiated calls for service.

- Finally, we compare "all" workload, which includes police-initiated calls and directed patrol activities.

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

FIGURE 6-14: Deployed Officers, Weekdays, Summer 2014
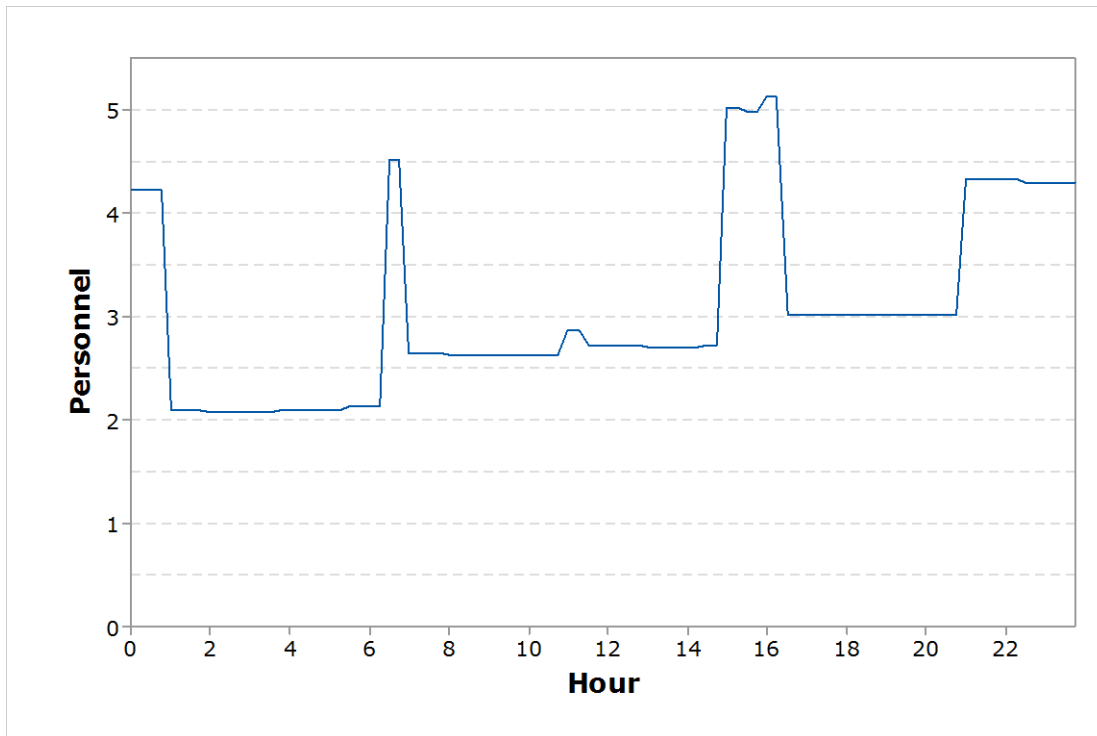
FIGURE 6-15: Deployed Officers, Weekends, Summer 2014
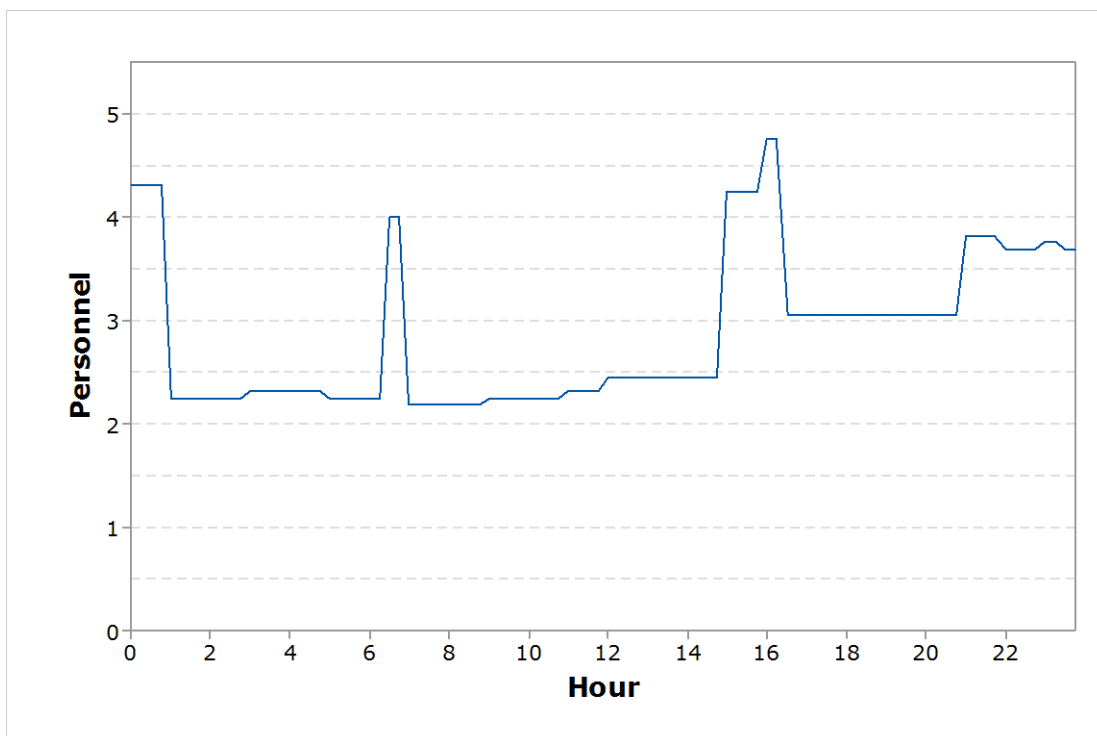
FIGURE 6-16: Deployed Officers, Weekdays, Winter 2015
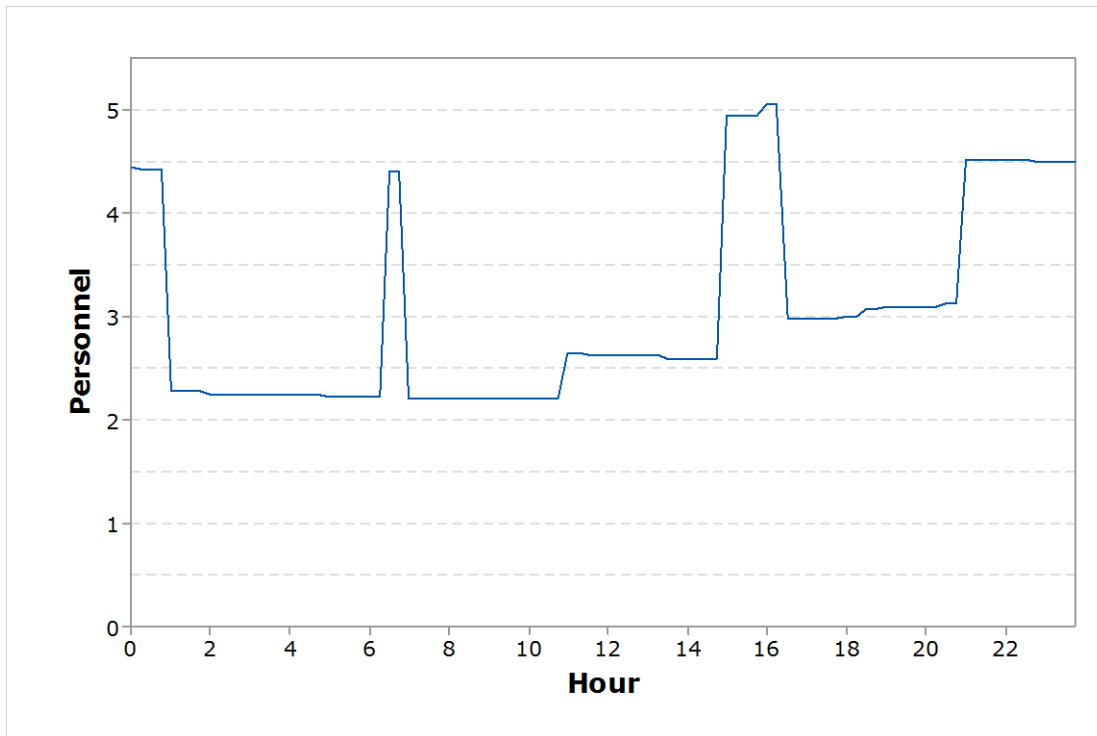
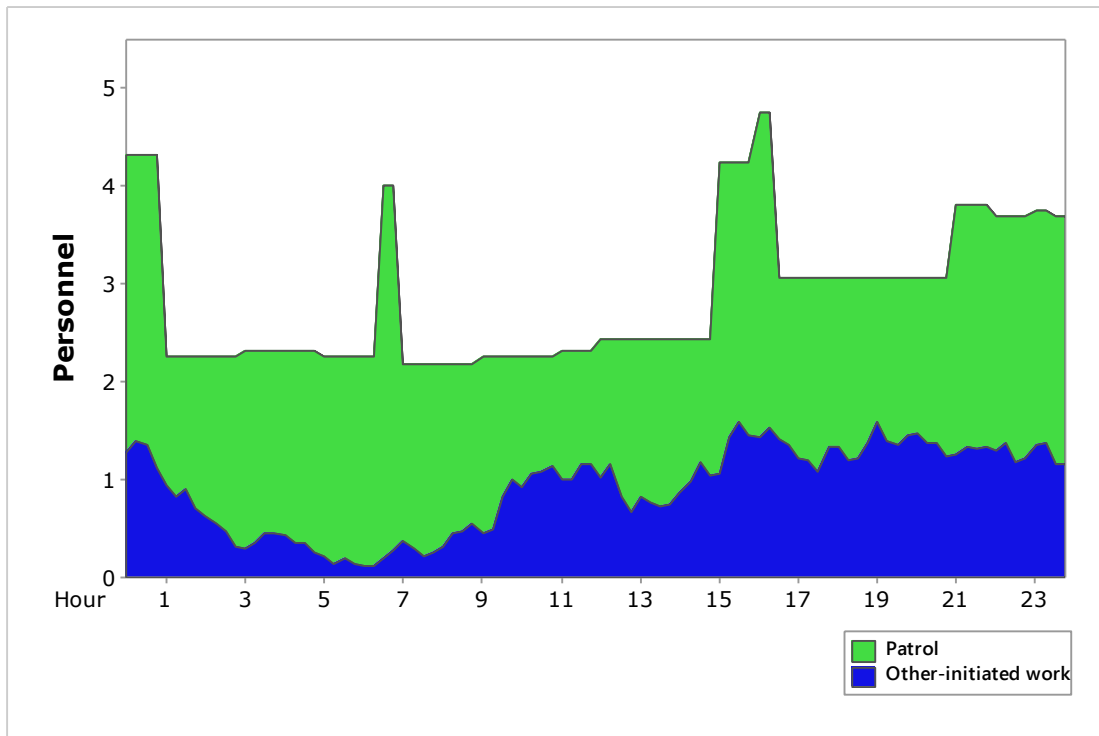**FIGURE 6-17: Deployed Officers, Weekends, Winter 2015**
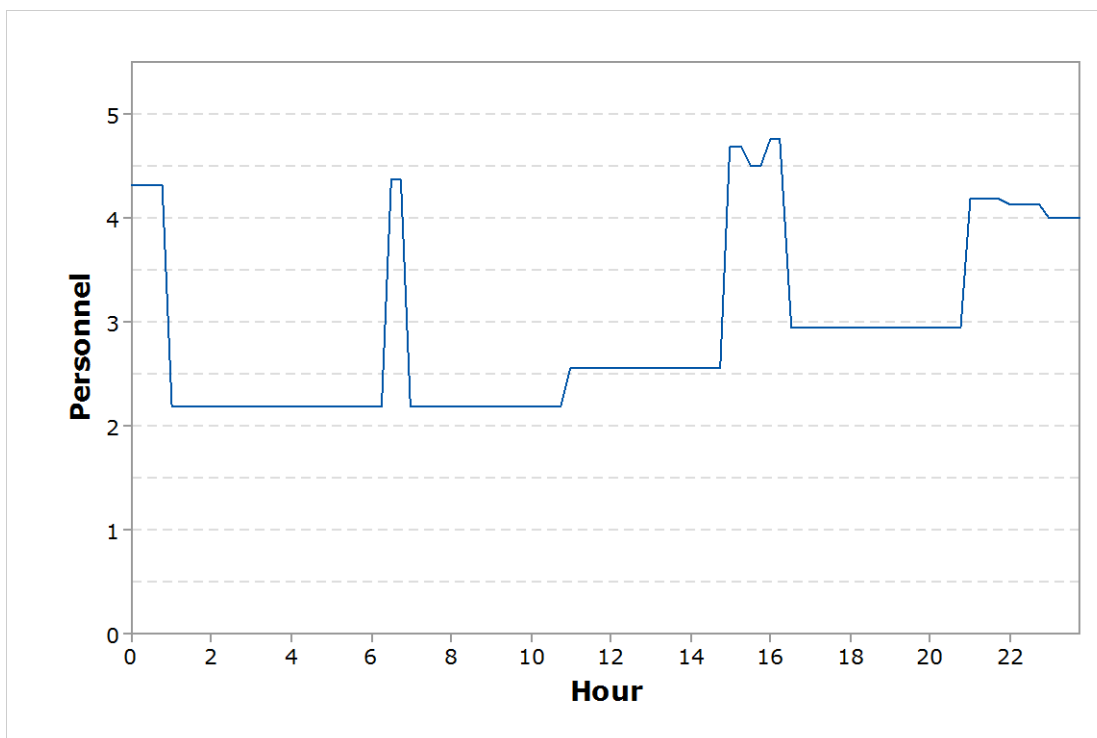
Observations:

- For summer:
  - The average deployment was 3.1 officers per hour during the week and 2.9 officers per hour on the weekend.
  - Average deployment varied from 2.1 to 5.1 officers per hour on weekdays and 2.2 to 4.8 officers per hour on weekends.
- For winter:
  - The average deployment was 3.0 officers per hour during the week and 2.9 officers per hour on the weekend.
  - Average deployment varied from 2.2 to 5.0 officers per hour on weekdays and 2.2 to 4.8 officers per hour on weekends.

FIGURE 6-18: Deployment and Other-Initiated Workload, Weekdays, Summer 2014
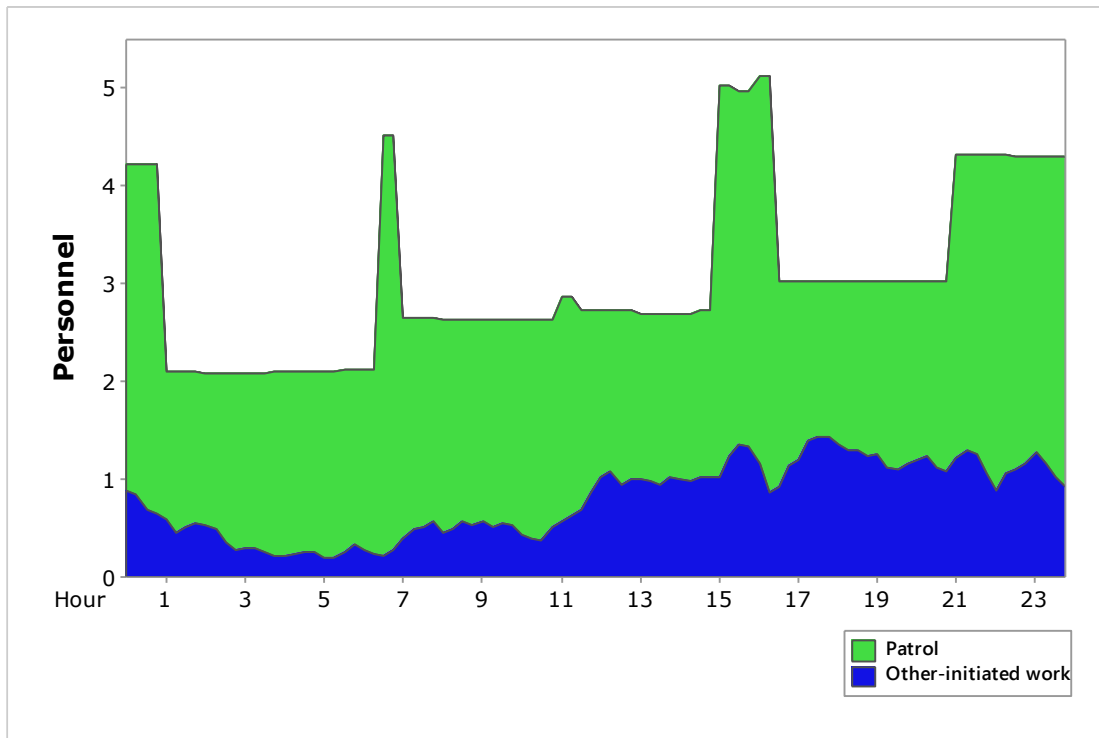
FIGURE 6-19: Deployment and Other-Initiated Workload, Weekends, Summer 2014

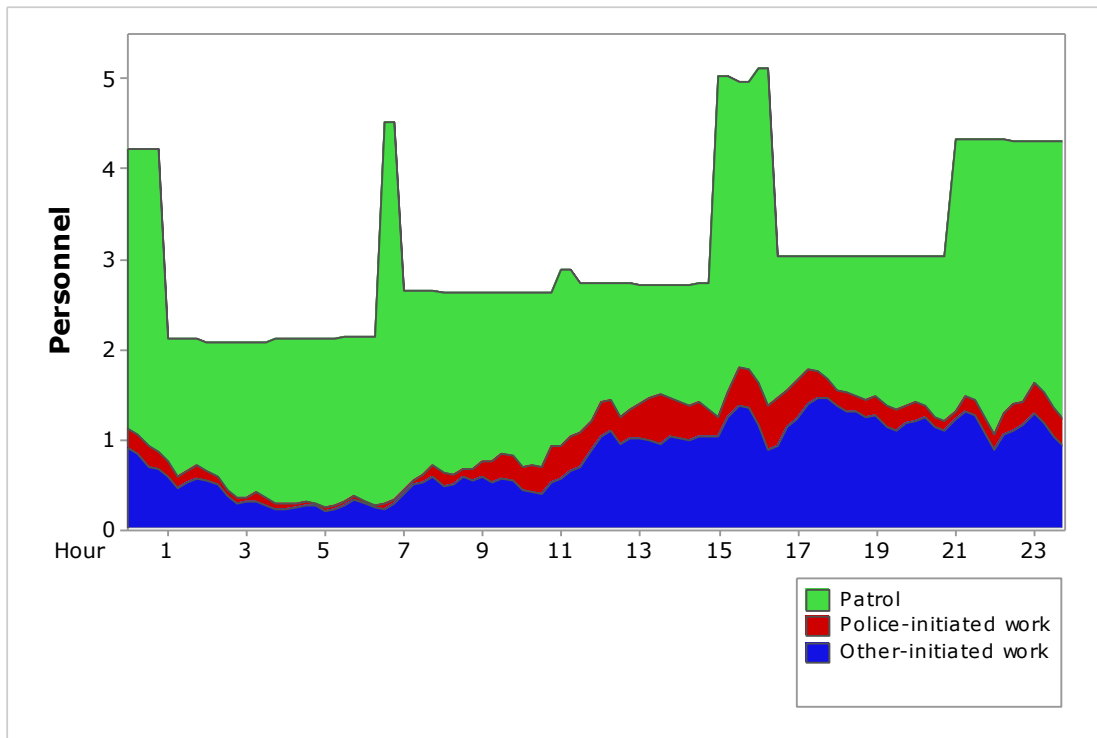**FIGURE 6-20: Deployment and Other-Initiated Workload, Weekdays, Winter 2015**
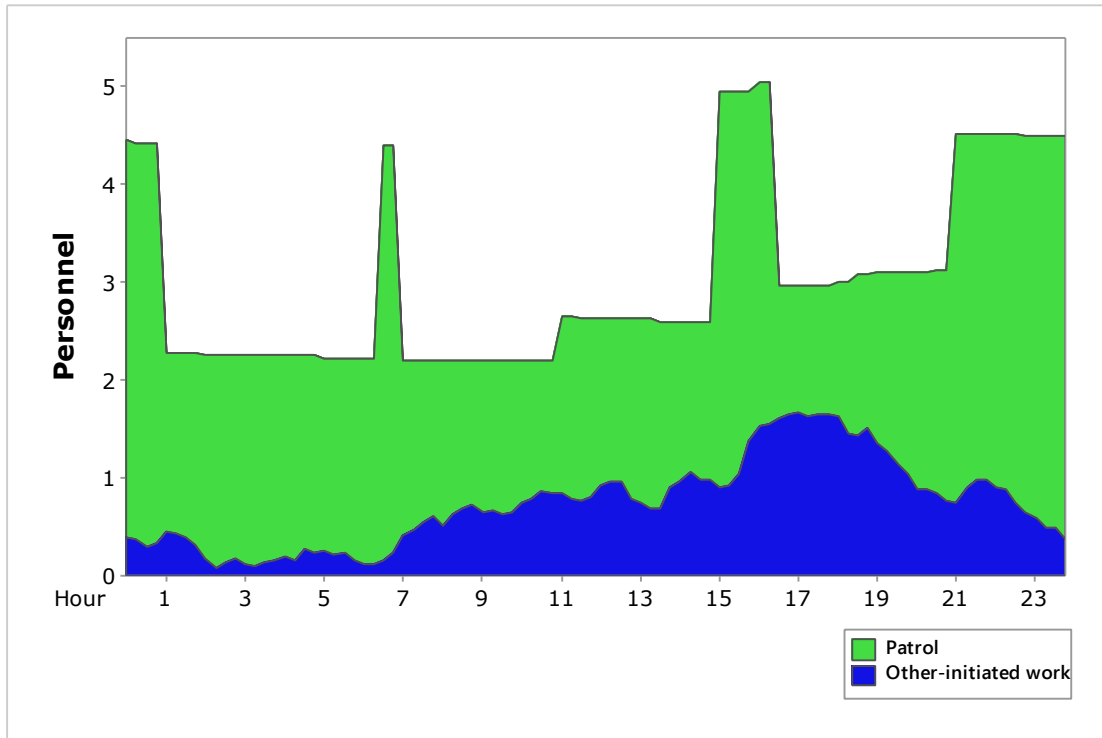
FIGURE 6-21: Deployment and Other-Initiated Workload, Weekends, Winter 2015
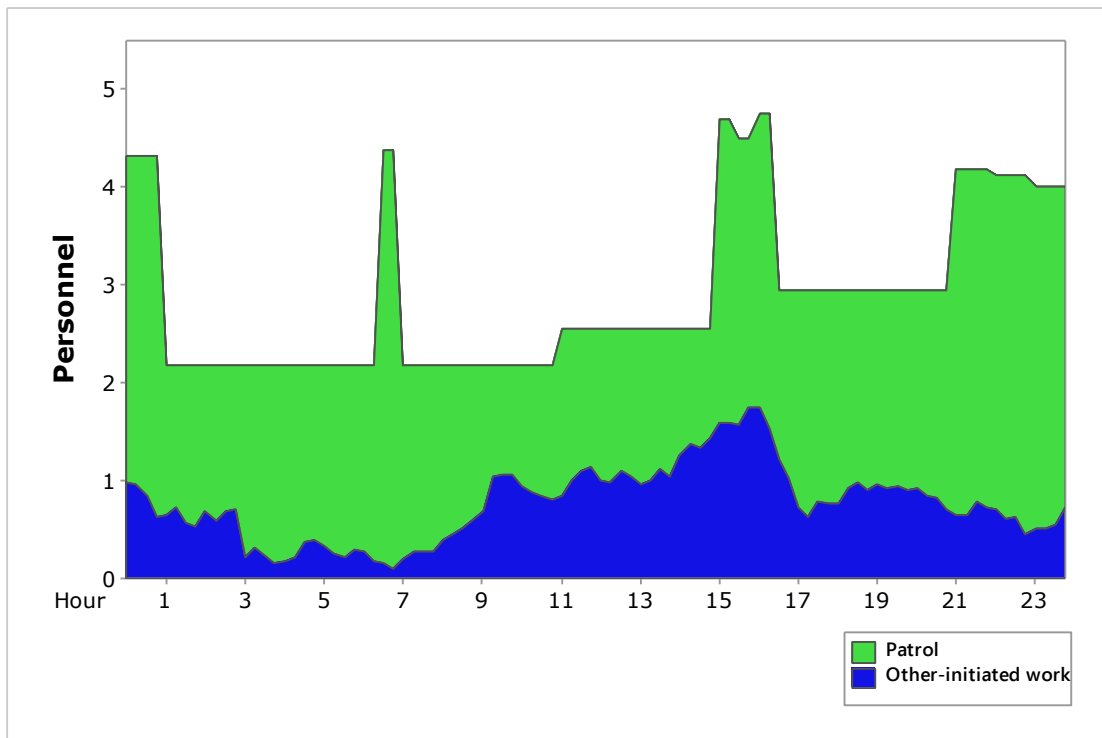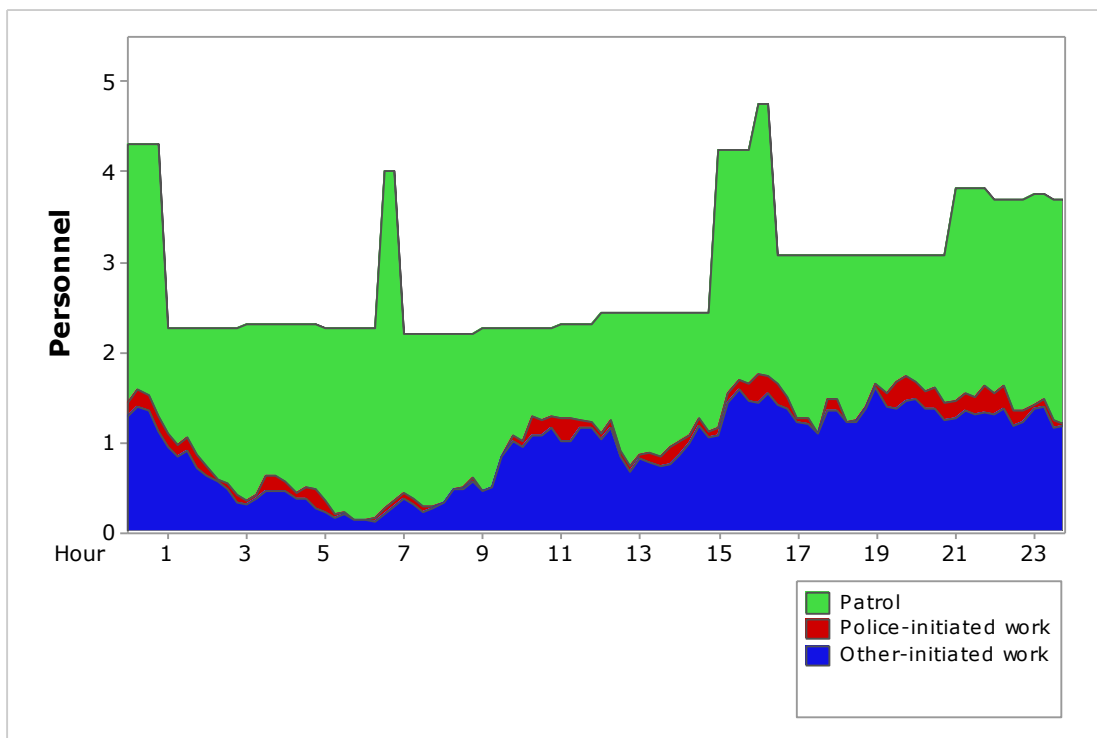
Observations:

- For summer:
  - ○ Average other-initiated workload was 0.8 officers per hour during the week and 0.9 officers per hour on weekends.
  - ○ This was approximately 26 percent of hourly deployment during the week and 32 percent of hourly deployment on weekends.
  - ○ During the week, workload reached a maximum of 48 percent of deployment between 5:30 p.m. and 6:00 p.m.
  - ○ On weekends, workload reached a maximum of 52 percent of deployment between 7:00 p.m. and 7:15 p.m.
- For winter:
  - ○ Average other-initiated workload was 0.7 officers per hour during the week and 0.8 officers per hour on weekends.
  - ○ This was approximately 24 percent of hourly deployment during the week and 26 percent of hourly deployment on weekends.
  - ○ During the week, workload reached a maximum of 56 percent of deployment between 4:45 p.m. and 5:15 p.m. and between 5:30 p.m. and 5:45 p.m.
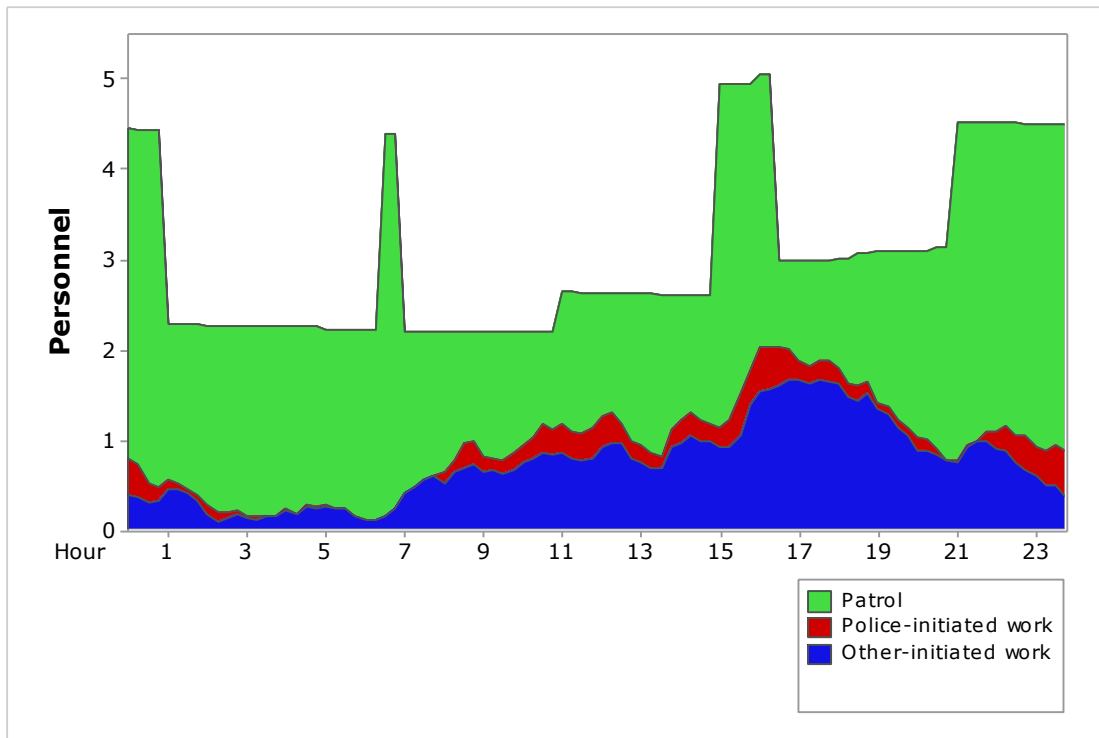 - ○ On weekends, workload reached a maximum of 56 percent of deployment between 2:45 p.m. and 3:00 p.m.

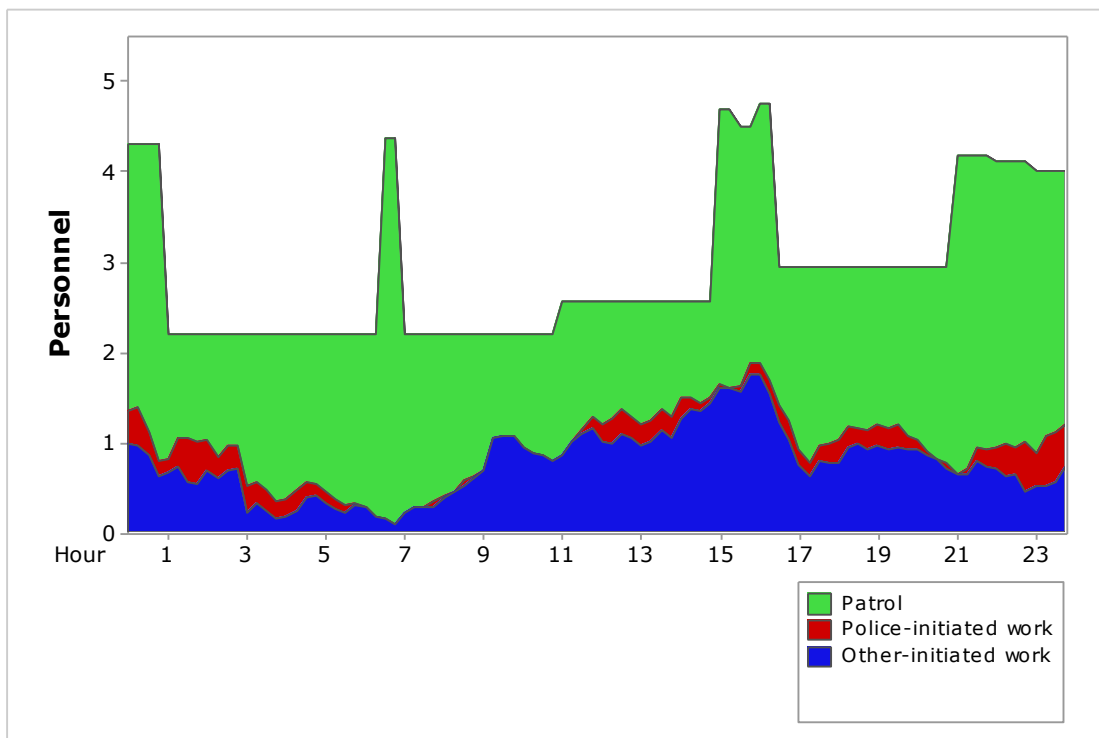**FIGURE 6-22: Deployment and Main Workload, Weekdays, Summer 2014**

FIGURE 6-23: Deployment and Main Workload, Weekends, Summer 2014

FIGURE 6-24: Deployment and Main Workload, Weekdays, Winter 2015

FIGURE 6-25: Deployment and Main Workload, Weekends, Winter 2015
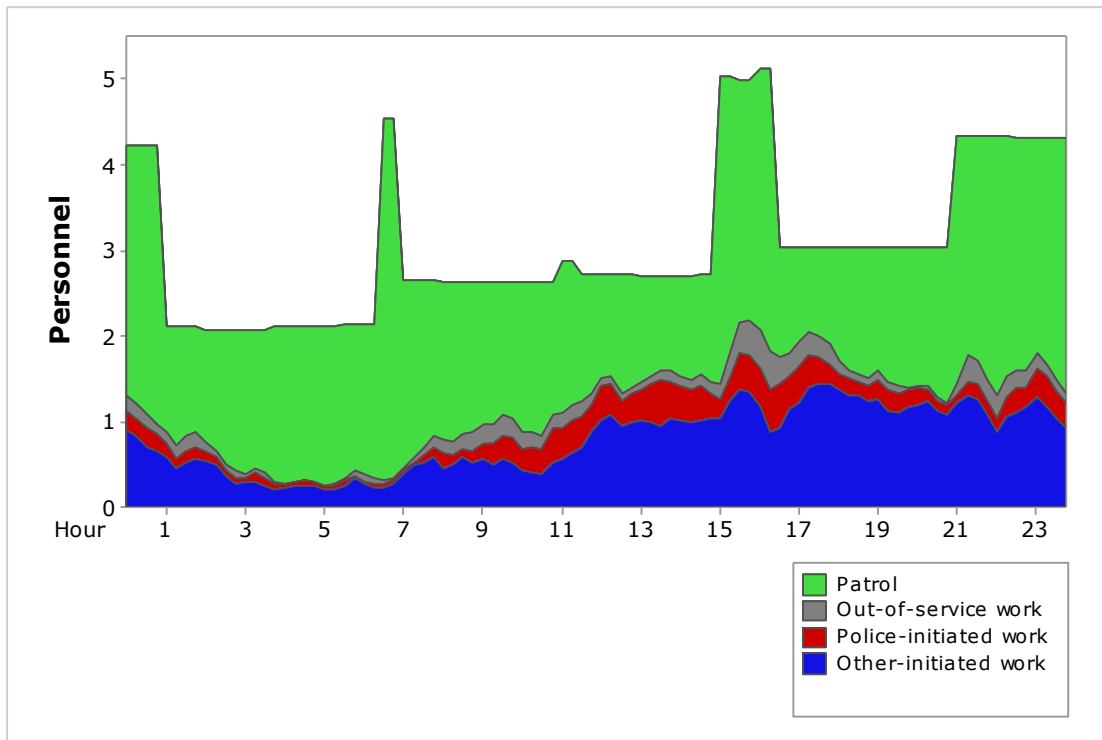

Note: Figures 6-22 to 6-25 show deployment along with workload from other-initiated and police-initiated calls.
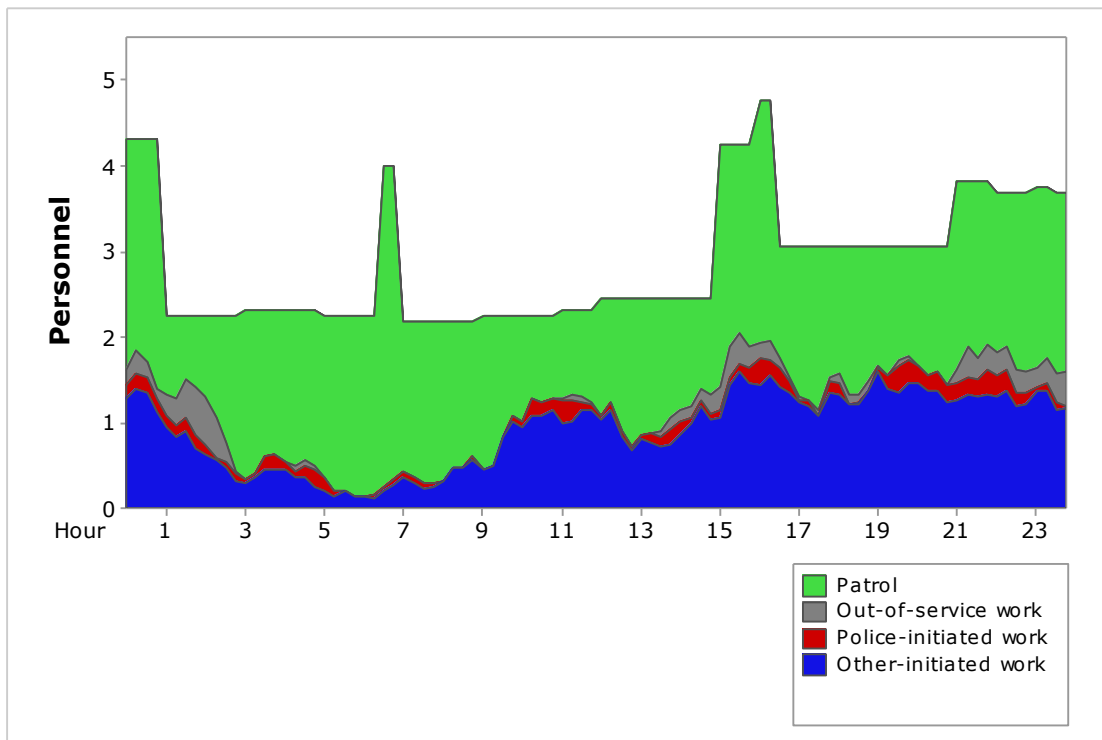
Observations:

- For summer:
  - Average workload was 1.0 officers per hour during the week and 1.0 officers per hour on weekends.
  - This was approximately 33 percent of hourly deployment during the week and 36 percent of hourly deployment on weekends.
  - During the week, workload reached a maximum of 58 percent of deployment between 5:15 p.m. and 5:45 p.m.
  - On weekends, workload reached a maximum of 57 percent of deployment between 10:45 a.m. and 11:00 a.m.
- For winter:
  - Average workload was 0.9 officers per hour during the week and 0.9 officers per hour on weekends.
  - This was approximately 30 percent of hourly deployment during the week and 32 percent of hourly deployment on weekends.
  - During the week, workload reached a maximum of 68 percent of deployment between 4:30 p.m. and 4:45 p.m.
  - On weekends, workload reached a maximum of 58 percent of deployment between 2:00 p.m. and 2:30 p.m. and between 2:45 p.m. and 3:00 p.m.

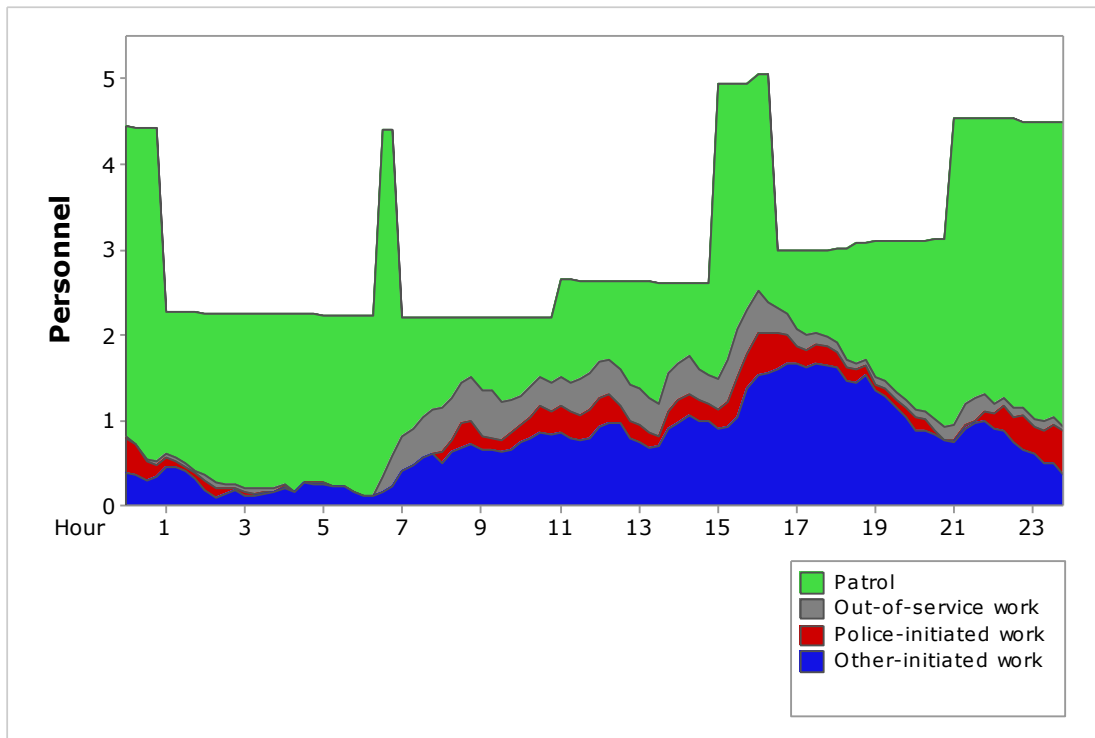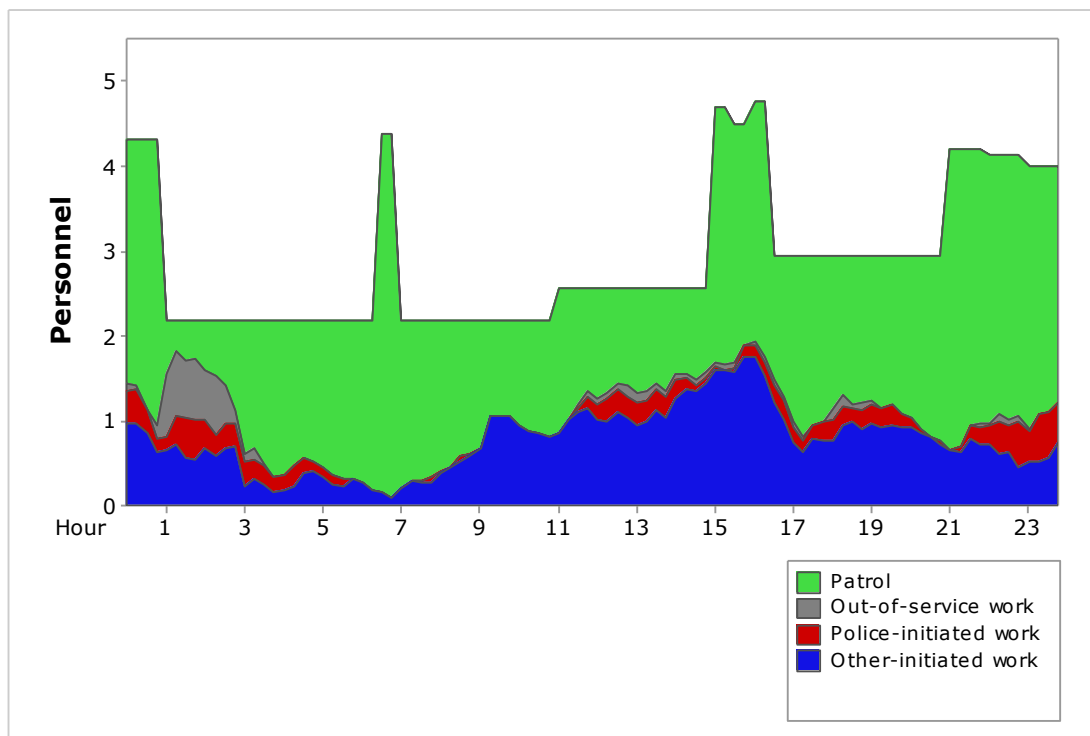## FIGURE 6-26: Deployment and All Workload, Weekdays, Summer 2014

FIGURE 6-27: Deployment and All Workload, Weekends, Summer 2014

FIGURE 6-28: Deployment and All Workload, Weekdays, Winter 2015

FIGURE 6-29: Deployment and All Workload, Weekends, Winter 2015

Note: Figures 6-26 to 6-29 show deployment along with all workload from other-initiated calls, police-initiated calls, directed patrol activities, and out-of-service (noncall) activities.

Observations:

- For summer:

  ○ Average workload was 1.2 officers per hour during the week and 1.1 officers per hour on weekends.

  ○ This was approximately 38 percent of hourly deployment during the week and 39 percent of hourly deployment on weekends.

  ○ During the week, workload reached a maximum of 68 percent of deployment between 5:15 p.m. and 5:30 p.m.

  ○ On weekends, workload reached a maximum of 67 percent of deployment between 1:30 a.m. and 1:45 a.m.

- For winter:

  ○ Average workload was 1.1 officers per hour during the week and 1.0 officers per hour on weekends.

  ○ This was approximately 37 percent of hourly deployment during the week and 35 percent of hourly deployment on weekends.

  ○ During the week, workload reached a maximum of 78 percent of deployment between 4:30 p.m. and 4:45 p.m.

  ○ On weekends, workload reached a maximum of 83 percent of deployment between 1:15 a.m. and 1:30 a.m.

Response Times

We analyzed the response times to various types of calls, separating the duration into dispatch 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 1,527 events for summer and 1,618 events for winter. We limited our analysis to 1,065 other-initiated calls for summer and 1,051 calls for winter. After excluding calls without valid arrival times and calls that were stacked, we were left with 589 calls in summer and 531 calls in winter for our analysis. For the entire year, we began with 9,637 calls, limited our analysis to 6,889 other-initiated calls, and further focused our analysis on 3,656 calls after excluding those lacking valid arrival times and calls that were stacked.

Our initial analysis does not distinguish calls on the basis of their priority; instead, it examines the difference in response for all calls by time of day and compares summer and winter periods. We then present a brief analysis of response time for high-priority calls alone.

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 season (winter versus summer), we show differences in response times by category.

FIGURE 6-30: Average Response Time, by Hour of Day, Winter 2015 and Summer 2014
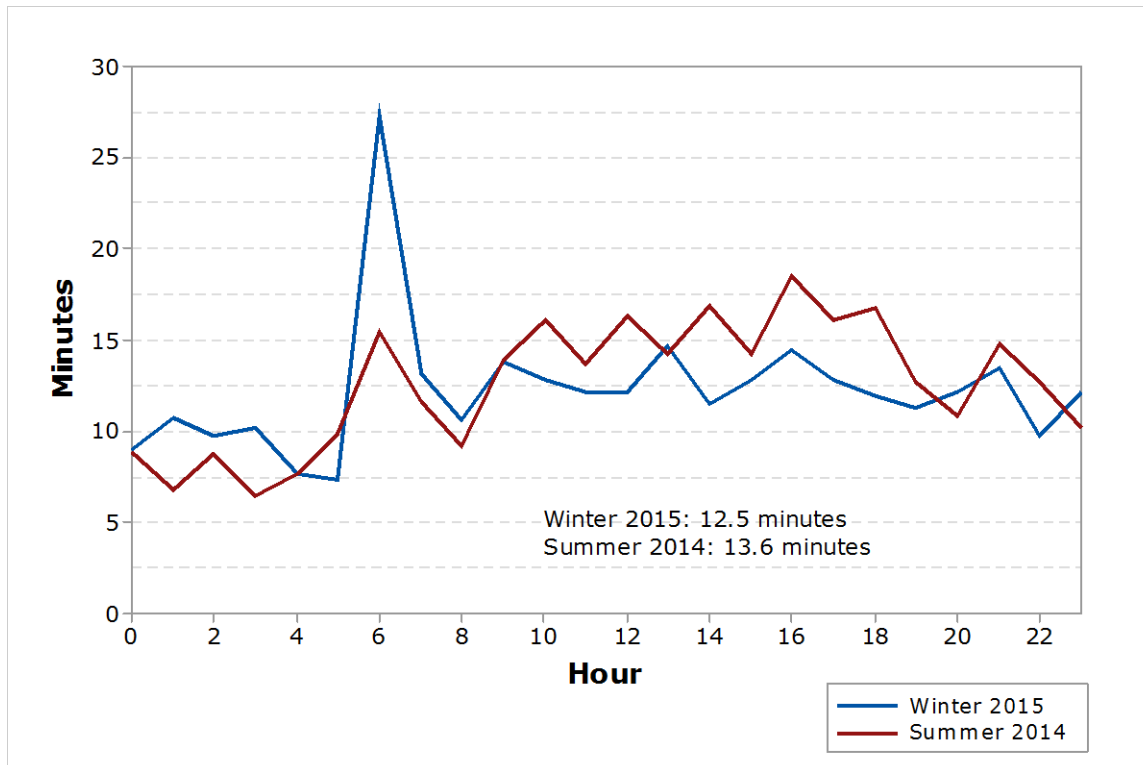
Observations:

- Average response times varied significantly by hour of day.

- In summer, the longest response times were between 4:00 p.m. and 5:00 p.m. with an average of 18.4 minutes.

- In summer, the shortest response times were between 3:00 a.m. and 4:00 a.m. with an average of 6.5 minutes.

- In winter, the longest response times were between 6:00 a.m. and 7:00 a.m. with an average of 27.3 minutes.

- In winter, the shortest response times were between 5:00 a.m. and 6:00 a.m. with an average of 7.4 minutes.

FIGURE 6-31: Average Response Time by Category, Summer 2014
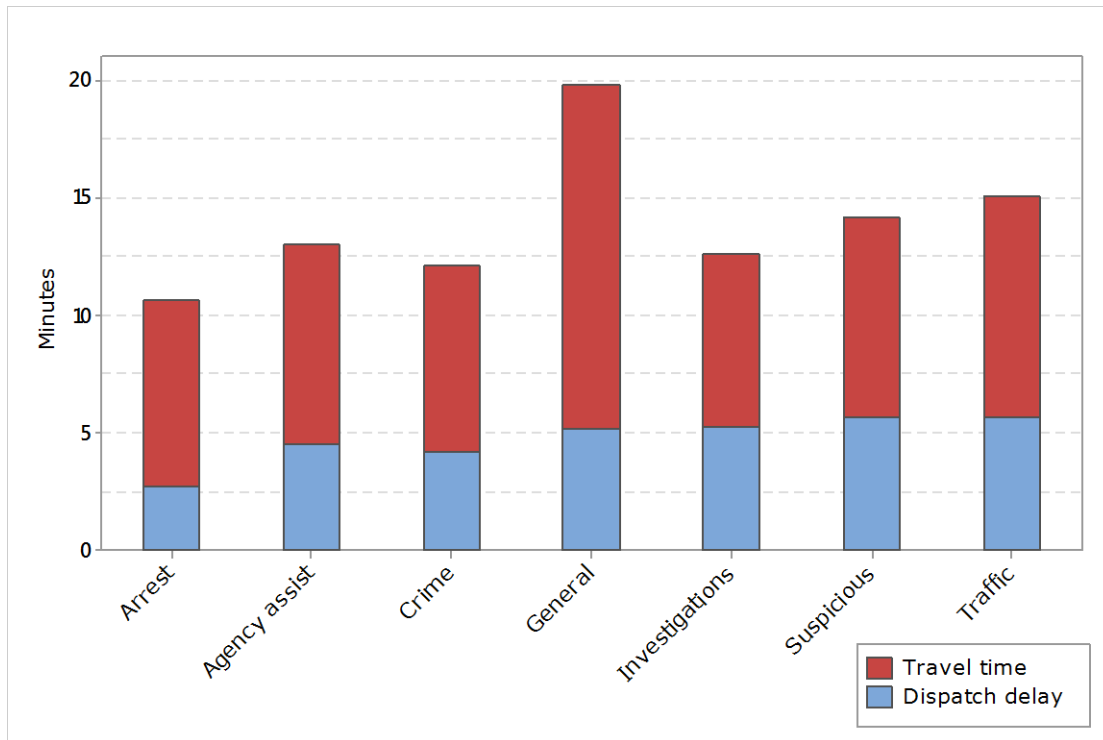
FIGURE 6-32: Average Response Time by Category, Winter 2015
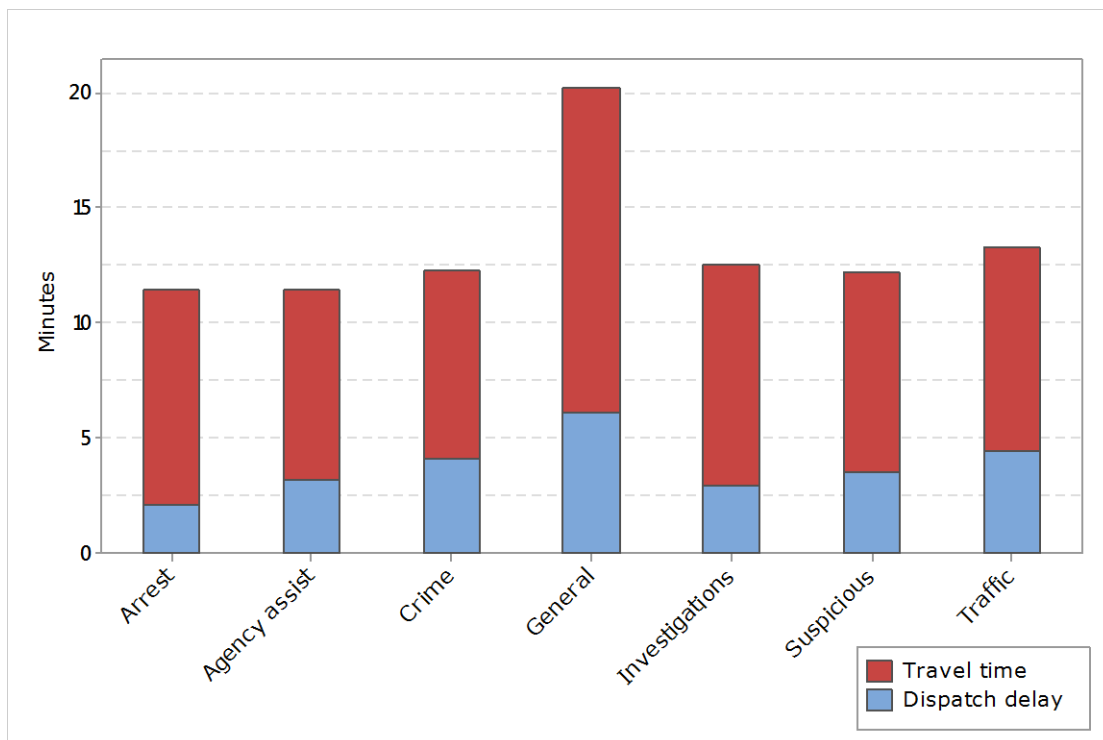
TABLE 6-14: Average Response Time Components, by Category

Category	Summer			Winter		
	Dispatch	**Travel**	**Response**	**Dispatch**	**Travel**	**Response**
Arrest	2.7	8.0	10.7	2.1	9.4	11.5
Agency assist	4.5	8.5	13.0	3.2	8.2	11.4
Crime	4.2	7.9	12.1	4.1	8.1	12.3
General	5.2	14.7	19.8	6.1	14.2	20.2
Investigations	5.2	7.4	12.6	2.9	9.6	12.5
Suspicious	5.6	8.5	14.1	3.5	8.7	12.2
Traffic	5.6	9.4	15.1	4.4	8.9	13.3
Total Average	**5.0**	**8.5**	**13.6**	**3.6**	**8.9**	**12.5**

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

Observations:

- In summer, the average response time for most categories was between 11 minutes and 15 minutes.

- In summer, the average response time was as short as 11 minutes (for arrests) and as long as 20 minutes (for general noncriminal calls).

- In winter, the average response time for most categories was between 11 minutes and 13 minutes.

- In winter, the average response time was as short as 11 minutes (for arrests and agency assists) and as long as 20 minutes (for general noncriminal calls).

- The average response time for crimes was 12 minutes in August and in February.

TABLE 6-15: 90th Percentiles for Response Time Components, by Category

Category	Summer			Winter		
	Dispatch	**Travel**	**Response**	**Dispatch**	**Travel**	**Response**
Arrest	8.1	15.6	19.1	6.1	15.0	21.1
Agency assist	6.8	15.6	22.3	5.7	14.1	17.0
Crime	9.6	14.8	22.6	11.3	19.4	22.2
General	17.2	38.8	45.5	25.5	64.6	71.3
Investigations	12.1	13.3	23.9	5.4	15.3	22.8
Suspicious	10.9	18.8	24.9	6.7	15.0	22.5
Traffic	12.7	19.3	28.8	6.8	15.6	25.2
Total Average	**9.9**	**15.9**	**24.2**	**6.7**	**15.1**	**21.1**

Note: A 90th percentile value of 24 minutes means that 90 percent of all calls are responded to in fewer than 24 minutes. For this reason, the columns for dispatch delay and travel time may not be equal to the total response time.

Observations:

- In summer, the 90th percentile value for response time was as short as 19 minutes (for arrests) and as long as 46 minutes (for general noncriminal calls).

- In winter, the 90th percentile value for response time was as short as 17 minutes (for agency assists) and as long as 71 minutes (for general noncriminal calls).
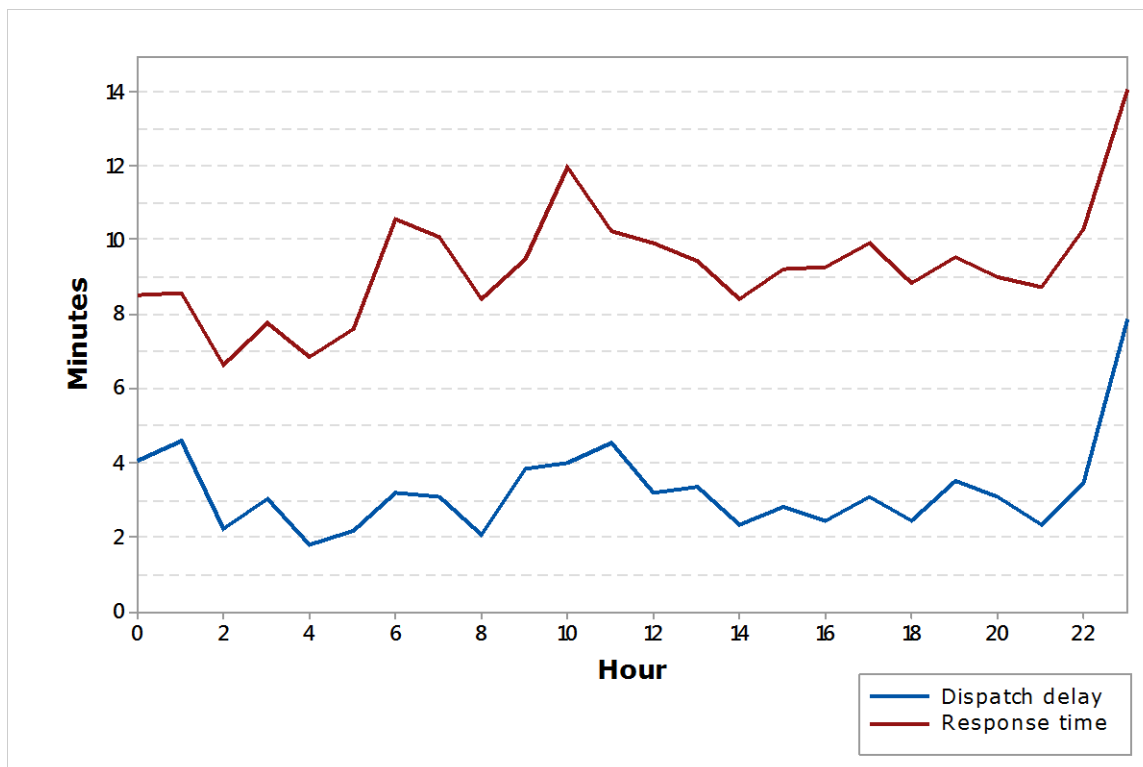
High-Priority Calls

Priority codes of Critical, High, and Low were assigned to calls by the department. We calculated the average response time components for each priority. Table 6-16 shows average response times, by priority. Figure 6-33 focuses on high-priority calls. Since there were only 54 calls with a 'Critical' priority assigned to them, we grouped the 'Critical' and 'Critical*' priorities and considered the combined group as high-priority calls.

TABLE 6-16: Average Dispatch, Travel, and Response Times, by Priority

Priority	Dispatch	Travel	Response	Calls
Critical	2.7	6.0	8.7	54
Critical*	3.3	6.2	9.5	799
High	4.2	9.1	13.2	1,105
High*	4.9	8.6	13.5	872
Low	7.1	11.1	18.2	765
Weighted Average	**4.8**	**8.7**	**13.5**	**3,595**

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

FIGURE 6-33: Average Response Times and Dispatch Delays for High-Priority Calls, by Hour

Note: This graph combines both the Critical and Critical* priority calls.

Observations:

- High-priority calls had an average response time of 9.5 minutes, lower than the overall average of 13.5 minutes for all calls.

- Average dispatch delay was 3.3 minutes for high-priority calls, compared to 4.8 minutes overall.

- For high-priority calls, the longest response times were between 11:00 p.m. and midnight, with an average of 14.1 minutes.

- For high-priority calls, the shortest response times were between 2:00 a.m. and 3:00 a.m., with an average of 6.6 minutes.

Appendix A: Call Description Classification

Call descriptions for the department's calls for service from May 1, 2014, to April 30, 2015, were classified within the following categories.

TABLE 6-17: Call Descriptions, by Category

Call Description	Table Category	Figure Category
SERVE PFA/WARRANT	Prisoner–arrest	Arrest
AIRWAY OBSTRUCTION	Assist other agency	Assist other agency
ALS MEDICAL		
ALS TRAUMA		
BCERT		
BF		
BLS MEDICAL		
BLS TRAUMA		
CARDIAC/RESPIRATORY ARREST		
CLASS 4 MENTAL		
CLASS 5 DOA		
CMA/SYMPTOMS		
FIRE POLICE		
FIRE SERVICE		
HAZMAT		
HAZMAT W/SYMPTOMS		
LIFT ASSIST		
MEDICAL ASSIST		
MF		
OVERDOSE		
RESCUE		
SF		
UNCONSCIOUS		
VF		
ASSAULT/FIGHT	Crime–persons	Crime
ASSAULT/FIGHT INJURY - ALS		
ASSAULT/FIGHT INJURY - BLS		
DOMESTIC		
DOMESTIC INJURY - ALS		
DOMESTIC INJURY - BLS		
ROBBERY		
SHOOTING		

Call Description	Table Category	Figure Category
SHOTS FIRED		
SUICIDE		
BURGLARY	Crime–property	
FRAUD		
REPOSESSION		
THEFT		
ANIMAL	Animal calls	General noncriminal
>SELECT CALL TYPE<	Miscellaneous	
ANSWERING SERVICE		
FLUIDS/DEBRIS DOWN		
LOCKOUT		
P		
PUMP		
T		
TREE DOWN		
AFA	Alarm	Investigations
ALARM FINANCIAL HOLD UP		
ALARM POLICE		
CMA		
BOMB THREAT/SUSPICIOUS PACKAGE	Check/investigation	
BUILDING COLLAPSE		
MISSING PERSON		
POLICE SERVICE		
SEARCH		
STRUCTURE INVESTIGATION		
WELFARE CHECK		
DISORDERLY CONDUCT	Disturbance	Suspicious incident
S	Suspicious person/vehicle	
SUSPICIOUS SITUATION		
MVA HIT & RUN	Accidents	Traffic
MVA NO INJURIES		
MVAENT		
MVAENT W/FIRE		
MVAUNK W/FIRE		
MVAWITH		
MVAWITH W/FIRE		
DISABLED VEHICLE	Traffic enforcement	

| Call Description	Table Category	Figure Category
MVAUNK		
PARKING		
RECKLESS DRIVER		
TRAFFIC		
V		

Appendix B: 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. This includes crime reports for 2004 through 2013 along with clearance rates for 2013. It is likely the department has more recent information and which will be included in a separate portion of this study.

TABLE 6-18: Reported Crime Rates in 2013, by City

Agency	State	Population	Violent	Property	Total
Hilltown Township	PA	15,199	85.5	1,460.6	1,546.2
Upper Southampton Township	PA	15,199	52.6	1,315.9	1,368.5
Cumru Township	**PA**	**15,222**	**111.7**	**1,576.7**	**1,688.3**
Lower Salford Township	PA	15,319	32.6	411.3	443.9
Newberry Township	PA	15,361	58.6	1,757.7	1,816.3
Pennsylvania		**12,773,801**	**335.4**	**2,060.8**	**2,396.2**
National		**316,128,839**	**367.9**	**2,730.7**	**3,098.6**

FIGURE 6-34: Reported Violent and Property Crime Rates, by Year

Cumru Crime Rates By Year
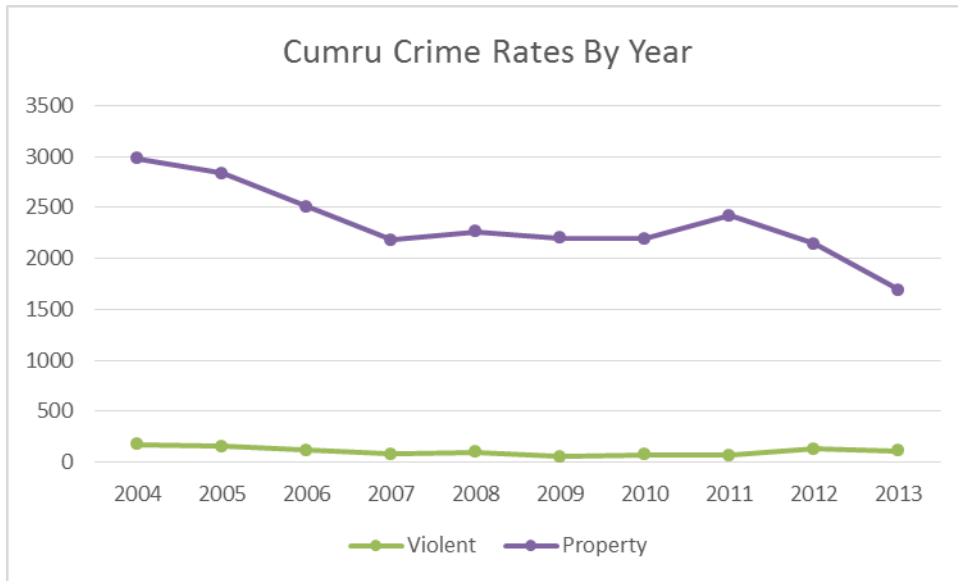
FIGURE 6-35: Reported Municipal and State Crime Rates, by Year

Cumru and Pennsylvania Total Crime Rates
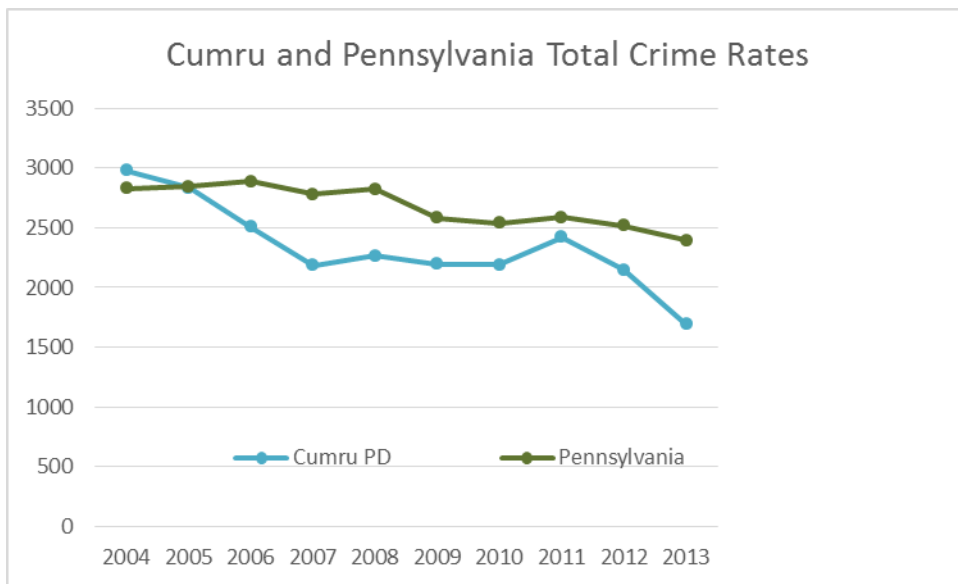
TABLE 6-19: Reported Municipal, State, and National Crime Rates, by Year

Year	Cumru PD				Pennsylvania				National			
	Population	Violent	Property	Total	Population	Violent	Property	Total	Population	Violent	Property	Total
2004	16,918	177.3	2,801.7	2,979.0	12,394,471	411.5	2,417.3	2,828.8	293,656,842	463.2	3,514.1	3,977.3
2005	17,157	157.4	2,675.3	2,832.7	12,405,348	425.0	2,422.0	2,847.0	296,507,061	469.0	3,431.5	3,900.5
2006	17,284	115.7	2,389.5	2,505.2	12,440,621	442.3	2,448.3	2,890.6	299,398,484	479.3	3,346.6	3,825.9
2007	17,595	79.6	2,102.9	2,182.5	12,432,792	416.7	2,363.5	2,780.2	301,621,157	471.8	3,276.4	3,748.2
2008	17,542	96.9	2,166.2	2,263.1	12,448,279	410.0	2,412.3	2,822.3	304,059,724	458.6	3,214.6	3,673.2
2009	17,607	56.8	2,141.2	2,198.0	12,604,767	382.3	2,199.0	2,581.3	307,006,550	431.9	3,041.3	3,473.2
2010	15,147	72.6	2,119.2	2,191.8	12,717,722	366.5	2,173.1	2,539.6	309,330,219	404.5	2,945.9	3,350.4
2011	15,195	65.8	2,356.0	2,421.8	12,743,948	362.4	2,224.1	2,586.5	311,587,816	387.1	2,905.4	3,292.5
2012	15,199	131.6	2,013.3	2,144.9	12,763,536	348.7	2,166.3	2,515.0	313,914,040	386.9	2,859.2	3,246.1
2013	15,222	111.7	1,576.7	1,688.3	12,773,801	335.4	2,060.8	2,396.2	316,128,839	367.9	2,730.7	3,098.6

TABLE 6-20: Reported Cumru PD Clearance Rates in 2013

Type	Cumru Township			Pennsylvania			National*		
	Crimes	Clearances	Rate	Crimes	Clearances	Rate	Crimes	Clearances	Rate
Murder/Manslaughter	0	0	N/A	630	463	73%	14,749	9,106	62%
Rape	1	0	0%	3,782	2,174	57%	96,316	36,794	38%
Robbery	11	8	73%	14,720	5,447	37%	341,538	95,591	28%
Aggravated Assault	5	5	100%	23,618	16,847	71%	713,479	395,145	55%
Burglary	45	16	36%	51,859	10,192	20%	1,884,360	240,004	13%
Larceny	182	96	53%	196,688	57,168	29%	5,882,210	1,272,290	22%
Vehicle Theft	13	3	23%	13,735	3,341	24%	690,038	95,111	14%

Note: The national results includes all reporting agencies for 2013. The FBI excludes some of these agencies from their calculations. For this reason, the numbers will not match those within the FBI's annual report.