

**Performance Audit:
Police Patrol Officer Availability**

April 2009

**City Auditor's Office
City of Atlanta**



CITY OF ATLANTA

City Auditor's Office
Leslie Ward, City Auditor
404.330.6452

April 2009

Why We Did This Audit

The Atlanta Police Department accounted for about one third of the city's general fund budget in fiscal year 2009, and personnel costs make up more than 93% of the department's budget. This audit seeks to examine the department's existing deployment strategy and whether it is sufficient to cover service requests by citizens. Furthermore, this audit will provide the police department with tools to aid in the strategic deployment of officers to patrol zones.

What We Recommended

Our recommendations are intended to assist the Atlanta Police Department to better use its CAD data to support strategic patrol deployment decisions.

- The police department should regularly measure and report on blackout and uncommitted time, in each zone and for the department as a whole, and use these measures as tools to strategically deploy patrol resources.
- The police department should set a goal for the percentage of uncommitted time in each zone and consider uncommitted time as well as blackout in assigning resources.

We have made our program code available to the police department, and are working with the department to evaluate the effect of recent changes, including employee furloughs, on patrol officer availability.

For more information regarding this report, please contact Eric Palmer at 404.330.6455 or epalmer@atlantaga.gov.

Performance Audit:

Police Patrol Officer Availability

What We Found

The Atlanta Police Department has an opportunity to better align patrol resources to its workload. Blackout, which is the period when all officers in a zone are busy and cannot respond to a call for service, happens in every patrol zone but in some more frequently than others. For example, zone 5 (Downtown/Midtown) experienced 49 days with no blackout from March 1, 2007, through March 31, 2008, while zone 1 (West Atlanta) never went a day without blackout. Blackout varies among the zones because of differences in resources, workload, and the types of calls.

We found that most zones had a seasonal variation in workload, but staffing was not adjusted to meet the changes in demand. Calls for service were generally higher in the summer months, but the number of units on patrol stayed consistent through the time period. We also found workload variations by day of the week and time of day. While calls for service were higher on Fridays and Saturdays, blackout was higher on other days. Likewise, zones had their lowest call volume between 1:00 AM and 7:00 AM, yet the number of patrol units on duty varied little across shifts. A mismatch between staffing and workload leads to increased rates of blackout. Police commanders could shift resources from days and times with lower workload to assist with periods of higher workload.

Disparities in uncommitted time among the zones reflect resource differences. Uncommitted time is the percent of a beat officer's time available between dispatches. Officers could engage in community policing activities or patrolling during these times. Uncommitted time varied among the zones from 25% to 45%. Reallocating resources could increase uncommitted time for some zones and shift uncommitted time to times of day when it could be more productive.

Management Responses to Audit Recommendations

Summary of Management Responses		
Recommendation #1:	The police department should regularly measure and report on blackout and uncommitted time, in each zone and for the department as a whole, and use these measures as tools to strategically deploy patrol resources.	
Response & Proposed Action:	The Atlanta Police Department will work with the audit team to learn the process used and develop the programs to conduct monthly audits to use to strategically deploy available patrol resources.	Agree
Timeframe:	We are currently working with the Audit team to begin this process.	
Recommendation #2:	The police department should set a goal for the percentage of uncommitted time in each zone and consider uncommitted time as well as blackout in assigning resources.	
Response & Proposed Action:	The Chief of Police will set a goal for percentage of uncommitted time in each zone and consider uncommitted time as well as blackout in assigning resources when available.	Agree
Timeframe:	As soon as the current information is available per Recommendation #1, the Chief will be able to set a goal based on the personnel available.	



CITY OF ATLANTA

LESLIE WARD
City Auditor
lward1@atlantaga.gov

AMANDA NOBLE
Deputy City Auditor
anoble@atlantaga.gov

CITY AUDITOR'S OFFICE
68 MITCHELL STREET SW, SUITE 12100
ATLANTA, GEORGIA 30303-0312
(404) 330-6452
FAX: (404) 658-6077

AUDIT COMMITTEE
Fred Williams, CPA, Chair
Donald T. Penovi, CPA, Vice Chair
Robert F. Ashurst, CPA
Cecelia Corbin Hunter
Council President Lisa Borders

April 29, 2009

Honorable Mayor and Members of the City Council:

This performance audit of patrol officer availability compares the extent to which on-duty patrol staffing was sufficient to cover calls for service in the city's six patrol zones. We reviewed activity during the thirteen-month period from March 1, 2007, through March 31, 2008. It is the third report in a three-part series related to police staffing.

The audit focused on the APD's deployment of resources and whether or not its deployment strategies matched department workload. We developed computer program code to identify times when all patrol officers on duty were handling calls or unavailable to respond to an additional call for service. We found that the police department has opportunities to better align its patrol deployment based on its workload. Variations in staffing levels among the zones led to times where officers were unavailable to respond to calls for service. Zone commanders can readjust deployment by day of the week and time of day to match workload and provide better patrol coverage throughout the city.

We have made our program code available to the Police Department, with which they plan to evaluate the effect of recent changes, including employee furloughs, on patrol officer availability. Our recommendations urge the Police Department to regularly measure the deployment outcomes used in this report and use these tools and baseline data to deploy its patrol resources more strategically. Management has agreed with both recommendations. Their responses to our recommendations are included in Appendix A.

The Audit Committee has reviewed this report and is releasing it in accordance with Article 2, Chapter 6 of the City Charter. We appreciate the courtesy and cooperation of city staff throughout the audit. The team for this project was Brandon Haynes, Damien Berahzer, and Eric Palmer.

Leslie Ward
City Auditor

Fred Williams
Audit Committee Chair

Police Patrol Officer Availability

Table of Contents

Introduction	1
Background.....	2
Audit Objectives	5
Scope and Methodology	6
Findings and Analysis.....	9
APD Has Opportunities to Better Align Patrol Resources to Workload	9
Different Zones Experienced Different Levels of Blackout.....	9
Calls for Service and Blackout Were Higher In Summer Months	12
Calls for Service Were Higher on Fridays and Saturdays, but Blackout Was Higher Other Days	20
Staffing per Shift Could Better Match Calls for Service	27
Disparities In Uncommitted Time Among Zones Reflect Resource Differences	30
Recommendations	35
Appendices.....	37
Appendix A Management Review and Response to Audit Recommendations	39

List of Exhibits

Exhibit 1	Sworn Officers and Recruits by Rank	2
Exhibit 2	Map of Atlanta Patrol Zones	3
Exhibit 3	Comparison of Workload, Resources, and Blackout by Zone	10
Exhibit 4	Comparison of Types of Calls and Self-Initiated Activity by Zone	11
Exhibit 5	Zone 1 Calls for Service, On-Duty Patrol Units, and Daily Blackout.....	14
Exhibit 6	Zone 2 Calls for Service, On-Duty Patrol Units, and Daily Blackout.....	15
Exhibit 7	Zone 3 Calls for Service, On-Duty Patrol Units, and Daily Blackout.....	16
Exhibit 8	Zone 4 Calls for Service, On-Duty Patrol Units, and Daily Blackout.....	17
Exhibit 9	Zone 5 Calls for Service, On-Duty Patrol Units, and Daily Blackout.....	18
Exhibit 10	Zone 6 Calls for Service, On-Duty Patrol Units, and Daily Blackout	19
Exhibit 11	Zone 1 Average Calls for Service, On-Duty Patrol Units, and Blackout by Day of Week	21
Exhibit 12	Zone 2 Average Calls for Service, On-Duty Patrol Units, and Blackout by Day of Week	22
Exhibit 13	Zone 3 Average Calls for Service, On-Duty Patrol Units, and Blackout by Day of Week	23
Exhibit 14	Zone 4 Average Calls for Service, On-Duty Patrol Units, and Blackout by Day of Week	24
Exhibit 15	Zone 5 Average Calls for Service, On-Duty Patrol Units, and Blackout by Day of Week	25
Exhibit 16	Zone 6 Average Calls for Service, On-Duty Patrol Units, and Blackout by Day of Week	26
Exhibit 17	All Zones Average Workload, On-Duty Patrol Units, and Blackout by Hour of Day	28
Exhibit 18	Comparison of Uncommitted Time across All Zones	31
Exhibit 19	Comparison of Uncommitted Time across All Zones by Day of Week	32
Exhibit 20	Comparison of Uncommitted Time across All Zones by Hour of Day	33

Introduction

We conducted this performance audit of patrol officer availability pursuant to Chapter 6 of the Atlanta City Charter which establishes the City of Atlanta Audit Committee and the City Auditor's Office, and outlines the City Auditor's Office primary duties. The Audit Committee reviewed our audit scope in July 2008.

A performance audit is an objective analysis of sufficient, appropriate evidence to assess the performance of an organization, program, activity, or function. Performance audits provide assurance or conclusions to help management and those charged with governance improve program performance and operations, reduce costs, facilitate decision-making and contribute to public accountability. Performance audits encompass a wide variety of objectives, including those related to assessing program effectiveness and results; economy and efficiency; internal controls; compliance with legal or other requirements; and objectives related to providing prospective analyses, guidance, or summary information¹.

The analyses in this report assess whether on-duty patrol staffing was sufficient to cover calls for service from March 1, 2007, through March 31, 2008. This is the third report in a three-part series related to police staffing. The first report, released April 2008, assessed the reliability of the police department's computer aided dispatch (CAD) system and made recommendations intended to increase the usability of CAD data to support management decisions. Staff relied on relatively few reports and none of the available management reports focused on how resources are used, such as number of officers on duty, time committed to answering calls for service, or time out of service on particular types of calls. The second report, released July 2008, provided an overview of the number of sworn staff and how officers are allocated within the police department, discussed factors that affect staffing levels and made recommendations to clarify the allocation of police officers and aid the department's retention efforts. This report builds on our previous reports and provides baseline data and tools the department can use to deploy its patrol resources effectively.

¹ Comptroller General of the United States, *Government Auditing Standards*, Washington, DC: U.S. Government Accountability Office, 2007, p. 17-18.

Background

The city has made progress toward its goal of having 2,000 police officers, established in the police department's 2004 reorganization plan.² The police department had about 140 more officers in December 2007 than it did in early 2004. Department records showed there were 1,592 sworn officers and 128 recruits as of December 7, 2007. About 61% of these positions were police officers or senior police officers. Another 15% were investigators. Command staff and supervisors made up about 17% of the force, and the remaining 7% were recruits (see Exhibit 1).

Exhibit 1
Sworn Officers and Recruits by Rank (December 2007)

Title	#	% of Force
Chief	1	0.06%
Assistant Chief	1	0.06%
Deputy Chief	3	0.17%
Assistant Commander	1	0.06%
Captain	1	0.06%
Major	17	0.99%
Lieutenant	75	4.36%
Sergeant	199	11.57%
Investigator	250	14.53%
Sr. Police Officer	112	6.51%
Police Officer	932	54.19%
Police Officer Recruit	128	7.44%
Total	1,720	100%

Source: Police Department personnel database as of December 7, 2007

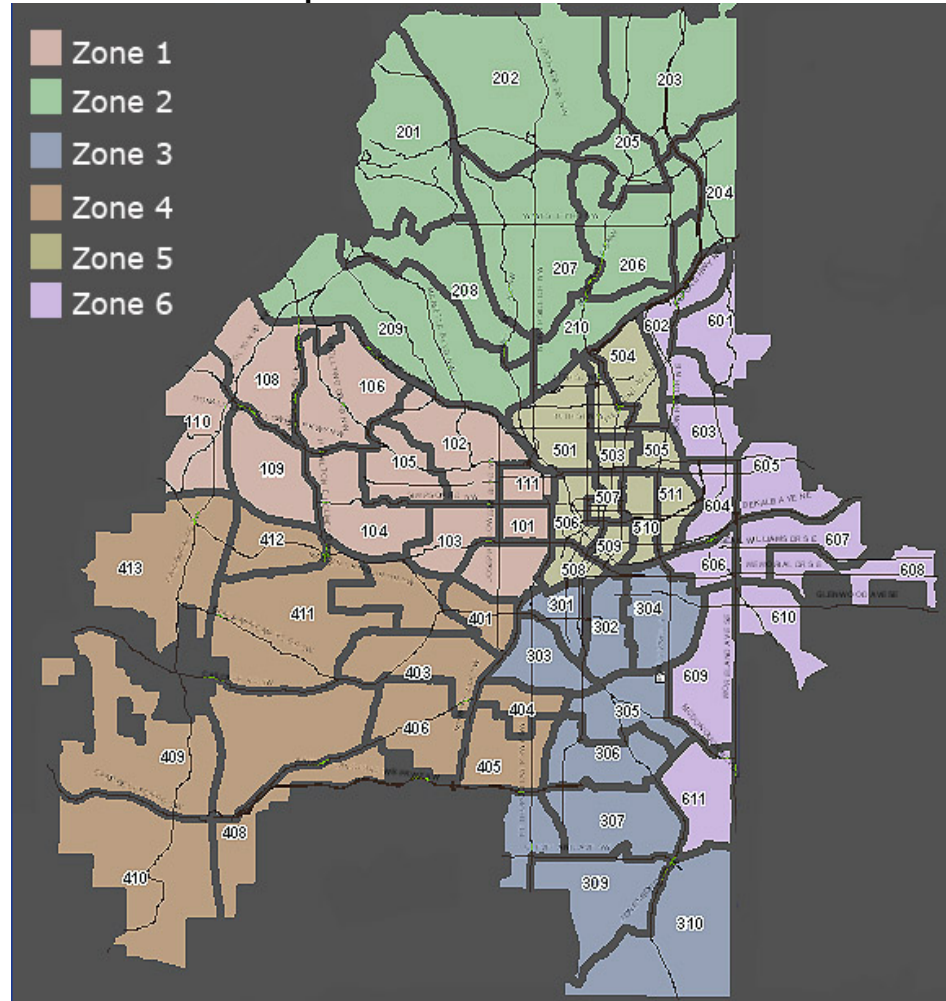
The department is authorized 1,837 sworn positions in fiscal year 2009. The city has added just over 200 sworn positions since the fiscal year 2004 budget. Actual sworn staff has grown more slowly, partially due to drops in recruitment in 2005 and 2006 and increased attrition.

Organizational Structure. The department is organized into the Police Operations Bureau and three divisions: Field Operations, Criminal Investigations, and Support Services. Most officers (70%) are assigned to the Field Operations Division, which includes the

² Fragile Momentum: Plan of Action for Rebuilding the Atlanta Police Department to Help Secure Atlanta's Position as Capital of the New South.

airport unit, the crime analysis unit, the community services unit, the police athletic league, the special operations section, and the city's six patrol zones. In December 2007, 623 officers and senior officers were assigned to patrol duties in the city's six zones (see Exhibit 2), about 40% of sworn personnel, excluding recruits.

Exhibit 2
Map of Atlanta Patrol Zones



Source: Police Department

Patrol zones. The city is divided into six geographic patrol zones:

- Zone 1 - West Atlanta
- Zone 2 – North Atlanta/Buckhead
- Zone 3 - Southeast Atlanta
- Zone 4 - Southwest Atlanta
- Zone 5 – Downtown/Midtown
- Zone 6 - East Atlanta

Patrol officers are assigned to geographic beats. Each zone is further divided into 10-13 beats. Patrol officers are assigned to cover a particular beat. The zones are also broken into sectors — groups of beats supervised by a sergeant— and have additional “umbrella cars” to answer calls. An umbrella car is a patrol unit not assigned to a particular beat and able to cover any area within the zone as needed.

The department last re-drew zone and beat boundaries in 2004. The department has been planning to reorganize the beats to respond to demographic changes. New development, population growth, the public’s changing expectations of law enforcement, lack of code enforcement for abandoned properties, homelessness, zone size, tourism and special events have all been mentioned by department staff as constraints on resources.

Patrol Watches. The workday is broken up into three 8-hour shifts called watches: the day watch (7 a.m. to 3 p.m.), the evening (3 p.m. to 11 p.m.), and the morning watch (11 p.m. to 7 a.m.). Officers usually report to their watch in two roll calls to stagger the transition of officers on duty; one is 30 minutes before the shift begins, with the second about 15 minutes later. Officers may be delayed returning at the end of their shifts due to answering late calls.

Patrol officers ordinarily work a five day workweek, scheduled by their watch lieutenants. Since January 2009, however, patrol officers have been scheduled to work four 9-hour shifts per week. The city implemented employee furloughs for general fund departments to address a budget shortfall. The period of our analysis does not include furloughs.

The lead time for schedules varies by zone and ranges from a few days ahead to through the end of the year. More experienced officers are usually assigned to a specific beat and a specific watch. Roustabouts, usually newer officers, fill in on those beats when the regularly-assigned officer is scheduled off or on leave. Supervising commanders select officers for special assignments, such as vice units. This temporary assignment is usually for no more than 90 days; the commanders can extend or make them permanent if needed.

On-duty staffing is affected by scheduled and unscheduled time off. The number of officers on duty for any given shift is affected by scheduled and unscheduled time off. We analyzed police rosters for one day in August 2007 in our July 2008 performance audit, *Police Department Sworn Staffing*. While 75% of officers scheduled for patrol were on duty, each of the six zones had at least one beat uncovered during a shift. Vacation, comp time, and training made up most officer absences on the day we reviewed. Comp time and vacation together accounted for about half of the absences in the zones. About 21% of the officers were attending training. Sick leave accounted for 11% of the absences. About 7% of the officers were unavailable for patrol because they were on loan to other units in the department.

Calls for service captured using the CAD system. 911 calls for service and other dispatches are captured in the department's Computer-Aided Dispatch (CAD) system. The CAD system is operated by the Police Department's Communications section and maintained by a city contractor. The city initially contracted with TRW, later acquired by Northrop Grumman, to design and install the communications system in 1994. Northrop Grumman continues to maintain the system for the city.

CAD data used to generate management reports. Data recorded in the CAD system are the basis for police reports in the Incident Crime Information System (ICIS) that is used to generate reports for management use and oversight. The Police Department's Communications Unit runs reports to look at delays in dispatching. The department's Planning and Research Unit runs reports on response times to analyze workload that, according to department policies, is the basis for patrol officer assignments. In addition, the Police Department's Crime Analysis Unit uses the data for mapping crime and for the beat redesign study.

Audit Objectives

This audit addresses the following questions:

- Are there times when there are no patrol officers available to answer calls for service? How does this vary by zone, day-of-the-week, time-of-day, season, and other factors?

- What is the distribution of calls for service? How does it vary by zone, day-of-the-week, time-of-day, season, and other factors?
- How much of the patrol officers' time is committed to answering calls for service?

Scope and Methodology

We conducted this audit in accordance with generally accepted government auditing standards. We analyzed calls for service and unit history data from the police department's CAD system from March 1, 2007, through March 31, 2008.

Generally accepted government auditing standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

This audit builds on previous work in which we observed call-taking and dispatch operations, rode along with patrol officers, interviewed department personnel, and reviewed department Standard Operating Procedures and other documents to understand the data captured in the CAD system and how it relates to patrol operations. Additional audit methods for this project included:

- Developing program code to identify times when all patrol officers on duty were already handling calls or unavailable to respond to an additional call for service, and to calculate the percentage of officers' on-duty time committed to answering calls for service.
- Validating with each zone commander which units are assigned to respond to calls for service.
- Analyzing patrol workload and the number of units on duty each day from March 1, 2007, through March 31, 2008.
- Calculating the average number of patrol units on duty and average workload by day of week and hour of day.

We use two measures to assess patrol deployment – blackout and committed time. Together these measures reflect operational capacity.

What is blackout? Blackout refers to periods when all patrol officers assigned to respond to a call for service in a zone are busy and cannot respond to additional calls. It is a function of staffing levels, call volume, types of calls and how they are handled. Since resources are limited and it can't be predicted with certainty when an incident requiring a police response will occur, all zones will likely experience some blackout. Persistent blackout, however, indicates a gap between resources and demand for services.

Often during a blackout, an officer will come back into service to take a high priority call. Although police still respond to emergencies, blackout affects the department's ability to respond in a normal manner and can affect citizen perceptions of service levels and police protection. Special operations units and zone command staff are available during blackout periods, but these officers are rarely dispatched to answer calls for service. Our analyses assess normal operational capacity rather than the resources the department could deploy to respond to an extraordinary event.

We calculated the total minutes of blackout in each zone in each day and in each hour of the day for our review period. We did not measure the duration of individual blackout periods, which can be as short as one minute in our analysis.

What is committed time? Committed time measures the percent of patrol officers' time on duty spent answering calls for service, time spent out of service on administrative tasks, or time spent on self-initiated activities such as traffic stops, stopping suspicious persons, or directed patrol. Conversely, uncommitted time is the percent of a beat officer's time available between dispatches. Uncommitted time and time spent on officer-initiated activities represent time available for community policing and crime prevention activities, as opposed to moving from call to call, and is therefore considered a measure of patrol effectiveness.

Report provides baseline data. We chose to analyze at least one year of dispatch data to identify seasonal patterns in patrol staffing and workload. Our analysis are therefore based on data that are a year or more old, and the period we reviewed does not include recent

changes made to address the city's budget shortfall. Our review period includes the Police Department's highest level of actual staff of any time in the past several years. Our analysis provides baseline data to examine the effects of staffing changes on patrol officer availability. We are making our program code available to the Police Department and are working with the department to evaluate how employee furloughs are affecting patrol officer availability.

Findings and Analysis

APD Has Opportunities to Better Align Patrol Resources to Workload

The Atlanta Police Department could equalize blackout among zones by shifting resources or workload. While it is unrealistic to eliminate blackout, the department could reduce blackout in some zones by adding patrol officers in summer months when calls for service are higher and could reduce blackout in some zones by realigning resources to better match workload by day of week and hour of day. Such realignment would also increase officers' uncommitted time during times of day when it could be more productive.

We recommend the Atlanta Police Department regularly measure and report on blackout and uncommitted time and use these measures as tools to strategically deploy patrol resources.

Different Zones Experienced Different Levels of Blackout

While all areas of the city experienced some patrol blackout during the 13 months we reviewed, some zones experienced more blackout than others. Although it is unrealistic to eliminate blackout, the police department could equalize blackout in the city's different zones by shifting resources or workload – by redrawing beat boundaries – from one zone to another. We recommend the department measure and report the amount of blackout per zone.

Blackout varies among the zones because workload and resources vary. Since blackout is a function of staffing levels, call volume, types of calls, and how they are handled, it will vary based on staffing levels or call volume. Exhibit 3 compares the average number of calls for service each day with the average number of on-duty patrol units and the average blackout minutes in each zone from March 1, 2007, through March 31, 2008. The number of patrol units includes foot patrol when these officers are assigned to respond to calls for service.

Blackout in zones 1 (West Atlanta), 3 (Southeast Atlanta) and 4 (Southwest Atlanta) was more than double the blackout in zones 2 (North Atlanta/Buckhead) and 6 (East Atlanta) and about four times

higher than in zone 5 (Downtown/Midtown). The average number of blackout minutes per day was highest in zone 4 and lowest in zone 5. Zone 5 averaged about the same number of calls for service per day as zone 4, but it had an average of 19 more patrol units on duty per day. Zone 1 had no days without blackout during the 13 months we analyzed. It answered an average of over 40 more calls for service than zone 2 and 30 more than zone 6, while averaging two to three more units on duty per day.

Exhibit 3
Comparison of Workload, Resources, and Blackout by Zone
March 1, 2007 – March 31, 2008

	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6
Average Calls For Service Per Day	198.4	154.8	178.9	220.0	219.5	168.1
Average Number of Patrol Units Per Day	37.6	35.0	33.0	41.7	60.9	36.0
Average Blackout Minutes per Day	163.5	80.4	172.0	178.1	39.7	81.7
Number of Days with No Blackout	0	13	2	1	49	11

Source: Analysis of March 1, 2007-March 31, 2008 CAD data

Frequency of types of calls differed by zone. The types of calls responded to influence the amount of resources needed in a zone, as well as the number of calls, and other demographic and geographic factors. The time needed to manage a call varies based on the type and severity of the incident. For example, the average amount of time an officer was out of service handling a vehicle accident was 60-70 minutes, while most alarm calls were handled in 20 minutes. Officers handled disturbance calls or assault calls in an average of 35 to 40 minutes.

Exhibit 4 shows the top five types of calls and self-initiated activities conducted in each of the zones during the 13 months we reviewed. Each zone generally responded to the same types of calls, but the relative frequency differed. For example, disturbance or assault calls were 25% of the calls in zone 1 (West Atlanta), while they were 8% of the calls in zone 2 (North Atlanta/Buckhead). Reckless driving and speeding stops were the top self-initiated activity in each zone.

Exhibit 4
Comparison of Types of Calls and Self-Initiated Activity by Zone
March 1, 2007 – March 31, 2008

Zone 1					
Top 5 Calls For Service			Top 5 Self-Initiated		
Description	Total	Percentage	Description	Total	Percentage
Disturbance or Assault	19,464	24.7%	Reckless Driving/Speeding	17,926	43.8%
Audible Alarm	6,915	8.8%	Suspicious Person	6,043	14.8%
911 Hang-Up	3,733	4.7%	Directed Patrol	2,057	5.0%
Criminal Trespassing	3,333	4.2%	Information for Officer	1,976	4.8%
Suspicious Person	3,130	4.0%	Checkpoint	1,296	3.2%
Zone 2					
Top 5 Calls For Service			Top 5 Self-Initiated		
Description	Total	Percentage	Description	Total	Percentage
Audible Alarm	16,032	26.1%	Reckless Driving/Speeding	20,265	52.6%
Vehicle Accident	8,113	13.2%	Suspicious Person	3,169	8.2%
Disturbance or Assault	5,049	8.2%	Directed Patrol	3,009	7.8%
Suspicious Person	3,336	5.4%	Park and Walk	2,688	7.0%
Street/Sidewalk Hazard	3,066	5.0%	Checkpoint	1,166	3.0%
Zone 3					
Top 5 Calls For Service			Top 5 Self-Initiated		
Description	Total	Percentage	Description	Total	Percentage
Disturbance or Assault	14,137	19.9%	Reckless Driving/Speeding	14,520	32.6%
Audible Alarm	7,502	10.6%	Directed Patrol	7,827	17.6%
Vehicle Accident	4,172	5.9%	Suspicious Person	5,813	13.0%
Criminal Trespassing	3,283	4.6%	Checkpoint	2,274	5.1%
Suspicious Person	3,267	4.6%	Information for Officer	1,801	4.0%
Zone 4					
Top 5 Calls For Service			Top 5 Self-Initiated		
Description	Total	Percentage	Description	Total	Percentage
Disturbance or Assault	18,153	20.8%	Reckless Driving/Speeding	22,769	47.4%
Audible Alarm	12,297	14.1%	Suspicious Person	6,618	13.8%
Suspicious Person.	4,130	4.7%	Directed Patrol	4,878	10.1%
911 Hang-Up	3,971	4.5%	Information for Officer	2,094	4.4%
Vehicle Accident	3,901	4.5%	Checkpoint	1,534	3.2%

Zone 5					
Top 5 Calls For Service			Top 5 Self-Initiated		
Description	Total	Percentage	Description	Total	Percentage
Disturbance or Assault	13,077	15.0%	Reckless Driving/Speeding	24,363	39.1%
Vehicle Accident	10,498	12.1%	Suspicious Person	9,480	15.2%
Audible Alarm	8,672	10.0%	Illegal Parking	4,444	7.1%
Criminal Trespassing	6,026	6.9%	Information for Officer	2,772	4.4%
From Vehicle	5,589	6.4%	Disturbance or Assault	2,634	4.2%
Zone 6					
Top 5 Calls For Service			Top 5 Self-Initiated		
Description	Total	Percentage	Description	Total	Percentage
Audible Alarm	10,933	16.4%	Reckless Driving/Speeding	12,049	37.5%
Disturbance or Assault	9,817	14.7%	Suspicious Person	5,930	18.5%
Vehicle Accident	5,049	7.6%	Directed Patrol	2,191	6.8%
Suspicious Person	4,586	6.9%	Checkpoint	1,471	4.6%
Criminal Trespassing	2,656	4.0%	Information for Officer	1,448	4.5%

Source: Analysis of March 1, 2007-March 31, 2008 CAD data

Calls for Service and Blackout Were Higher In Summer Months

The police department could reduce blackout by reassigning officers to patrol in summer months when calls for service are higher. Calls for service and blackout were generally a little higher in the summer months, while the number of units on duty did not vary much in most zones.

Most zones had seasonal variation in workload, but not in on-duty staffing. In zone 1 (West Atlanta) the number of patrol units on duty each day was a little lower in the summer months and blackout was at its highest level (see Exhibit 5). Zone 2 (North Atlanta/Buckhead) and zone 4 (Southwest Atlanta) show similar; though less pronounced patterns in the fall months (see Exhibits 6 and 8). By contrast, the number of patrol units on duty each day in zone 5 (Downtown/Midtown) increased during the summer months and blackout does not show a seasonal pattern (see Exhibit 9). In zone 3 (Southeast Atlanta) calls for service decreased and the number of patrol units on duty increased after September, leading to a substantial decrease in blackout (see Exhibit 7). The number of patrol units on duty each day did not fluctuate much in zone 4; the

highest periods of blackout correspond with times when calls for service were higher (see Exhibit 8).

Exhibits 5 through 10 on the following pages show the number of calls for service, the number of patrol units on duty and the sum of blackout minutes in each zone and on each day during the 13-month period we analyzed. The up and down movement of the lines shows daily variation. The general slope of the lines shows the overall seasonal pattern.

Exhibit 5
Zone 1
Calls for Service, On-Duty Patrol Units, and Daily Blackout

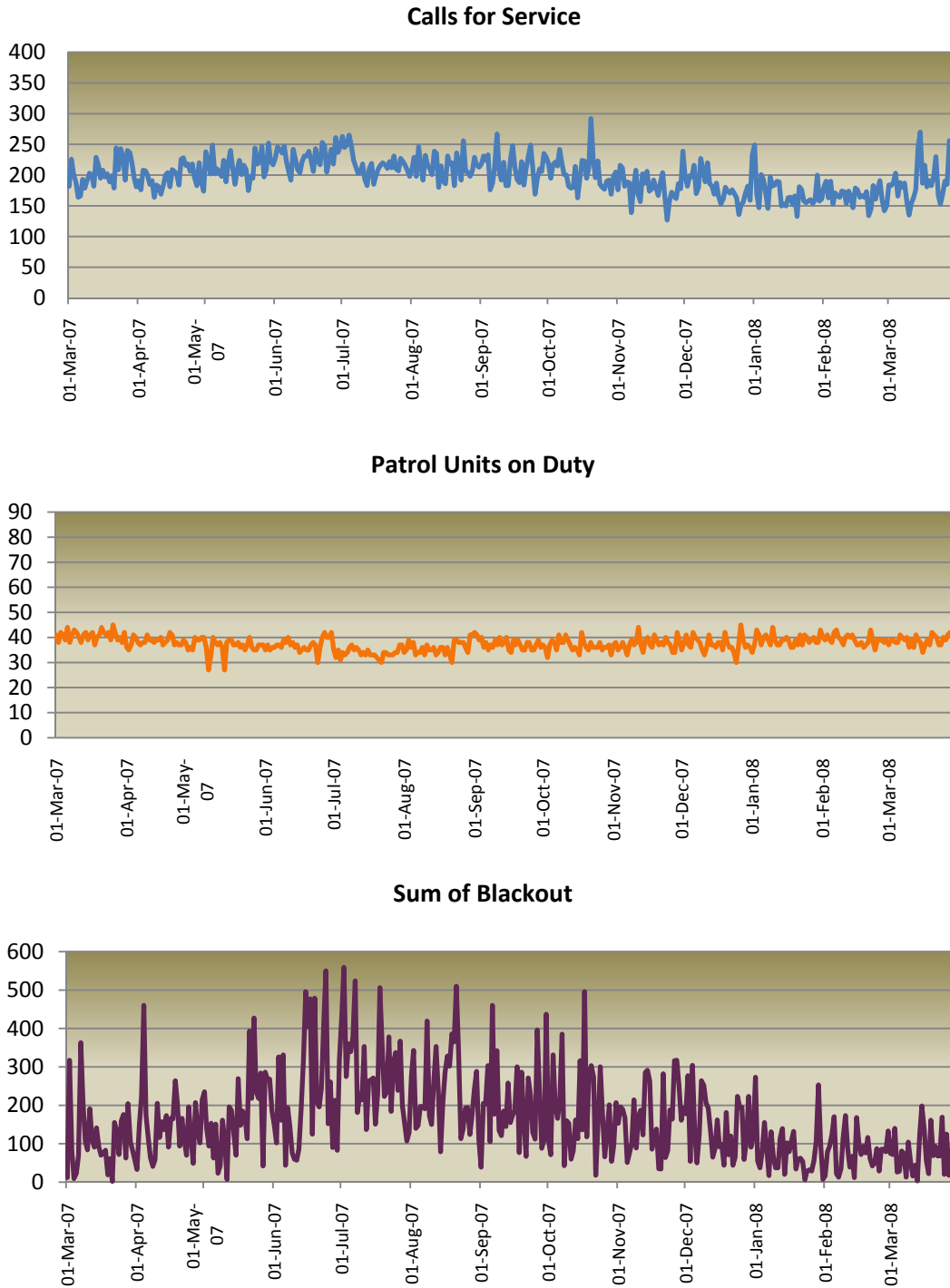


Exhibit 6
Zone 2
Calls for Service, On-Duty Patrol Units, and Daily Blackout

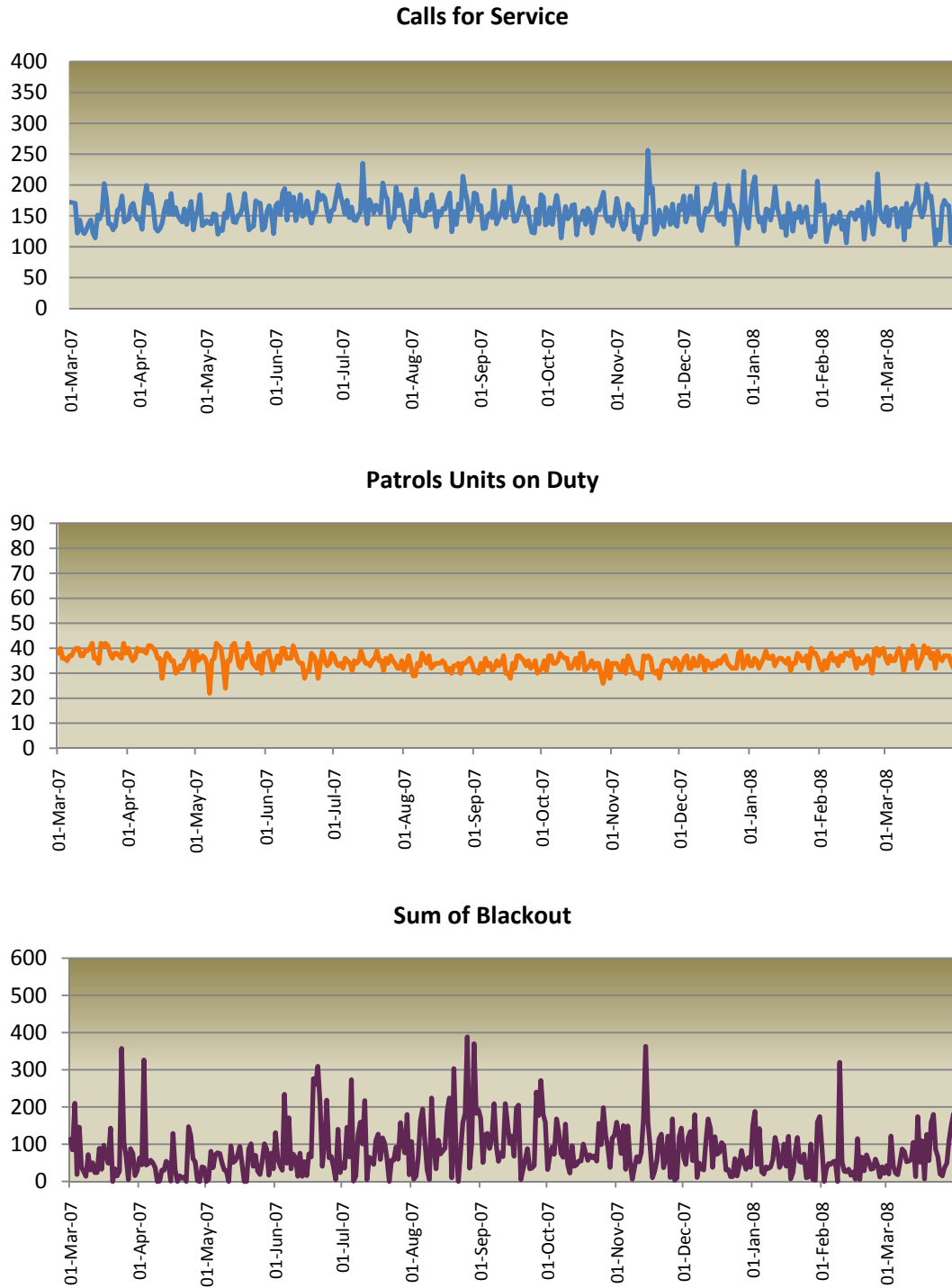


Exhibit 7
Zone 3
Calls for Service, On-Duty Patrol Units, and Daily Blackout

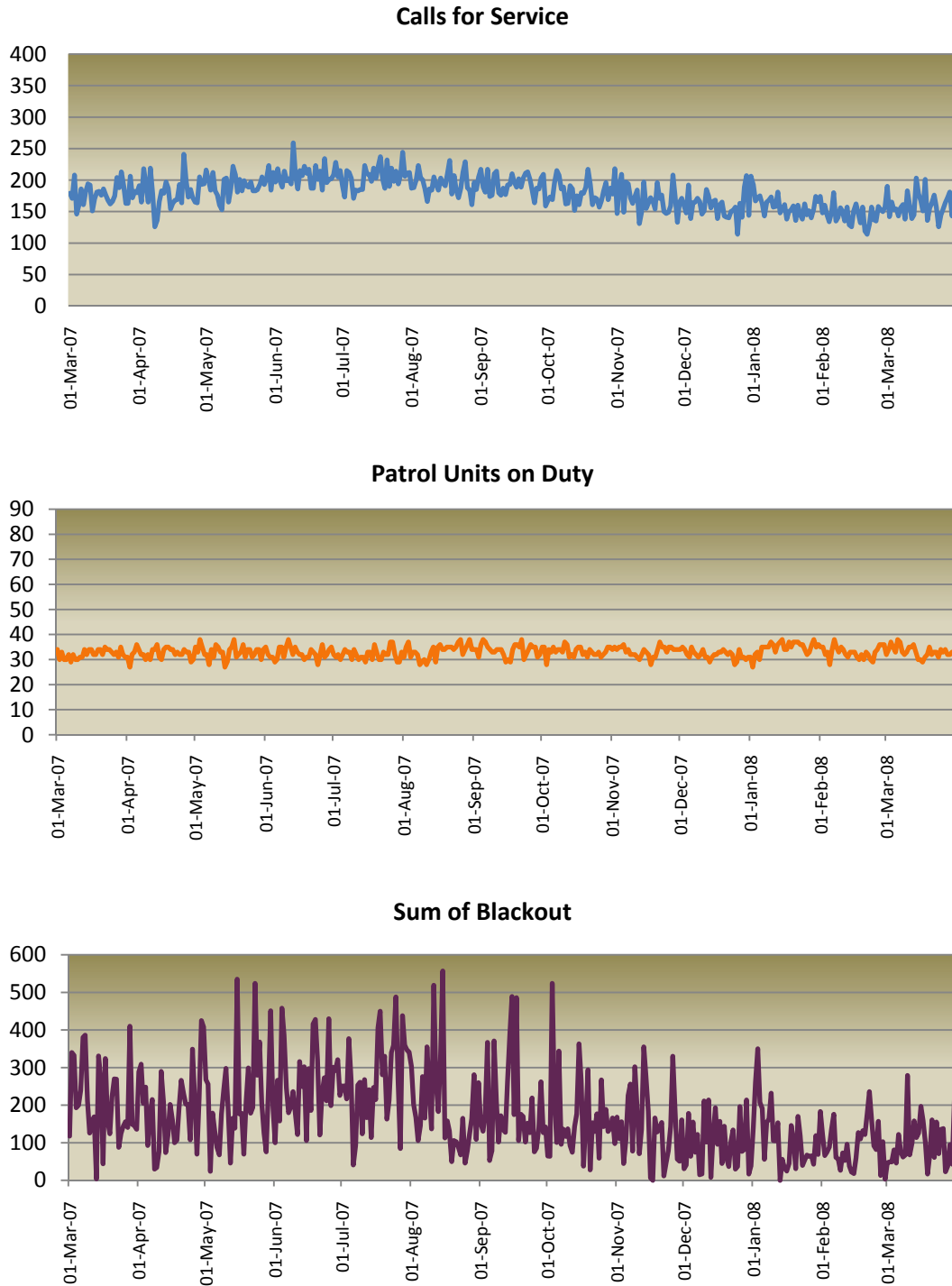


Exhibit 8
Zone 4
Calls for Service, On-Duty Patrol Units, and Daily Blackout

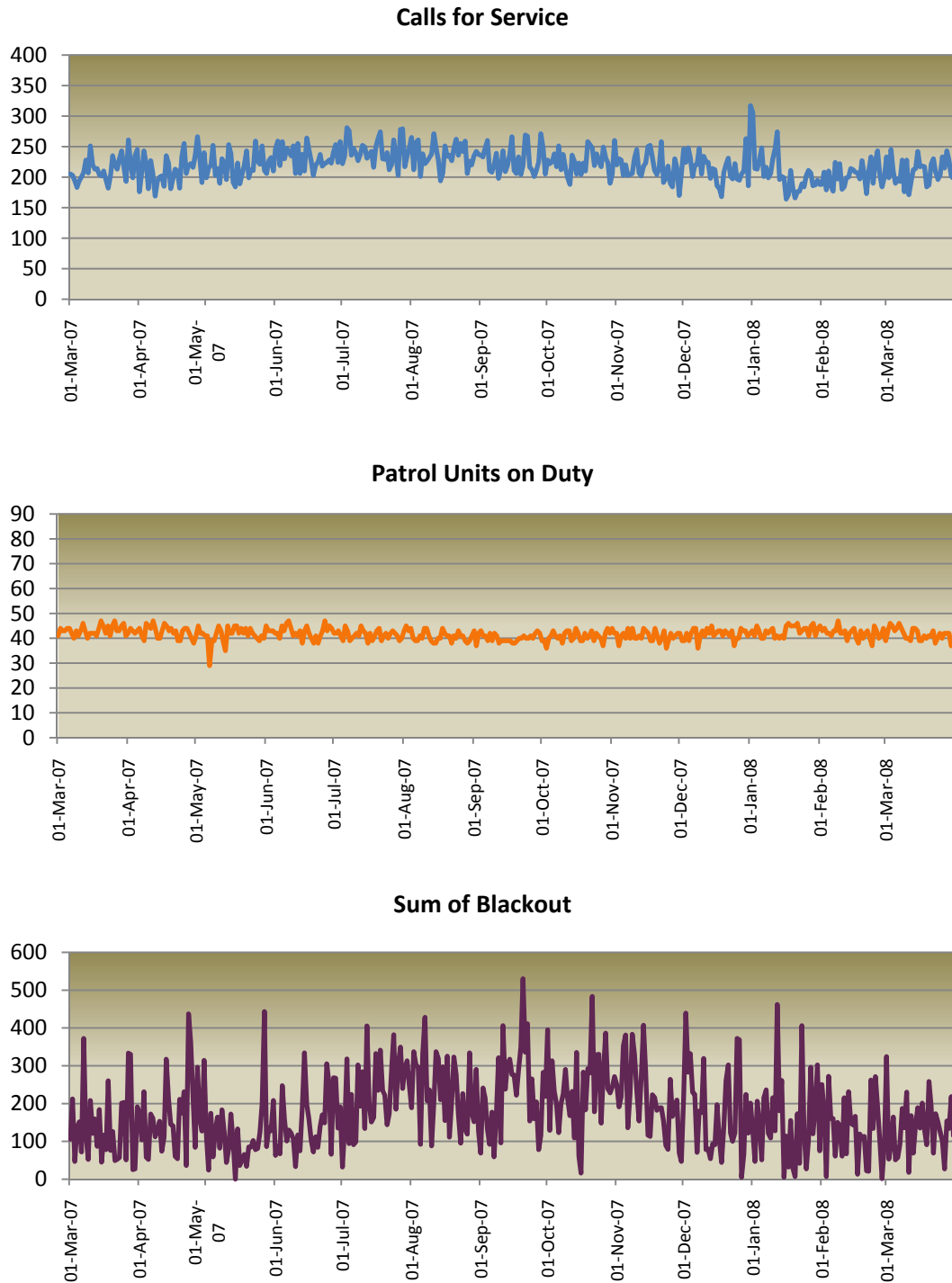


Exhibit 9
Zone 5
Calls for Service, On-Duty Patrol Units, and Daily Blackout

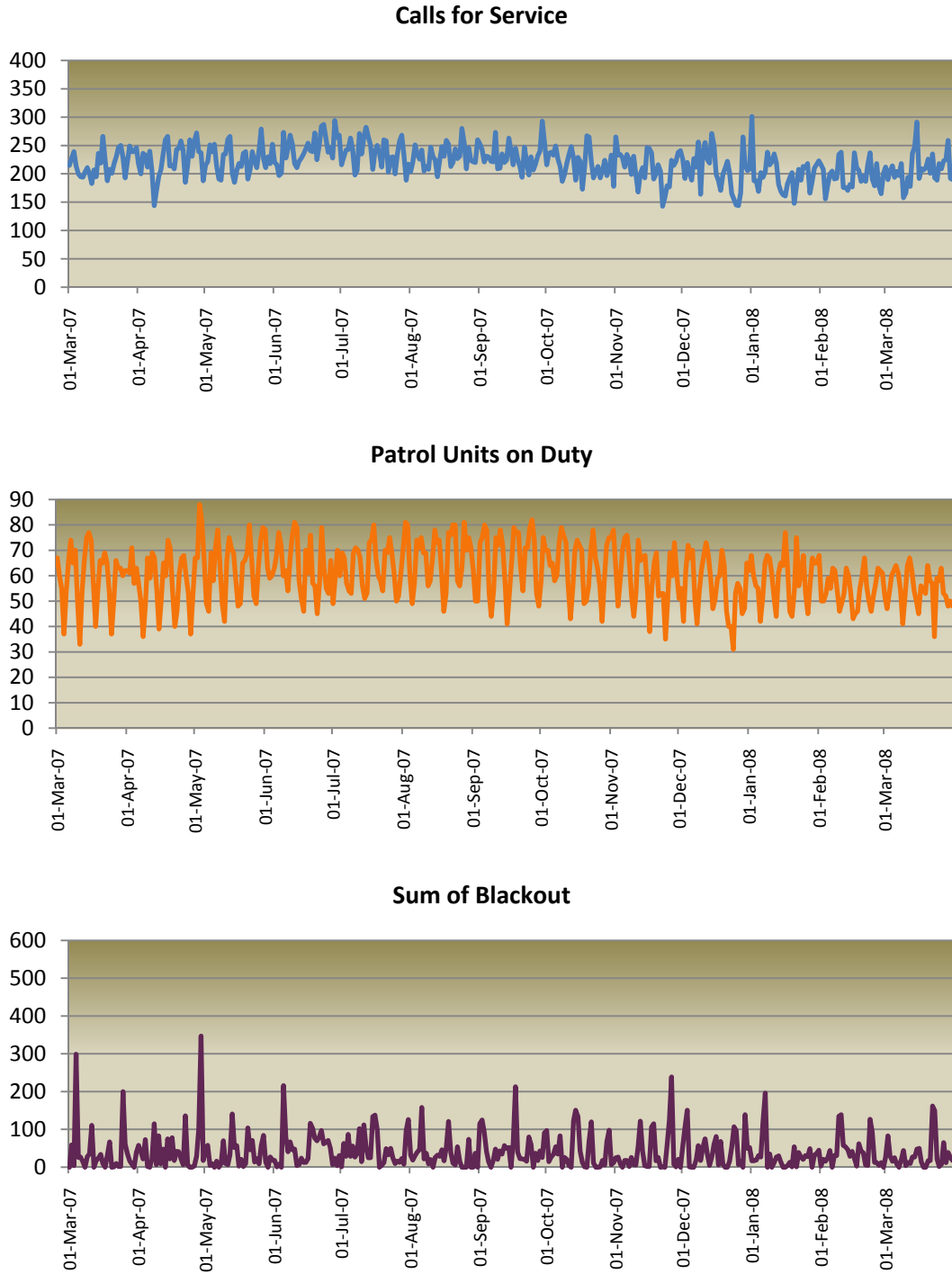
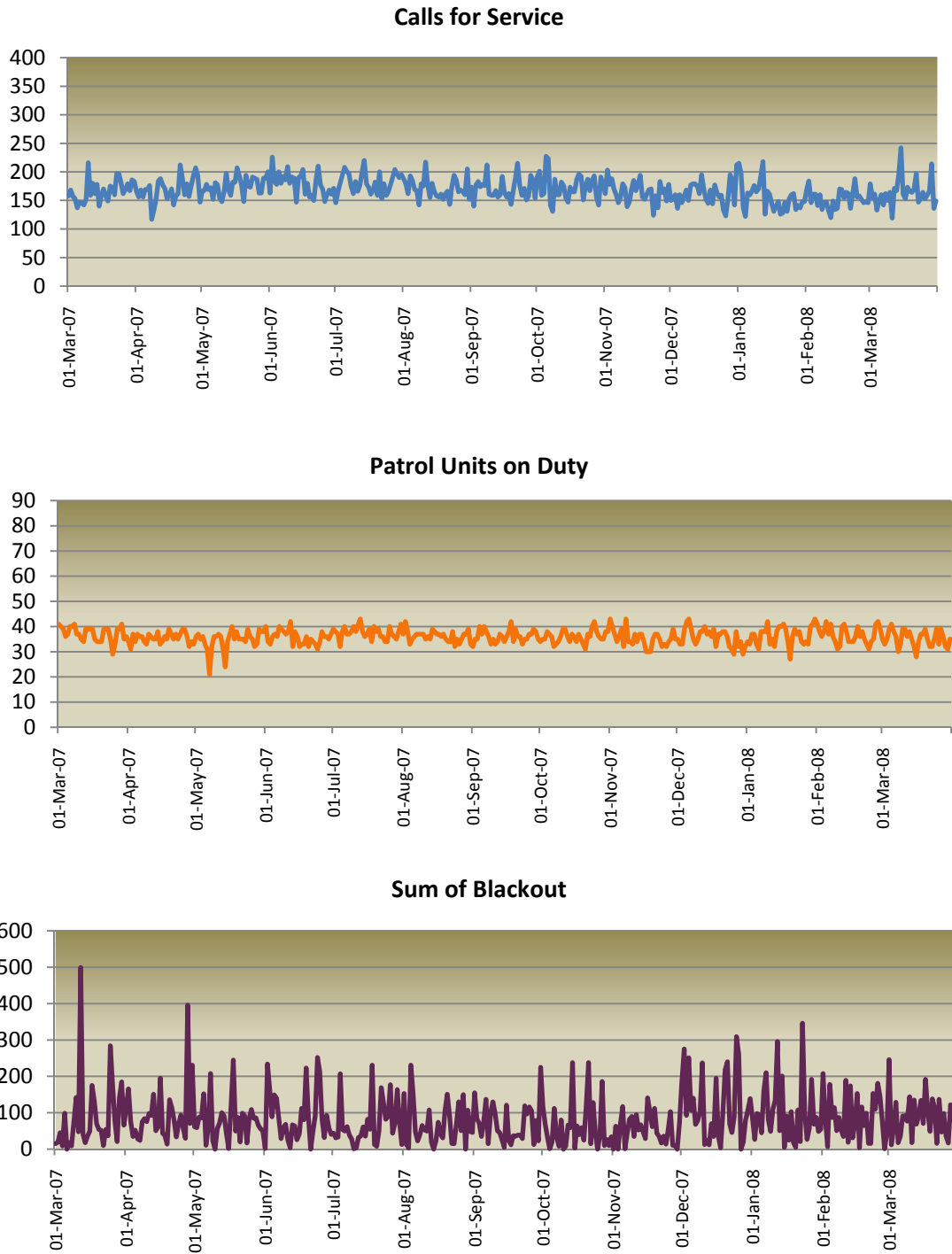


Exhibit 10
Zone 6
Calls for Service, On-Duty Patrol Units, and Daily Blackout



Calls for Service Were Higher on Fridays and Saturdays, but Blackout Was Higher Other Days

The Police Department could reduce blackout in some zones by realigning resources to better match workload by day of week. Differences in blackout by day of week corresponded to lower staffing levels. Officers conducted fewer self-initiated activities on weekends, which reduced blackout on these days, but could hinder patrol effectiveness.

Mismatch in staffing leads to increased blackout. Workload was lowest on Sundays in all zones, but blackout was highest on Sundays in zones 5 (Downtown/Midtown) and 6 (East Atlanta), when staffing was lower (see Exhibits 15 and 16). In zones 1 (West Atlanta) and 3 (Southeast Atlanta), calls for service were higher on Fridays and Saturdays, but blackout was highest on Wednesdays when on-duty staffing was lower (see Exhibits 11 and 13). Blackout was highest on Mondays in zone 4 (Southwest Atlanta), when on-duty staffing was a little lower (see Exhibit 14). Officers conducted fewer self-initiated activities on Saturdays, Sundays and Mondays in most zones. Zone 2 (North Atlanta/Buckhead), which had its highest level of self-initiated activity on Fridays and Saturdays, was the exception (see Exhibit 12).

Exhibits 11 through 16 on the following pages show the average number of calls for service and self-initiated activities, the average number of patrol units on duty, and the average amount of blackout minutes in each zone by day of week for the 13-month period we analyzed.

Exhibit 11
Zone 1
Average Calls for Service, On-Duty Patrol Units, and Blackout by Day of Week

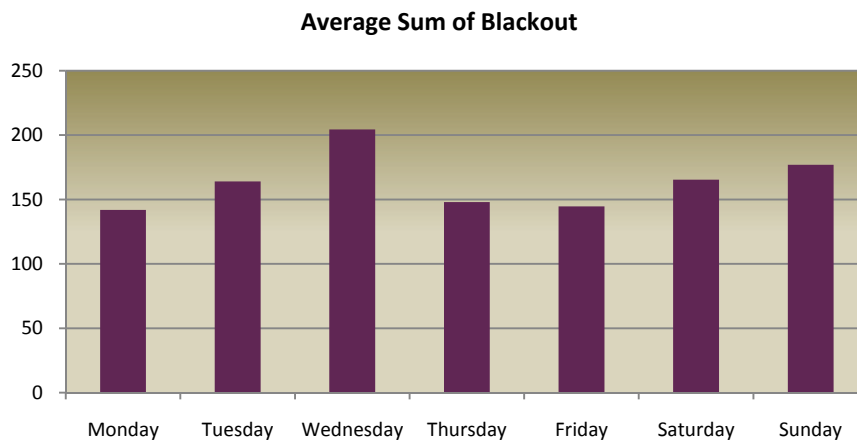
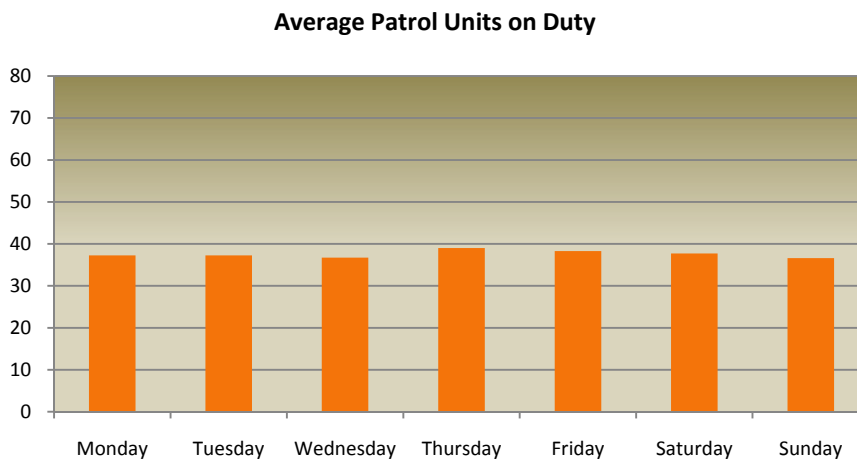
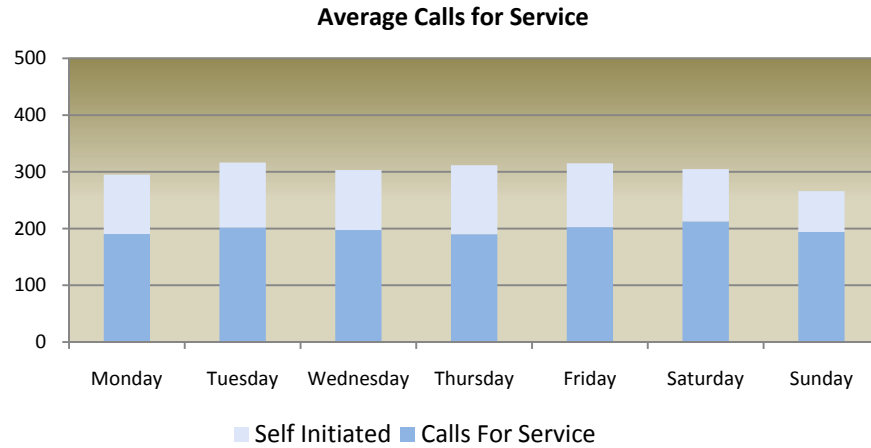


Exhibit 12
Zone 2
Average Calls for Service, On-Duty Patrol Units, and Blackout by Day of Week

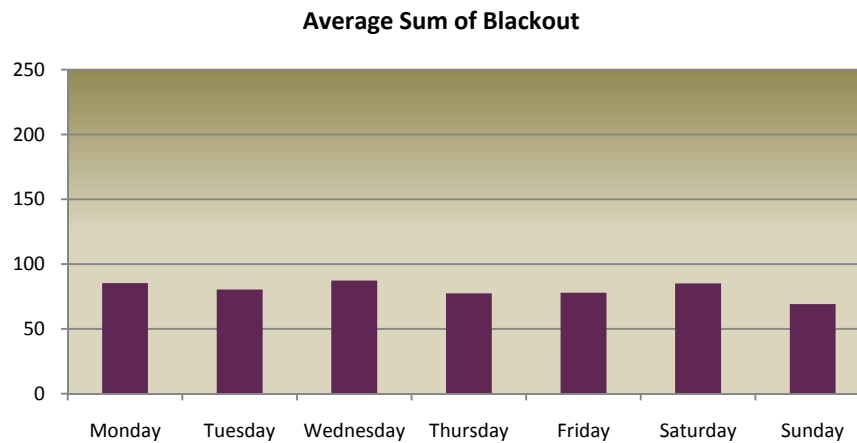
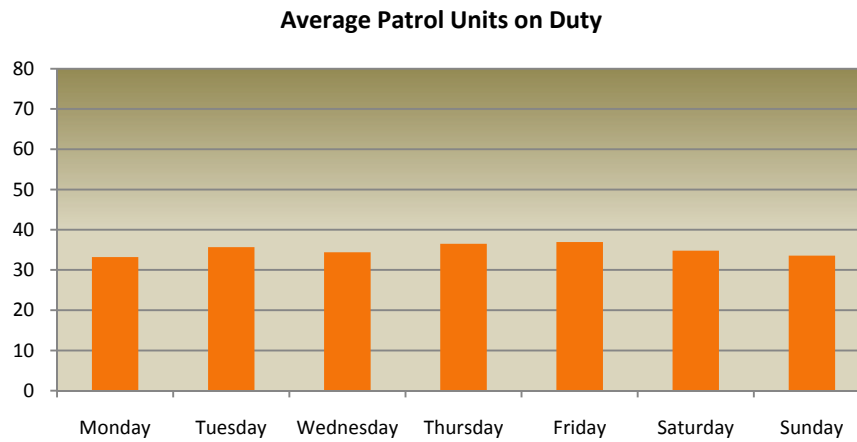
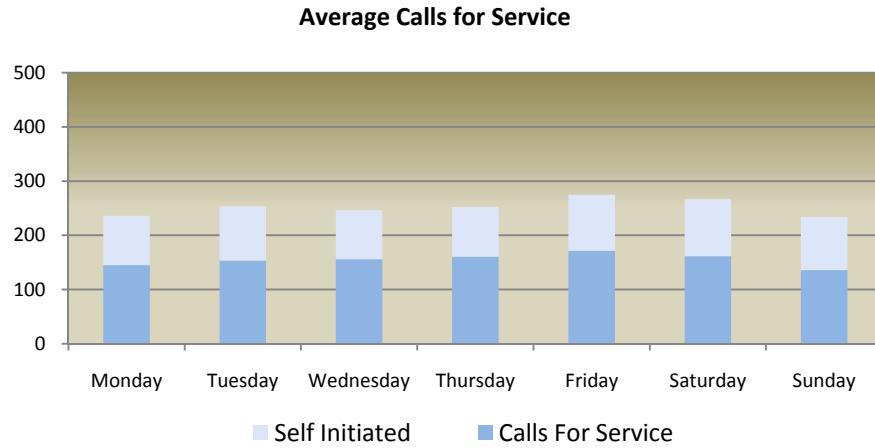


Exhibit 13
Zone 3
Average Calls for Service, On-Duty Patrol Units, and Blackout by Day of Week

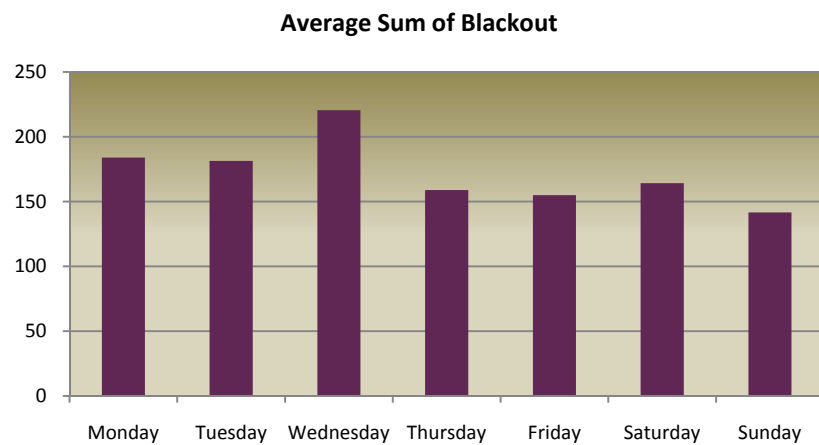
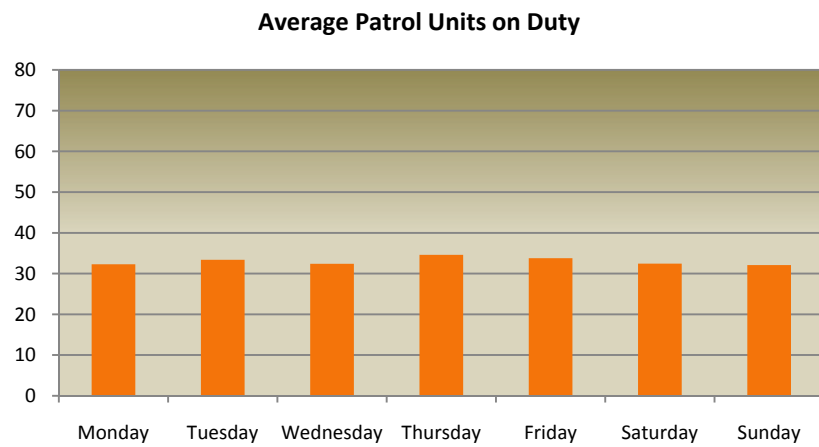
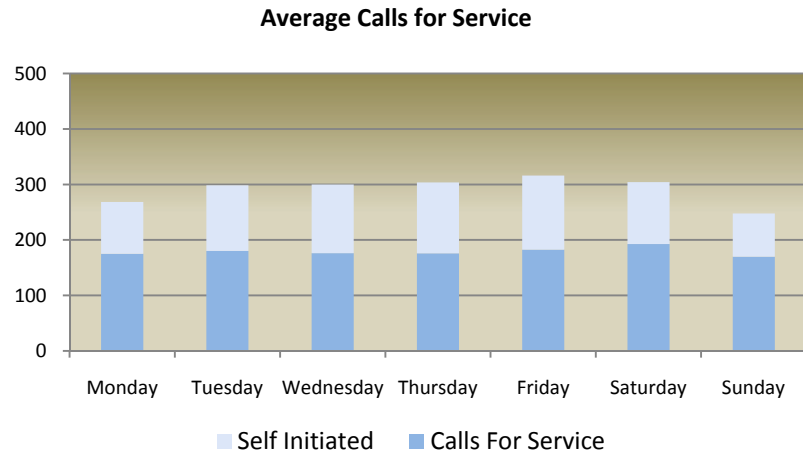


Exhibit 14
Zone 4
Average Calls for Service, On-Duty Patrol Units, and Blackout by Day of Week

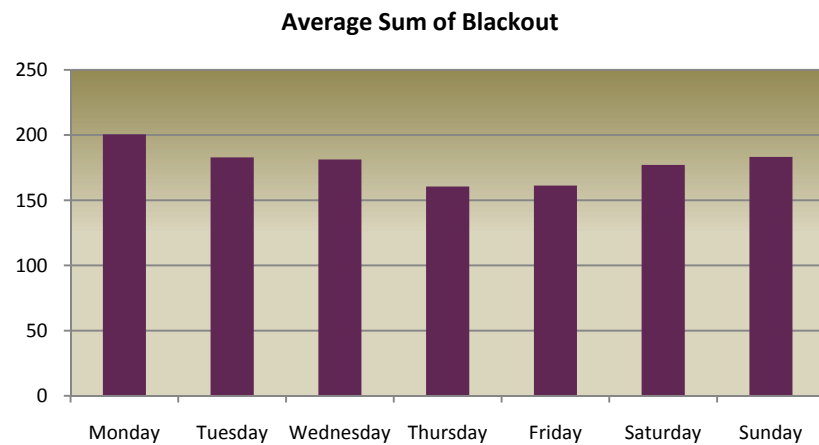
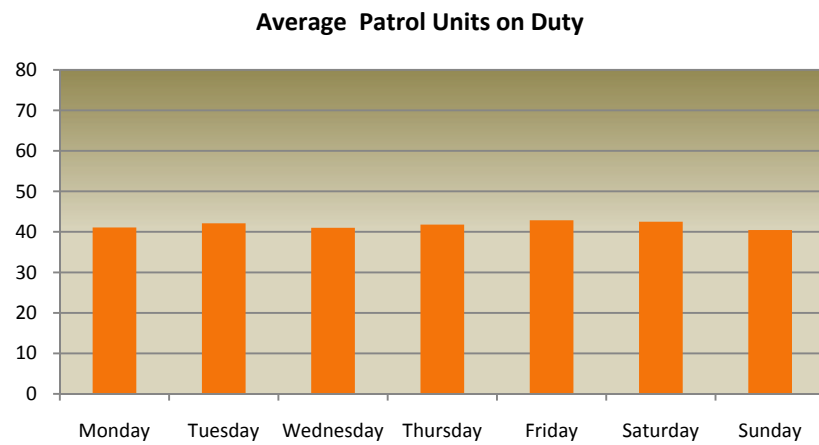
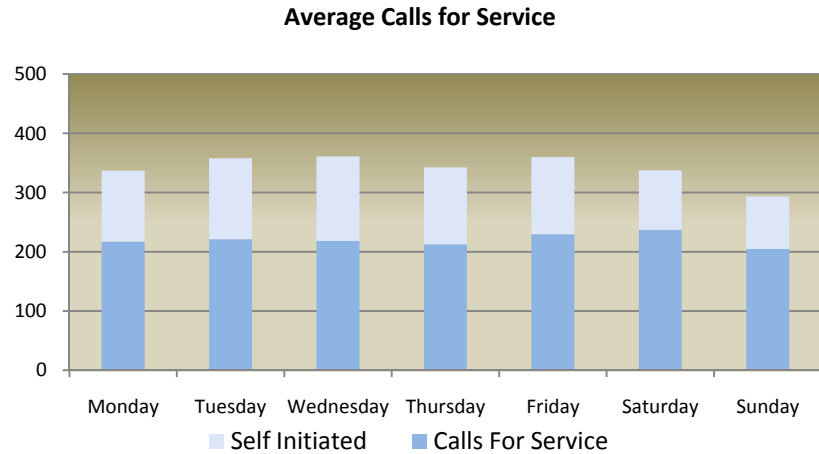


Exhibit 15
Zone 5
Average Calls for Service, On-Duty Patrol Units, and Blackout by Day of Week

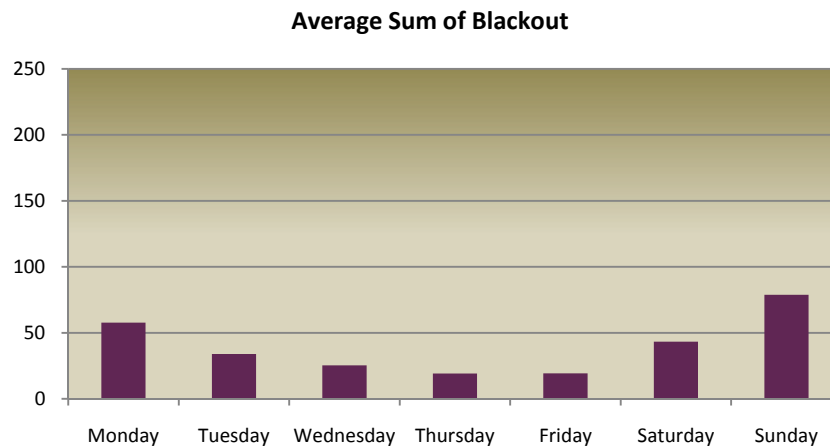
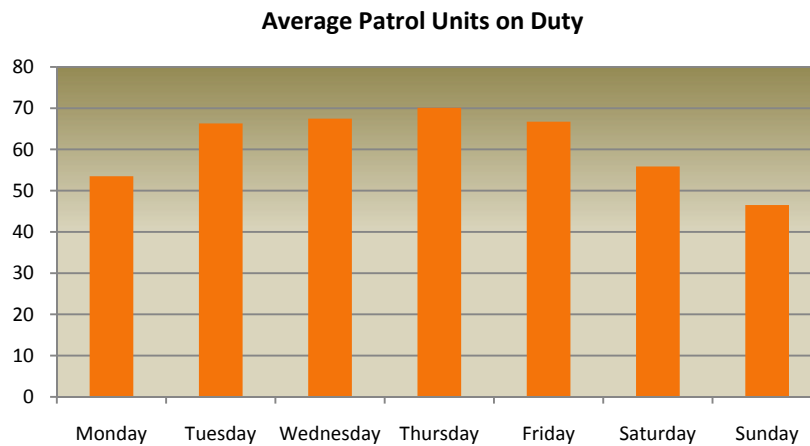
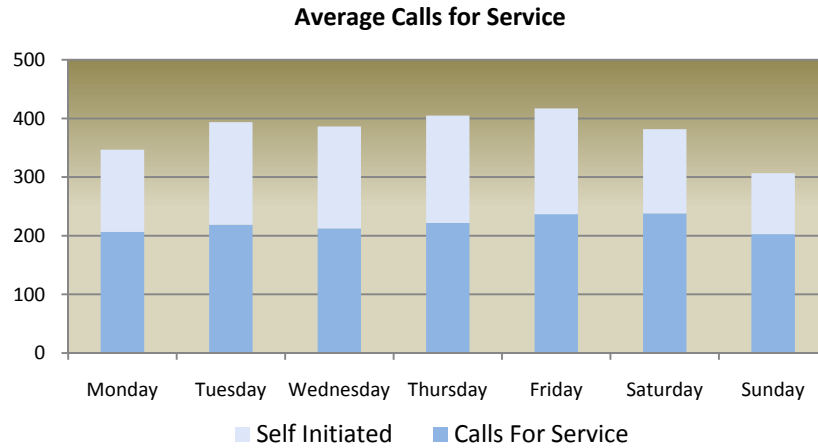
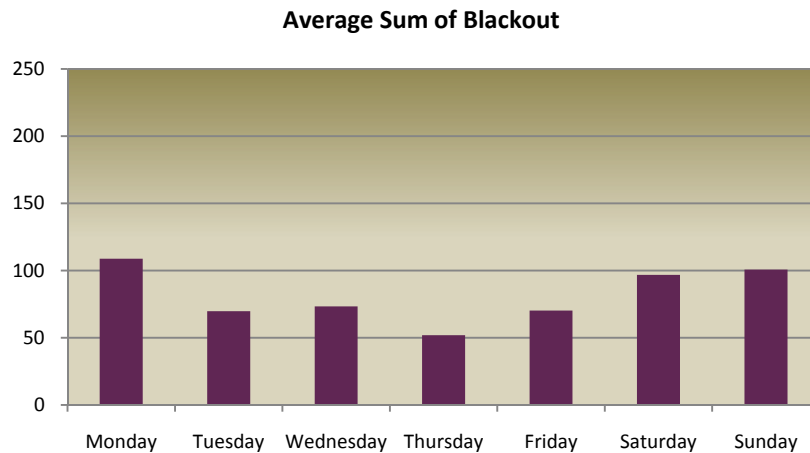
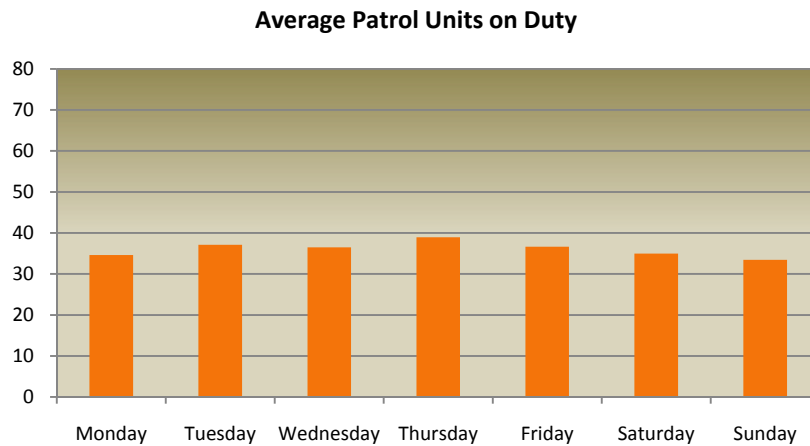
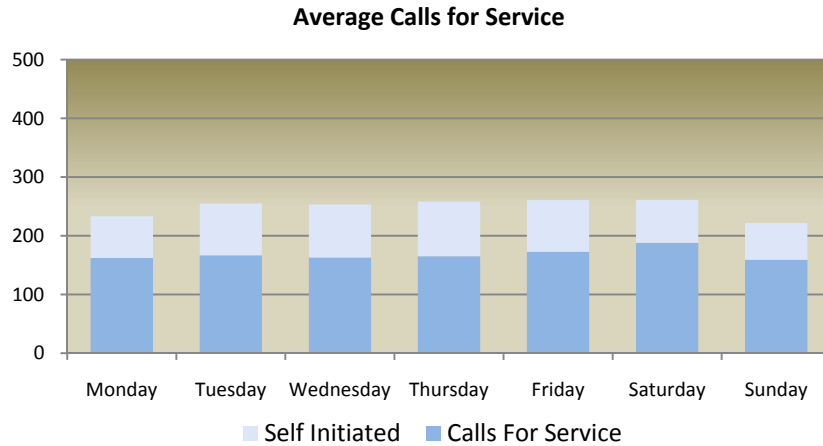


Exhibit 16
Zone 6
Average Calls for Service, On-Duty Patrol Units, and Blackout by Day of Week



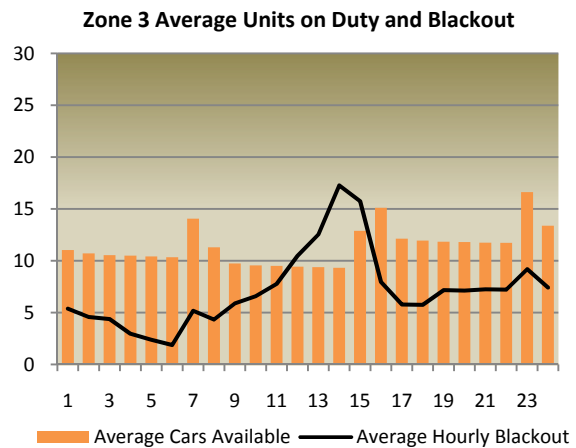
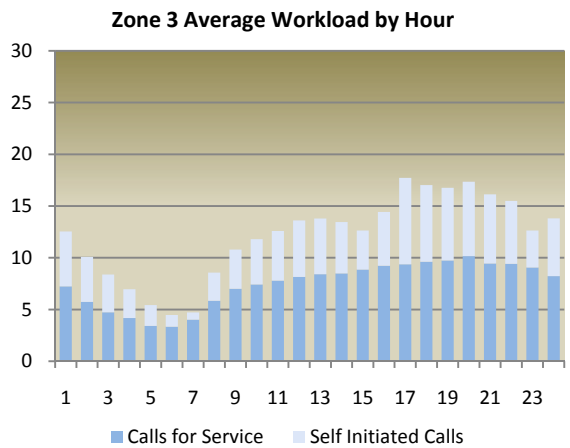
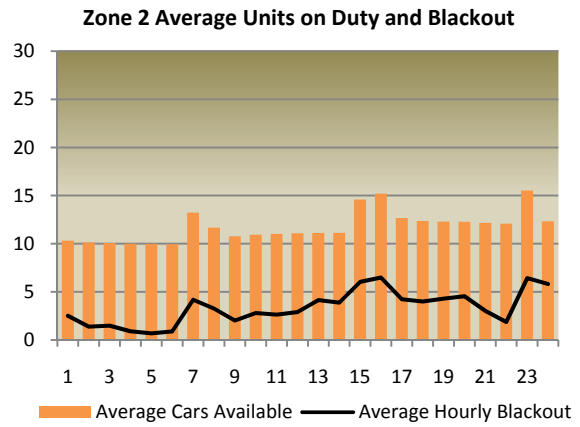
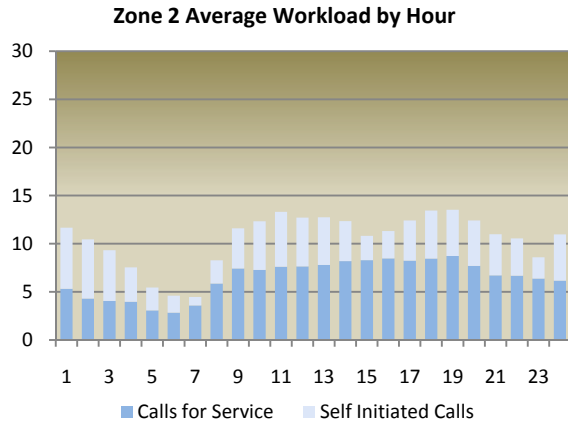
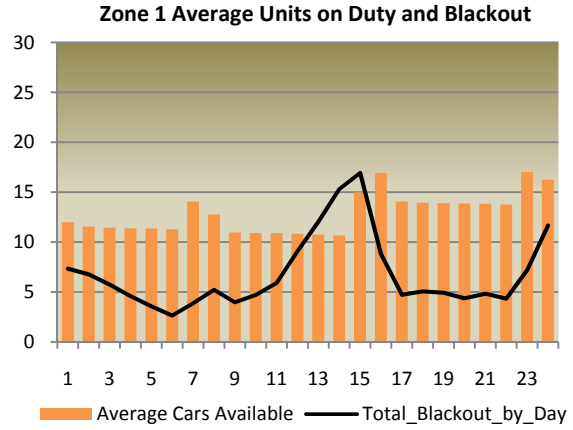
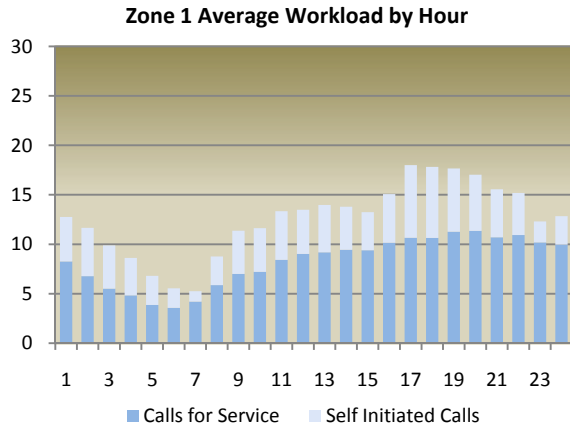
Staffing per Shift Could Better Match Calls for Service

The Police Department could reduce blackout by better aligning on-duty patrol staffing with workload by hour of day. Calls for service in each zone followed a similar pattern throughout the day. However, the number of on-duty patrol officers varied little across shifts in most zones. Zone commanders could shift officers from times of low workload to help manage periods when workload is higher.

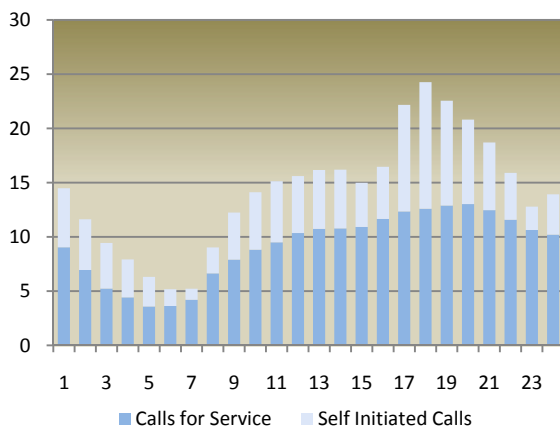
Patrol staffing per shift doesn't match workload in most zones. Calls for service were lowest in each zone from 1:00 to 7:00 AM and highest between 5:00 and 8:00 PM, staying fairly steady through midnight. While the volume of calls was different, the pattern of when calls were received was very similar across zones. The number of on-duty patrol officers varied little across shifts in most zones. In zone 4 (Southwest Atlanta), where the number of patrol units on duty was about the same throughout the day, the amount of blackout in each hour increased as the number of calls increased – reaching a high of just over 20 minutes per hour from 10:00 PM until midnight. Zones 1 (West Atlanta) and 3 (Southeast Atlanta) had lower on-duty staffing between 9:00 AM and 2:00 PM. Average hourly blackout in these zones was highest between 2:00 and 3:00 PM, averaging about 16 minutes per hour. Average patrol staffing by hour of day most closely matched workload in zone 5 (Downtown/Midtown). Staffing was also much higher than in the other zones, so blackout increased only around morning shift change.

Exhibit 17 on the following pages shows the average number of calls for service and self-initiated activities, the average number of patrol units on duty, and the average amount of blackout minutes in each zone by hour of the day for the 13-month period we analyzed.

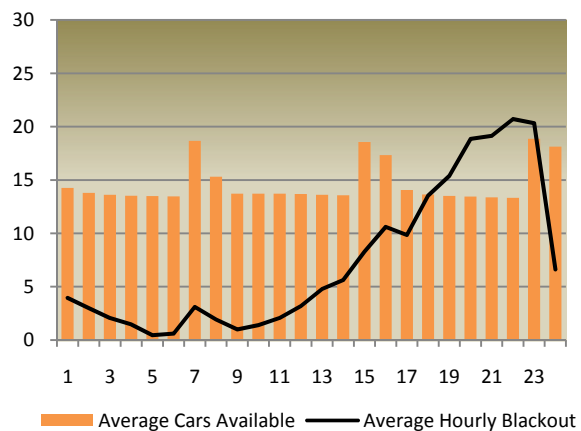
Exhibit 17 Average Workload, On-Duty Patrol Units, and Blackout by Hour of Day



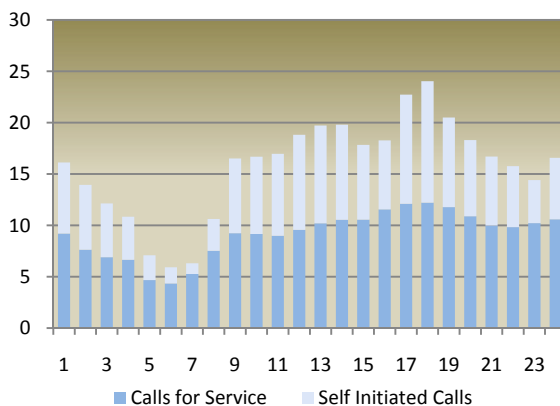
Zone 4 Average Workload by Hour



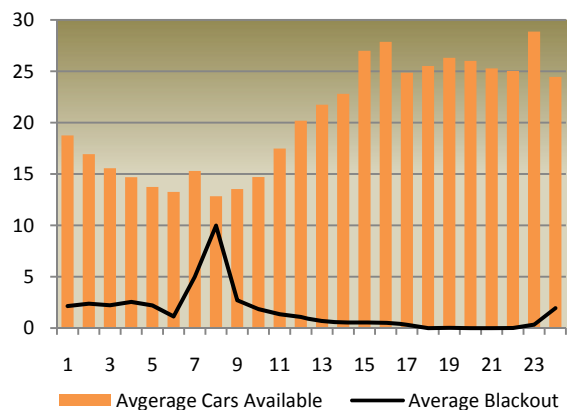
Zone 4 Average Units on Duty and Blackout



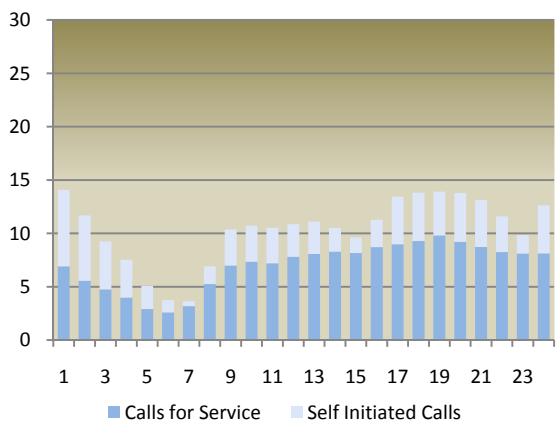
Zone 5 Average Workload by Hour



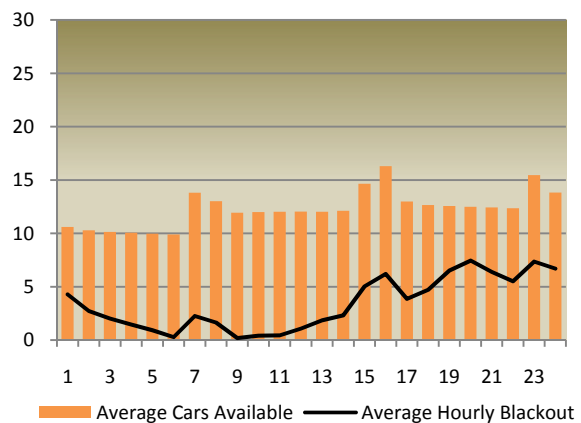
Zone 5 Average Units on Duty and Blackout



Zone 6 Average Workload by Hour



Zone 6 Average Units on Duty and Blackout



Disparities In Uncommitted Time Among Zones Reflect Resource Differences

The police department could equalize uncommitted time by shifting resources or workload among zones. Officers in some zones had less uncommitted time and therefore less opportunity to engage in community policing activities than in others. Better aligning the number of officers on duty to call volume throughout the day could also shift officers' uncommitted time to times of day when it could be more productive.

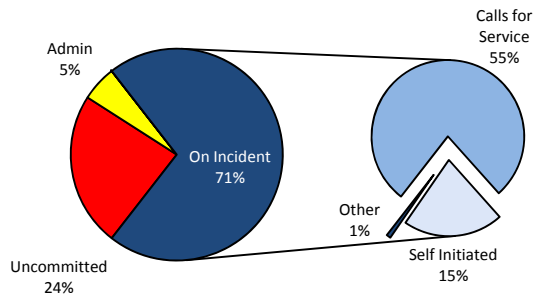
The chief of police should set a goal for the percentage of uncommitted time in each zone and consider uncommitted time as well as blackout in allocating patrol resources.

Lack of uncommitted time could hinder patrol effectiveness in some zones. About 25% of patrol officers' time was uncommitted in zones 1 (West Atlanta), 3 (Southeast Atlanta) and 4 (Southwest Atlanta). By contrast, about 35% of officers' time was uncommitted in zones 2 (North Atlanta/Buckhead) and 6 (East Atlanta), and 45% of officers' time was uncommitted in zone 5 (Downtown/Midtown). Uncommitted time tended to be lower Fridays and Saturdays, and in all zones but 5, was lowest in the late afternoon and evening hours when community policing activities presumably would be most productive.

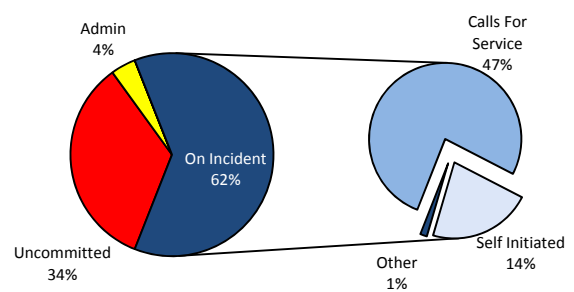
Exhibit 18 shows for each zone the overall percent of on-duty patrol officers' time devoted to answering calls for service, self-initiated activities, administrative activities, and their remaining uncommitted time. Exhibit 19 shows the average percent of on-duty patrol officers' time committed and uncommitted by day of week. Exhibit 20 shows the average percent of on-duty patrol officers' time committed and uncommitted by hour of day.

Exhibit 18 Comparison of Uncommitted Time across All Zones

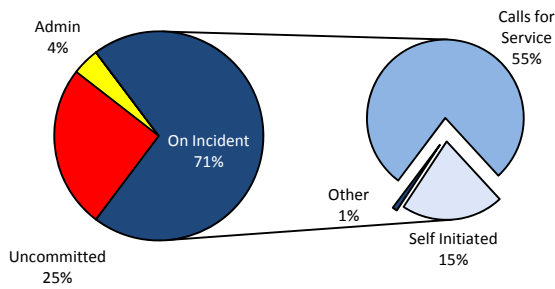
Zone 1 Committed Time Breakdown



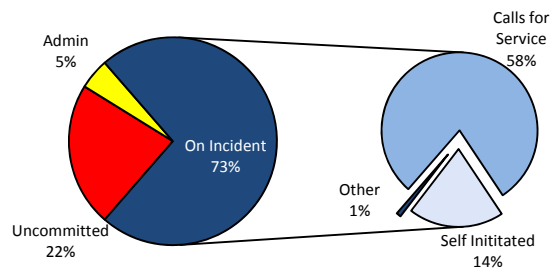
Zone 2 Committed Time Breakdown



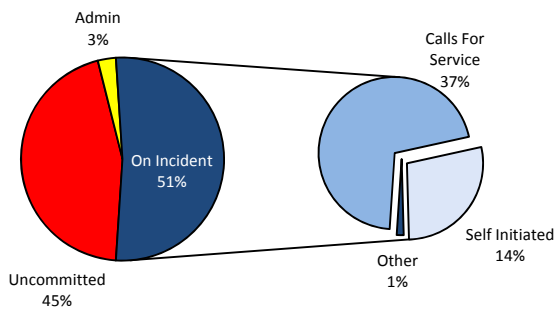
Zone 3 Committed Time Breakdown



Zone 4 Committed Time Breakdown



Zone 5 Committed Time Breakdown



Zone 6 Committed Time Breakdown

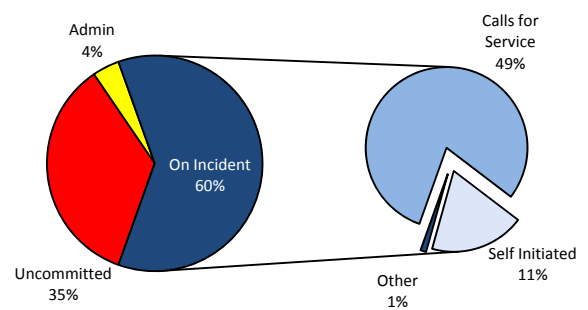
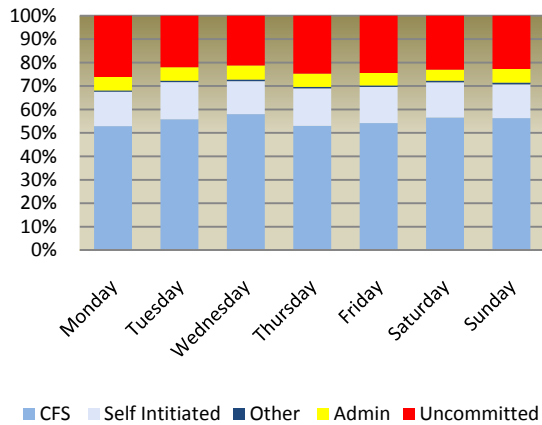
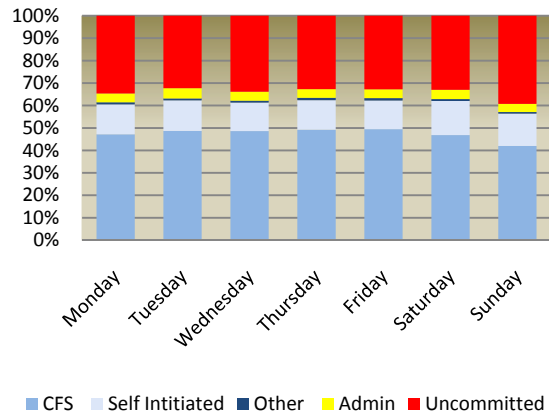


Exhibit 19 Comparison of Uncommitted Time across All Zones by Day of Week

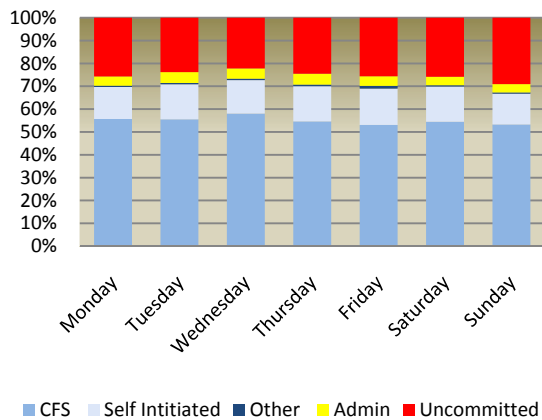
Zone 1 Daily Committed Time



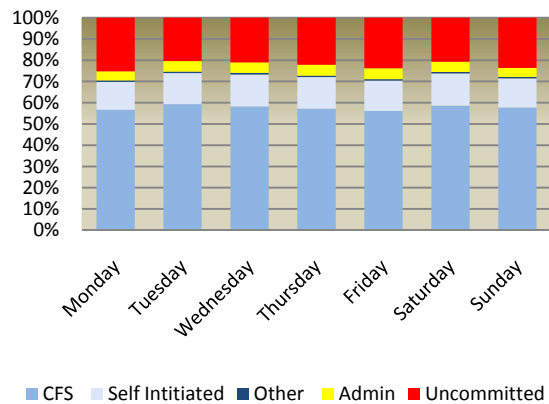
Zone 2 Daily Committed Time



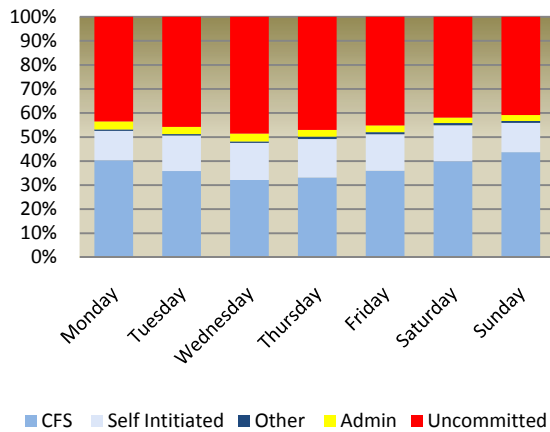
Zone 3 Daily Committed Time



Zone 4 Daily Committed Time



Zone 5 Daily Committed Time



Zone 6 Daily Committed Time

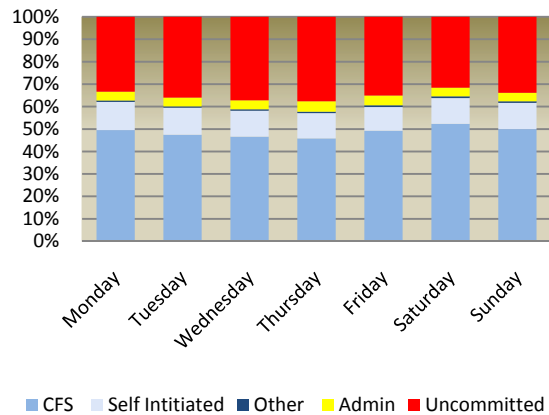
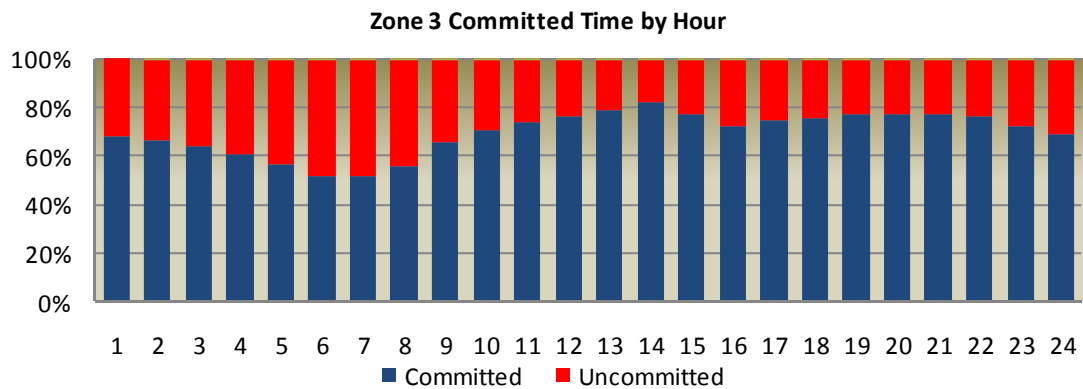
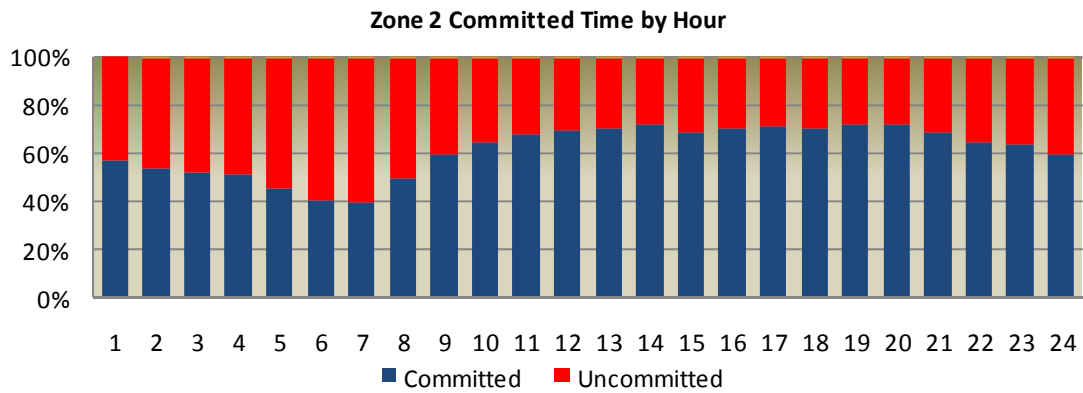
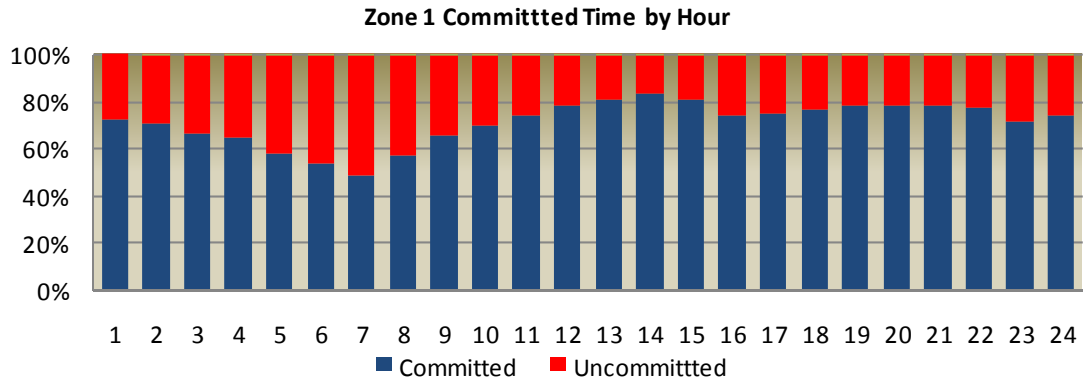
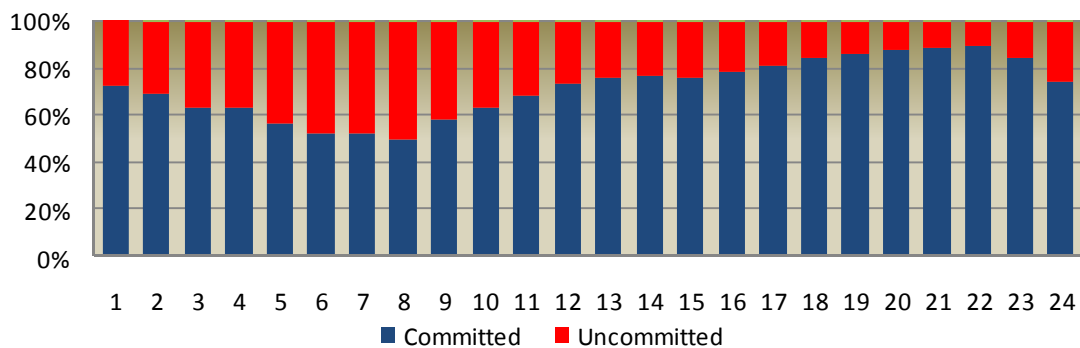


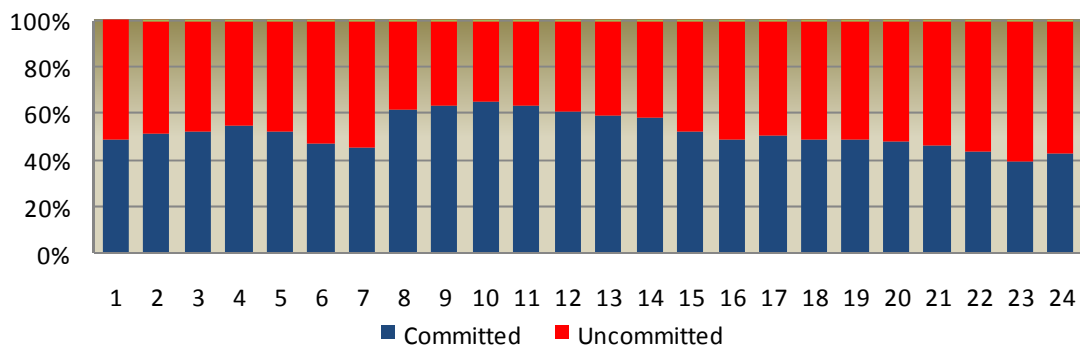
Exhibit 20 Comparison of Uncommitted Time across All Zones by Hour of Day



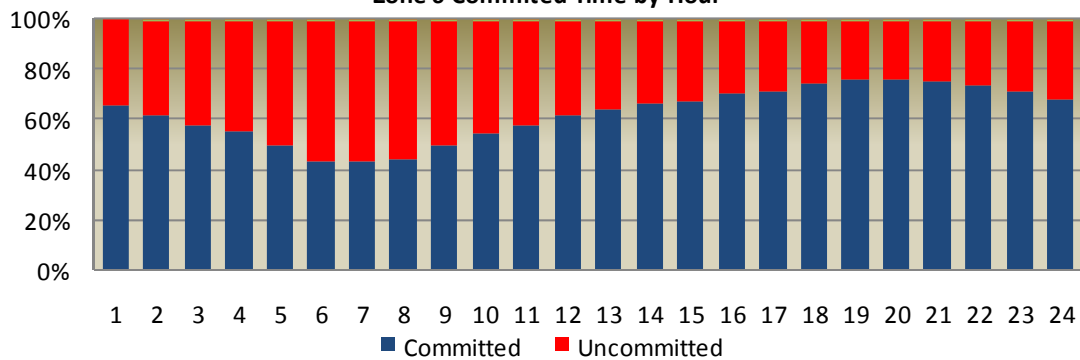
Zone 4 Committed Time by Hour



Zone 5 Committed Time by Hour



Zone 6 Committed Time by Hour



Recommendations

Our recommendations identify how the Atlanta Police Department can better use existing data to aid resource allocation and deployment decisions.

1. The police department should regularly measure and report on blackout and uncommitted time, in each zone and for the department as a whole, and use these measures as tools to strategically deploy patrol resources.
2. The police department should set a goal for the percentage of uncommitted time in each zone and consider uncommitted time as well as blackout in assigning resources.

Appendices

Appendix A

Management Review and Response to Audit Recommendations

Report # 07.04c		Report Title: Police Patrol Officer Availability	Date: 04/06/09
Recommendation Responses			
Rec. # 1	The police department should regularly measure and report on blackout and uncommitted time, in each zone and for the department as a whole, and use these measures as tools to strategically deploy patrol resources.		Agree
<p><u>Proposed Action:</u></p> <p><u>Implementation Timeframe:</u></p> <p><u>Comments:</u></p> <p><u>Responsible Person:</u></p>		<p>The Department will work with the audit team to learn the process used and develop the programs to conduct monthly audits to use to strategically deploy available patrol resources.</p> <p>We are currently working with the audit team to begin this process.</p> <p>We have currently been using a Workload Analysis developed by the Planning and Research Unit to deploy available resources. We have already moved beats from Zone 4 to Zone 3 to assist with accomplishing some of the recommendations in the audit based on this information.</p> <p>Deputy Chief P. N. Andresen, Field Operations Division and Sergeant D. M. Ferguson, Crime Analysis Unit</p>	
Rec. # 2	The police department should set a goal for the percentage of uncommitted time in each zone and consider uncommitted time as well as blackout in assigning resources.		Agree
<p><u>Proposed Action:</u></p> <p><u>Implementation Timeframe:</u></p> <p><u>Comments:</u></p> <p><u>Responsible Person:</u></p>		<p>The Chief of Police will set a goal for percentage of uncommitted time in each zone and consider uncommitted time as well as blackout in assigning resources when available.</p> <p>As soon as the current information is available per Recommendation #1, the Chief will be able to set a goal based on the personnel available.</p> <p>The current data is over one year old and as the Audit stated, we currently are operating at less capacity than when the audit was done.</p> <p>Assistant Chief A. J. Dreher, Chief of Operations.</p>	

