

Houston Police Department

Operational Staffing Model

May 2014



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INTRODUCTION AND EXECUTIVE SUMMARY

The Houston Police Department (HPD) contracted with the Police Executive Research Forum (PERF) and JUSTEX Systems, Inc. to conduct a study of the operational staffing for the Police Department. The focus of the study is on those elements of the department that provide direct services to the people of Houston (i.e., the operational units). The study included a review and assessment of the following units (See Organizational Chart, page 10):

- Field Operations:
 - Units assigned to Houston's 13 geographically-based Patrol Divisions
 - Units assigned to the Traffic Enforcement Division
- Strategic Operations:
 - Units assigned to the Airport Division, which provides services for the George Bush Intercontinental Airport and the William P. Hobby Airport
 - Units assigned to the Special Operations Division, which provides patrol operations for the Central Business District and Downtown
- Investigative Operations:
 - Units assigned to Criminal Investigations Command
 - Units assigned to Special Investigations Command

The City of Houston, with a population close to 2.2 million in 2012, is the fourth largest city in the U.S. Only New York, Los Angeles and Chicago are larger in population. Houston also is big geographically and has a diverse population. Its status as the largest U.S. city in proximity to the U.S.-Mexico border adds complexities and challenges that the city's leaders must deal with daily. The Houston Police Department is the fifth largest police department in the country, with approximately 5,300 officers. (Philadelphia, the fifth largest city, has the fourth largest number of police officers.) Similar to other law enforcement agencies, approximately 80 percent of Houston's officers are in operational units.

Reactive, Proactive and Regulatory Policing Work

One way police operational staffing studies can examine policing functions is according to whether the work performed by various components are primarily reactive, proactive or regulatory in nature.

Units providing **reactive** services exist primarily to respond to demands and expectations from the public for service, either by requesting police service directly (such as making a 911 call) or

by responding to general community or political expectations of police service; for example, expectations that the police will investigate the crimes that are reported to them.

In contrast, **proactive** units are generally created to seek out and address specific problems that result in crime, or other issues that have an impact on public safety. Proactive units have been created in police departments for various reasons, including the need to bring focus to certain crime and safety priorities established by the department and/or city leaders, and the need to respond to specific problems of crime and disorder that the reactive units are unable to address. The establishment of some proactive policing units also has resulted from the broadly accepted understanding that the police and community must work together to effectively identify and address crime problems as a means of improving overall community safety. Examples of proactive units include vice and narcotics units, units that focus on repeat or violent offenders, and units that seek to reduce motor vehicle crashes and improve the flow of traffic.

Finally, **regulatory** units exist to provide oversight for businesses licensed by the city that may, without monitoring and inspection, become involved in criminal enterprise. Legal gaming establishments, sexually oriented businesses, liquor sellers, and automotive dealers and recyclers are examples of such businesses.

Measuring Police Workloads and Results

Determining the appropriate numbers of officers needed for each of the types of functions – reactive, proactive and regulatory – depends on developing measures of the workload that needs to be addressed. The complexity of the workload measurement process varies by the function type.

Because reactive policing is demand driven, much of the data needed to examine reactive patrol staffing is routinely recorded through a department's computer aided dispatch (CAD) system. This system tracks information, such as: the type of call; its level of urgency; the address that the officer is sent to; the time the call was received; when it was dispatched; when the officer(s) arrived; and when the call was completed. The CAD system can be used to determine the average amount of time it takes for officers to arrive at the scene of a call (response time), the amount of officer time consumed by calls for service, and the amount of officer time consumed by officer-initiated activity, such as motor vehicle stops, checks of suspicious persons, and community engagement activities. (This latter activity – officer-initiated – is proactive but still can be measured through the CAD system.)

An examination of the department's reactive investigation workload also can be accomplished by assessing a number of other sources of data, including the routine reports of crime that are captured by the department's record management system (RMS). These records can be coupled with detective worksheets to determine the total time needed to conduct reactive investigations, and the number of detectives that a department needs to ensure that it can conduct thorough investigations that are likely to result in solving crimes.

The work of proactive units is more difficult to assess. While the number of calls for service and the number of crimes reported by the public are readily counted, the size of a city's traffic problems, narcotics trafficking, gang issues and need for inter-agency task forces is not so easy to measure.

The task of measuring a police department's efforts to handle a city's traffic problems is often reduced to measures of officers' activities, such as the number of citations issued or the number of drunk/impaired drivers arrested. More substantive "outcome" measures would include any reductions in the number of fatal crashes as a result of enforcement efforts targeted at high-risk locations for crashes. Another outcome measure would be the extent to which traffic congestion decreased, assessed by the average time it takes to travel through a habitually-congested area.

Anti-narcotics operations typically are measured in terms of the amount of drugs and assets seized and the number of arrests made, especially of drug "kingpins." However, a better assessment would be the impact of police anti-narcotics operations on various drug-related issues in the community.

A focus on gang operations is often measured by the number of arrests made. "Outcome" measures for anti-gang operations could include any reductions in gang-related shootings, reductions in the numbers of gangs and gang members, or overall reductions in gang crime, both violent and non-violent.

It is difficult to measure a single agency's contributions to interagency task forces. If the results of task force activities are reported at all, they usually are summarized for the task force as a whole, rather than according to the individual contributions of member agencies. If a city wishes to assess whether it should continue putting police resources into a task force, it can attempt to measure arrests of offenders who live in the city's jurisdiction, the number of crimes committed in the city that are cleared by those arrests, and/or the number of organized crime enterprises with major operations in the city that have been eliminated.

Proactive police units usually report the number of activities they complete – reports written, cases reviewed, arrests made, drugs/assets seized, etc. It is difficult to determine the actual impact of adding one additional officer to a proactive unit or the loss by reassigning one. Because there has been little emphasis on the outcome of the unit (i.e., the mission of the unit), the number of officers assigned is primarily a management preference based on historical staffing. Questions of staffing need to focus on the actual impact of the unit on the crime problem it was designed to address.

Police regulatory functions are frequently measured by the number of inspections made, the number of violations discovered and the number of neighborhood complaints addressed. The purpose of most police regulatory units is to solve quality-of-life issues (e.g., noise, disorder, excess traffic) in and around licensees, and to prevent infiltration of legitimate businesses by criminal enterprises. Measures that should assist in determining the success of regulatory units include the ability to respond promptly to neighborhood complaints, the ability to conduct proactive investigations that result in the discovery and prosecution of criminals tied to license violations, and the volume of inspections that are violation-free. Inspections are a deterrent. They should be conducted often enough (and the penalty for violations should be severe enough) that licensees have sufficient incentive to avoid crime.

Guidance from a PERF Committee

All large police agencies face similar challenges in measuring the impact of special units that focus on proactive and regulatory work, and in deciding how to balance resources between special units and general patrol. To obtain guidance on these difficult issues, PERF convened a group of seven experienced law enforcement officials, including six police executives who served in jurisdictions of various sizes and a federal prosecutor. Collectively, the group included former police chiefs of four of the nine largest cities in the United States.

Guidance provided by this panel of experts has been integrated into this report's discussion of many issues. Following is a summary of the general issues that were discussed by the experts:

Maintaining a sufficient level of general patrol is critically important. Patrol officers are the ones who must be available to respond on a 24/7/365 basis to any crime or other incident that must be handled immediately. There must always be enough patrol officers to meet that demand.

However, specialized units are important for providing specialized types of police response that require more training than is provided to patrol officers. Specialized units also should be seen as providing critical support to patrol, by handling difficult or time-consuming tasks that otherwise would drain patrol resources.

For example, the community has expectations regarding the police response to serious or fatal motor vehicle crashes, and traffic units with specialized training and resources can do a better job with a complex investigation of a traffic incident. Furthermore, traffic units can take the burden off of patrol officers when a major accident results in a large traffic tie-up, even if there are no injuries or need for a complex investigation of the crash. As one chief expressed the issue, if 15 or 20 patrol officers must respond to a major accident on a Friday or Saturday night, which will interfere with the patrol response to other calls for service during a time of peak demand.

Furthermore, patrol officers in many departments consider traffic enforcement a low priority. So if a city wishes to make a priority of reducing injuries and deaths from traffic accidents by focusing on the times and locations where crashes occur most often, it may need a traffic unit to achieve that focus.

Similarly, assigning officers to multi-agency task forces to investigate narcotics cases or other priorities must be handled carefully. The police chiefs on PERF's committee agreed that many task forces are absolutely essential, because they combine resources across jurisdictional lines and allow investigations of large-scale criminal organizations. Police officers also obtain expertise and training by serving on task forces that they would not otherwise receive.

At the same time, chiefs on PERF's committee agreed that task forces can become a "bottomless pit," as one chief expressed it. Top police officials must maintain a constant vigilance to ensure that the work of a task force is actually benefiting their own jurisdiction. "You have to check on what your officers are doing, and constantly remind them about who they're working for," one chief said. Often, police officers assigned to a task force enjoy the freedom of the work and the status of the position and never want to leave the assignment.

Police chiefs who assign officers to federal task forces can ask the federal officials running the task force for regular reports about what the task force is doing (with possible rare exceptions in the case of anti-terrorism task forces), and about the performance of the local police officers. PERF committee members cautioned against assuming that federal officials will manage local

officers or advise local police chiefs about any weaknesses in the performance of local officers, if the chief does not ask for the information.

In the end, the police chiefs on PERF's committee said that balancing police resources between general patrol on one hand, and specialized units and task forces on the other hand, is a combination of art and science. Police leaders must try to obtain data on issues that are not always quantifiable, and must make educated judgment calls about the balance that works best in a given city.

Throughout this study, these functions were assessed and measured according to the above criteria to the extent possible, with distinction made between reactive, proactive and regulatory functions of the Houston Police Department.

How the Study Was Completed

This review of operational staffing in the Houston Police Department was conducted by PERF and JUSTEX Systems. At HPD's direction, JUSTEX Systems took responsibility for assessing *reactive* functions, including the operational staffing needs for all of the units assigned to Houston's 13 geographically-based Patrol Divisions within Field Operations, as well as the reactive units within Investigative Operation's Criminal Investigations Command. JUSTEX Systems used its Allocation Model for Patrol (AMP) and Allocation Model for Investigations (AMI) to project staffing needs. The models determine the numbers of officers needed under various scenarios, which require decisions by top police officials or government leaders about performance and policy choices.

The PERF portion of the study focused primarily on assessing the *proactive* and *regulatory* operations of the department, including units¹ within the Traffic Enforcement Division of Field Operations, units within the Special Investigation Command of Investigative Operations, and units assigned to the Airport and Special Operations divisions within Strategic Operations.

These essential elements are reflected in many of the policy preferences discovered by PERF as part of this study.

¹ "Unit" is used here in a generic sense. The HPD, when referring to specific organizational entities, often uses "unit," "detail," "squad," and "group" interchangeably.

Policy Preferences

As an initial step in the study, project staff interviewed Chief Charles McClelland, the department's command staff, and a number of city council members identified by the Mayor's Office. Additional HPD personnel, including the supervisors in charge of each of the divisions and units, along with a number of the rank and file officers working in the various units, were interviewed throughout the study process. The purpose of these interviews was to identify the key reasons and preferences for policies that guide the operations of the Houston Police Department. HPD's policy decisions represent the needs and preferences of the department and city leaders and the community. The main policy preferences and policing priorities identified through these interviews are summarized in the following list. These priorities and preferences were factored into the staffing recommendations made in this report.

1. There is a consistent preference for having a **high level of police visibility** and frequent presence of officers and patrol cars in the city. A driving force behind this is a widely-held community perception that the city is dangerous and a general fear of crime. In some areas of the city, neighborhoods have contracts with their local Constable's Office to provide patrol services above and beyond what they get from the HPD.
2. There is a preference inside the department to **have more patrol officers available in two-officer cars**. This is thought to enhance productivity by increasing the level of self-initiated activity and enhancing officer safety.
3. There is a preference to **improve the department's investigative capacity**. The department realizes there are too many cases with workable leads that are not being pursued due to lack of resources.
4. There is a desire to **increase community policing efforts and encourage greater community participation** in crime prevention and problem-solving efforts. City and department leaders want to encourage policies that involve the community in working with the police to address crime issues, especially to focus on quality-of-life issues.

5. All officials agreed that the department's policy decisions should **encourage more positive police involvement with youth** through school visits and sponsorship of after-school and summer programs.
6. While popular with the community, some city and department officials are interested in **re-examining the benefits of the Patrol Command's storefronts**. The department's storefronts are small police substations located within various communities throughout the city. They are utilized by neighborhood policing officers to interact and problem-solve with community and business members. There are some 26 police storefronts in the city and department leaders want to ensure that the resources committed to the storefronts are best utilized, while also encouraging all officers to engage in community policing.
7. The general preference of HPD's leaders (and historically) is to **decentralize policing**, giving division captains the resources to prevent and control their crime problems and to engage in the community-policing initiatives that fit their local context.
8. There is broad support that the department's **current level of staffing be maintained**, at the least. This includes making sure that officers are hired at a rate sufficient to keep pace with attrition.
9. Most stakeholders who were interviewed place a high value on the department being able to respond adequately to **community complaints** about disorder, noise, and excess traffic; and to ensure criminal and regulatory enforcement of vice offenses involving sexually-oriented businesses, street-level prostitution, gambling, and liquor laws.
10. Patrol officers need to be **engaged with the community** to involve them in policing efforts for the neighborhoods they patrol. However, the city's size, geography, and relatively low population density in some areas, makes it more difficult for foot or bicycle patrols to be effective. Recognizing these constraints, stakeholders prefer that beat officers be deployed in such a way that they have the most contact possible with the community. Community and business members should be familiar with their local officers and vice-versa.

11. **Street gangs** are becoming increasingly involved in organized crimes, including drugs, prostitution and human trafficking. Both police and city leadership want the department to commit resources to organized crime, as well as street crime, to combat violence and other issues in the city in the long term.

12. A preference was expressed for an increased emphasis on **traffic crash reduction**. Through the first three months of 2014 there have been more traffic fatalities in Houston than homicides.

PERF has compiled all the results of this work into this report. Following is a summary of the methodologies used and general findings for each aspect of the department studied.

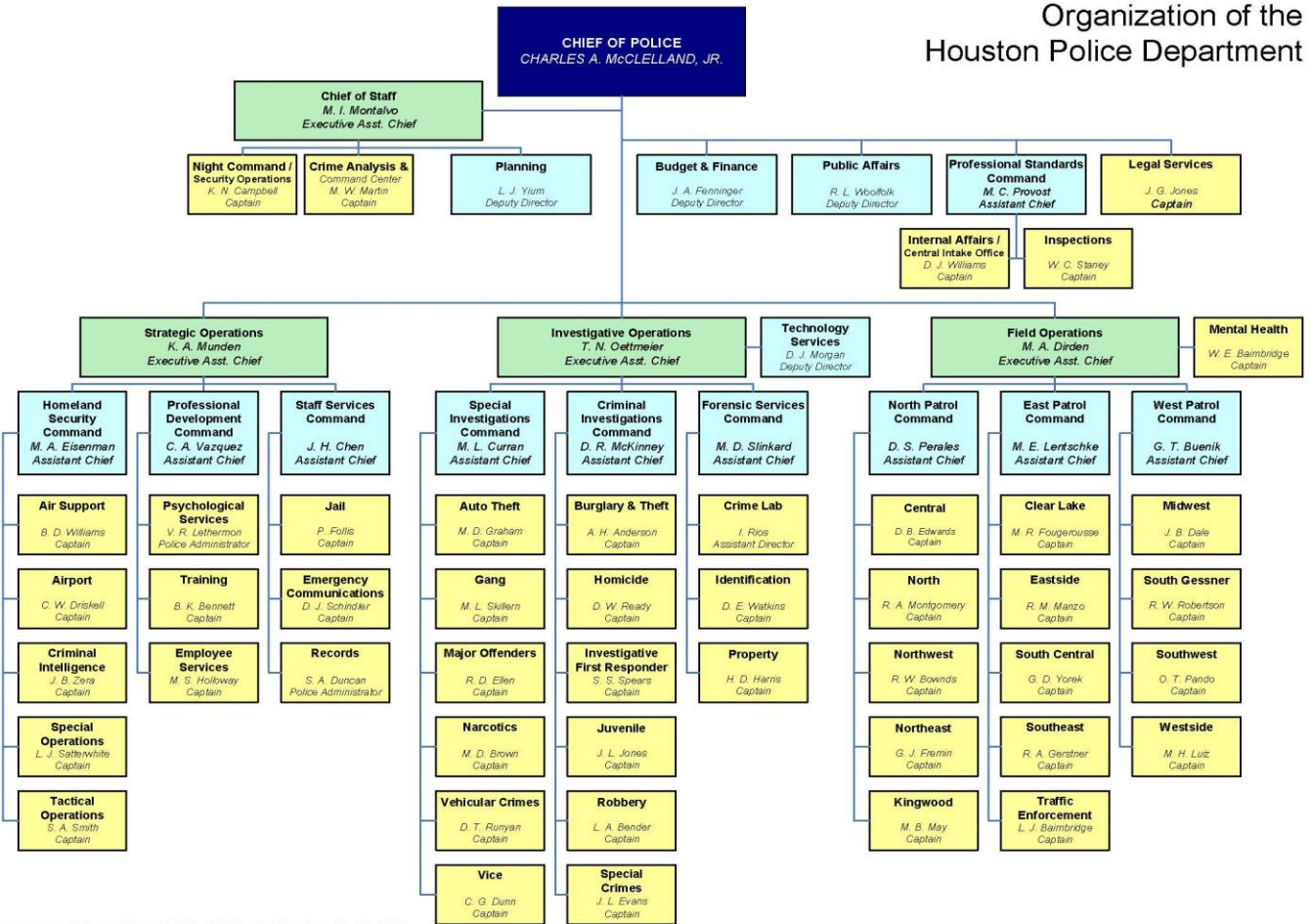
HPD's Organizational Structure

Organizationally, the Houston Police Department is comprised of three operations, ten commands, and 40 divisions. These components are led by an executive assistant chief, assistant chief, and a captain respectively. The department's organizational chart is shown below.

Houston Police Department Operational Staffing Model

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Organization of the Houston Police Department – as of 10/30/13

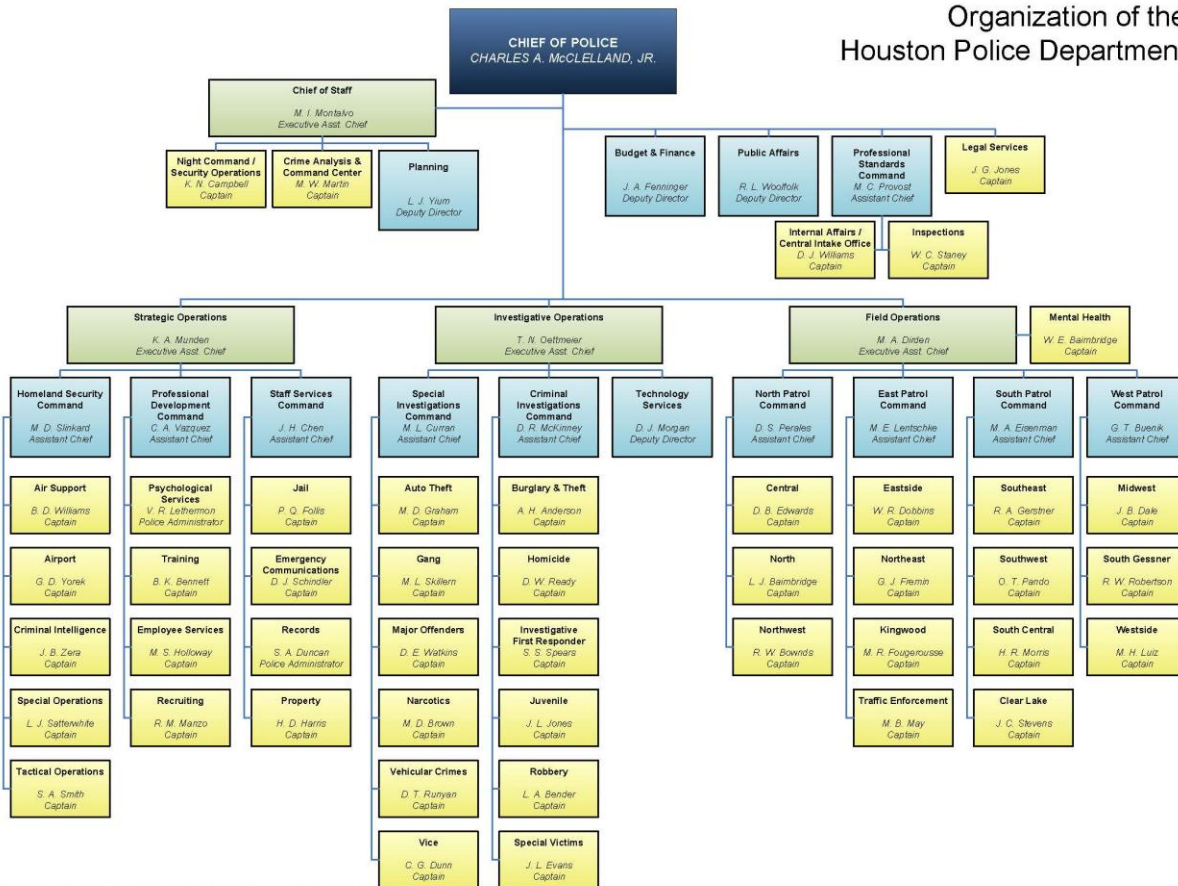


Note that this report reflects the above organizational chart. As of this report's submission, the Houston Police Department issued a new organizational chart to be effective April 12, 2014. The most notable change was the addition of a South Patrol Command made up of the Southeast, Southwest, South Central and Clear Lake divisions. The department's new organizational chart reflecting the Field Operations changes is shown on the following page.

Houston Police Department Operational Staffing Model

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Organization of the Houston Police Department



Source: Office of the Chief of Police / Effective 4.12.2014

Altogether, PERF assessed 38 of the primarily proactive and regulatory operational units in the Houston Police Department. Some of these units are small – composed of less than five officers. The number of units and variety of functions are typical of large urban police departments in the U.S. The number and variety also reflect the historical operating philosophy of the Houston Police Department as it has evolved over the years.

Beginning in the 1980s, during the tenure of Chief Lee Brown, the Houston Police Department became one of the foremost proponents of community policing and problem-solving. Brown laid out the tenets of the HPD approach in a National Institute of Justice publication in 1989.² Community policing and problem-solving policing are essentially “proactive” approaches that

2 Lee P. Brown. “Community Policing: A Practical Guide for Police Officials.” National Institute of Justice.

are a departure from traditional policing, which focused more on “reactive” work, especially investigating crimes and responding to calls for service. Furthermore, traditional police department management is based on an authoritative style and adheres to the military model of command and control. Community policing sought to decentralize the provision of policing services, to neighborhoods and to communities often bound together by common interests.

Community policing today still relies heavily on collaborative police-community problem-solving activities, which incorporates problem identification, problem analysis and problem resolution. By working to identify the patterns of crime and eliminate the problems that contribute to crime, (rather than only responding after crimes have been committed), community policing and problem-oriented policing are considered more proactive. As part of community policing, community engagement is increased and officers are expected to work collaboratively with the community to develop innovative ways to solve neighborhood problems. The HPD currently operates in this vein, using a decentralized model with much of the decision making devolved to the division captains working with their neighborhoods to tailor the delivery of policing services.

Organization of the Report

The policy preferences identified above are reflected both in the patrol and reactive investigations analysis described above and in the analysis and findings for proactive and regulatory units. This latter analysis is described in a series of issue-based sections and in a series of specific unit-by-unit sections. In the next section, “Inter-Agency Task Forces,” all of the HPD task forces are analyzed, including the Houston Auto Crimes Task Force, the Multi-Agency Gangs Task Force, the Gulf Coast Violent Offenders Task Force, the Achilles Task Force, the HIDTA (High Intensity Drug Trafficking Area) Task Force, the Houston Joint Terrorism Task Force (JTTF), the Houston Field Intelligence Group, the Houston Area Cyber Crime Task Force, the Human Trafficking Rescue Alliance, the Houston Innocence Lost Task Force, the Houston Asian Organized Crime Task Force, the Major Theft Task Force, and the Houston Violent Crime Task Force.

The “Traffic” section includes the analysis of the Traffic Enforcement Division and the Vehicular Crimes Division.

The section after that, “Regulatory Functions,” includes an analysis and discussion of the Vice Division and the Auto Dealers Unit.

Following those three issue-based discussions are summaries and analyses of specific units not assessed in the issue-based sections. These include:

- Airport Division
 - George Bush Intercontinental Airport
 - Hobby Airport
 - Criminal Investigations Unit
 - Tactical Unit
 - Explosive Detention – Canine Unit
- Special Operations Division
 - Mounted Patrol
 - Special Response Group
 - Special Events Group
 - Bicycle Administration and Training Unit
- Auto Theft Division
 - Special Investigations Unit
 - Proactive Unit
- Gang Division
 - Gang Resistance Education and Training (GREAT)
 - The Crime Reduction Unit (CRU)
- Major Offenders Division
 - The Targeted Offenders Unit
 - Special Thefts Unit
- Narcotics Division
 - General Narcotics North
 - General Narcotics South

These individual unit assessments are followed by a discussion of areas for potential “civilianization” within the department, and comparisons of the Houston Police Department to a series of peer agencies on significant “benchmarks.” A final section provides an analysis of crime in Houston over the past ten years.

Summary of Findings: Reactive Functions

Following is a summary of JUSTEX Systems’ findings regarding reactive functions in the Houston Police Department.

Field Operations: Patrol Division Unit Staffing Models

JUSTEX’s assessment of the *patrol command divisions* assessed both the reactive elements in each division and the proactive units with designated specialist patrol officers needed in each

division. Under current conditions, patrol has 2,174 officers and 338 sergeants for a total of 2,512 positions in the baseline call response mode.

To do this, JUSTEX ran various patrol staffing scenarios each designed to achieve different levels of operations. The basic alternative model identifies how many additional officers would be required for the Houston Police Department to make good on a policy that requires a second, back-up officer to respond to certain types of calls for service.³ Currently, back-up officers are not always available in spite of the policy. Fully implementing this back-up requirement would require an additional 365 positions.

Other models increase the amount of self-initiated proactive patrol time from the current 10 minutes per hour to 15 or 20 minutes per hour while also increasing administrative time from three to five minutes per hour. Scenarios are offered that project the number of officers that would be required to increase the police presence throughout Houston. Specifically, the “visibility interval” was altered for both arterial and residential streets from the current standard of once every four hours for every arterial street and once every 24 hours for residential streets. Two models, not recommended, show the impact of allowing response time to increase.

There are 11 models that range from a decrease of 81 positions if the Priority One response time was increased from five minutes to ten minutes to an increase of 1,383 positions. This last scenario adds officers to fully implement the back-up requirement, to increase proactive time to 20 minutes per hour (and administrative time to five minutes per hour), and to increase visibility on arterial streets to once per hour while holding residential street visibility to once every 24 hours.

Reactive Investigative Work

JUSTEX also produced various scenarios to reach alternative performance levels for reactive investigative work. Each scenario resulted in a different number of investigators.

These calculations were made using data from time/effort logs completed by 167 investigators representing all reactive investigative units. This information was combined with caseload data provided by HPD. A review of the annual number of cases that were investigated (not all of the

³ Policy directs that two officers be sent to high-risk calls such as domestic violence, fights and crimes in progress.

crimes that were reported) was conducted, and the cases were broken down according to offense category, and within each offense category, by four suspect statuses:

- Suspect Unknown,
- Possible Suspect ID,
- Known Suspect at Large, and
- Suspect in Custody.

(Investigations can take less time and be more likely to result in a successful prosecution if a suspect is known and in custody, as opposed to cases in which investigators must first identify possible suspects.)

The first investigations analysis projected increased staffing to achieve an across-the-board 10% increase in time spent for all offenses—Persons/Property/Public Order – and indicates that an additional 45 investigators would be required. A second analysis shows that the same 10% percent increase in time spent on Persons’ offenses requires 27 additional investigators; a 10% percent increase in time spent on Property offenses results in 15 additional investigators.

The next step was to review the information extrapolated from the 167 time/effort logs to ascertain probable foci for investigative resources that are directed only at expanded effort to pursue cases with Possible Suspect ID leads. Among the violent crime categories the following variation in average hours for Possible Suspect ID cases was discovered:

Average Hours for Cases with “Possible Suspect ID”

<u>Offense</u>	<u>Average Hours Expended</u>
Murder / Homicide	52
Aggravated Assault	49
Robbery	12
Rape	22

There is a significant gap in hours dedicated to Murder / Homicide and Aggravated Assault compared to Robbery and Forcible Rape. To increase the average time spent on robberies with possible suspect ID from 12 hours to 20 hours would require 12 additional robbery investigators. To increase the average time spent on forcible rape from 22 hours to 40 hours would require 9 additional investigators. The values of 20 hours and 40 hours are premised upon professional judgment informed by the Activity Logs of the 19 investigative activities cited later. Taken together increases in effort for robbery and rape to bring them more in line with homicide and aggravated assault would require 21 additional investigators.

Next Justex calculated the staffing necessary to increase post-custody investigations for robbery. To increase the average hours spent from 19 to 30, bringing robbery closer in line with the other three violent Part I offenses, would require 8 more investigators. Then, a calculation was made to determine the number of additional investigators required to pursue a larger percentage of Burglary and Theft cases with leads. Increasing by 25% the number of Burglary and Theft cases with leads that are investigated would require an additional 27 investigators.

Justex's review of reactive investigations identified four targeted areas for increases—cases with leads for (1) robbery and (2) rape, (3) post-custody investigation for robbery, and (4) higher percent of follow-up for cases with leads for burglary and theft. Increasing staffing in these areas would require a total of 56 additional investigative positions, a 12% increase.

It is important to note that there are no standard levels for patrol or investigations; each police department makes its own decisions about how it deploys resources. There is no “correct” or accepted level of either patrol or investigative staffing. These calculations provide a tool for specifying what will be gained with increased patrol or investigative staffing, or what will be lost with decreased staffing. Rather than providing a generic recommendation to increase the number of patrol officers or detectives, this analysis offers a more nuanced set of options to show what can be accomplished with more resources. The models also force an explicit recognition that resources are finite – for example, that it is cost-prohibitive to investigate minor theft cases with unknown suspects. Although the study project staff is willing to make recommendations based upon this report, any recommendations would only be their own professional judgments — informed but nevertheless subjective. Others might make different, but equally well-informed and reasonable, choices.

Summary of Findings: Proactive and Regulatory Functions

Inter-Agency Task Forces

The Houston Police Department has assigned 187 sworn positions and eight civilian positions to 13 interagency task forces. These task forces are the Houston Auto Crimes Task Force, the Multi-Agency Gangs Task Force, the Gulf Coast Violent Offenders Task Force, the Achilles Task Force, the HIDTA (High Intensity Drug Trafficking Area) Task Force, the Houston Joint Terrorism Task Force (JTTF), the Houston Field Intelligence Group, the Houston Area Cyber Crime Task Force, the Human Trafficking Rescue Alliance, the Houston Innocence Lost Task

Force, the Houston Asian Organized Crime Task Force, the Major Theft Task Force, and the Houston Violent Crime Task Force.

The HPD has conducted no systematic assessment of the value of the work of the officers it has assigned to the task forces in which it participates. For some of the task forces, data exists about the number of arrests they have made, the number of cases handled, the value of assets seized, etc. However, as a whole, the contribution of the HPD officers cannot be separated from the actions of the entire task force.

In order to better determine the impact of the HPD's commitment of resources to task forces, PERF recommends that each task force be required to furnish specific data to measure the outcomes of its operations related to its core mission. Little of this data is currently available. The initial collection would serve as a benchmark against which future measures could be compared. These recommended measures are in addition to current data that the task forces may already collect on overall activities and outputs. Summary recommendations are bulleted below by section.

- **For the Investigative Unit (TAG Center) (Multi-Agency Gangs Task Force)**
 - How many arrests of violent gang members has the task force made?
 - How many gang organizations have been dismantled?
 - How many of the arrests have cleared crimes committed in the City of Houston?
 - How many dismantled gang organizations have been located primarily in the City of Houston?

- **For the Gulf Coast Violent Offenders Task Force**
 - How many violent fugitives from the City of Houston have been arrested by the task force? How many crimes have been cleared in the City of Houston as a result of those arrests?

- **The Houston Asian Organized Crime Task Force**
 - How many arrests has the task force made?
 - How many significant Asian crime enterprises have been disrupted?
 - How many were Houston-based organizations and/or had significant operations in the City of Houston?

Traffic

The Houston Police Department devotes considerable resources to traffic enforcement in order to reduce collisions, promote traffic safety, and maintain the flow of traffic. At the end of 2013 there were 200 employees assigned to the Traffic Enforcement Division. The Vehicular Crimes Division was composed of 121 employees. The Traffic Enforcement Division focuses mainly on proactive enforcement. The Vehicular Crimes Division is deployed to serious accidents. And patrol units are deployed to minor accidents as well as to local speeding complaints.

- **The HPD traffic function should be reorganized to focus primarily on crash reduction and traffic flow improvement.** The Traffic Enforcement Division and the Vehicular Crimes Division should be combined into a single Crash Reduction Division (CRD) headed by a captain. The primary components of the CRD should be as follows:

The Traffic Enforcement Unit (33 officers), the Motorcycle Units (SOLOs, 39 officers), Crash Investigation Unit (70 officers) and the Hit and Run Unit (19 officers) should be combined into a single new Crash Reduction and Congestion Abatement Unit (CRCAU). Each of the four Area Commands (North, East, South, and West) should be allocated a CRCAU component. Each Area Command component would consist of one lieutenant, one traffic crash analyst, and four street squads – each squad with one sergeant, six officers and two SOLOs (128 total officers). The hours and days of operation of the street squads will be determined based on analysis of when crashes are most frequent. The SOLOs on each squad will have the maneuverability provided by a motorcycle and will increase prompt access to crashes that tie up traffic. If motorcycle officers are still needed from time to time for escort duty, they could be pulled from the street squads that will still have sufficient capacity to investigate serious crashes and work to modify driver behavior. The squads can also investigate hit and run incidents. Given the low clearance of these investigations, it is unlikely that the dispersal of the Hit and Run Unit will have much effect. The units that will make up the new single CRCAU have a total of 161 officers, the new configuration will require 128 officers, thus freeing 33 officers for other assignments⁴

⁴ Calculations in this analysis are for police officers only and do not include sergeants and above.

- **A key aspect of the CRCAU plan is a heavy focus on the analysis component, to determine specific crash reduction strategies for modifying specific driver behavior at frequent crash locations/corridors.** The primary measure that should be used to determine the effectiveness of the unit is the extent to which crashes decline. A secondary measure could be the number of citations/warnings purposefully issued at the specific locations identified for targeted traffic violations that most commonly lead to crashes at these locations. The DWI Task Force, the Truck Enforcement Unit, and the Mobility Response Team should all be part of the Crash Reduction Division with the current staffing. The Highway Interdiction Unit should be transferred to Narcotics so it can be more closely coordinated.

This reorganization of the Traffic Division will allow 38 officers to be reassigned to other operational divisions within the department. Thirty three officers will be gained by the creation of CRCAU and five from civilianizing the Crash Reconstruction unit.

The Houston Police Department does not have exclusive jurisdiction for traffic in the city. Although most of the city is in the limits of Harris County, parts of the city are in Fort Bend and Montgomery counties. Hence, three sheriffs' departments can investigate crashes and issue citations in the City of Houston. Also, within Harris County there are eight elected Constables, one for each of the eight Harris County precincts. In Texas, constables and their deputies are fully empowered peace officers with county-wide jurisdiction and can make vehicle stops, issue citations and investigate crashes.

- **In recognition of this dispersed authority, the Houston Police Department's new division should take the lead in bringing the involved agencies together to create an area-wide traffic mitigation and crash reduction strategy.** This should be coordinated through a Houston Area Traffic only monthly Compstat meeting, with attendees to include the captain and lieutenant from the HPD Crash Reduction Division, representatives from each of the three Sheriffs' Offices, the Houston METRO Police Department (the transit police force) and representatives from each of the eight Harris County Constables.

The Crash Reduction Division should issue a monthly report to the chief of police which examines changes in the number and severity of crashes that month, citations and warnings issued for specific locations and violations, general citations and warnings and

violations, traffic analysis products sent out, Compstat problems to be addressed, and Compstat results in crash reduction from the previous month meeting

Regulatory Functions

The Houston Police Department, like many other large U.S. police agencies, performs regulatory functions as part of its overall mission. HPD regulatory activities focus on automotive dealers and parts suppliers, sexually oriented businesses (SOBs), gambling, and alcoholic beverages. The Auto Dealers Detail, a component of the Auto Theft Division, focuses on auto dealers and parts suppliers; the Vice Division regulates Sexually Oriented Businesses (SOBs), gambling and alcoholic beverages. Regulation of these enterprises is established by state law and local ordinances. Effective regulation requires that the Auto Dealers Detail and Vice Division conduct a combination of reactive and proactive efforts. **PERF finds that there is enormous benefit to HPD's practice of proactively using regulatory power to identify and investigate crimes that are associated with these otherwise legal activities.**

Determining optimum staffing in these divisions or squads can be a challenge for HPD managers. Unlike other criminal investigation components, in which officers investigate a reported crime, much of the work regarding regulatory review and inspection is based on tips, intelligence, or proactive efforts. In addition, many regulatory violations are misdemeanor crimes and are often not a priority for local prosecutors.

Based on the policy preferences expressed by HPD stakeholders and PERF's work in other major U.S. police agencies, the following recommendations are made:

- HPD should consider civilianizing the **automotive regulatory function**, and perhaps moving this function to another city agency. Civilianizing the function at the same level of funding could result in an expansion of inspections, since civilian positions are often cheaper than police officer positions.
- **Vice Division** operations need to remain a sworn function; to be effective, vice operations require a sworn officer's arrest power.

Ultimately the number of officers assigned to vice operations is a policy decision that can be informed by three criteria:

- Can neighborhood complaints be dealt with promptly?
- Can proactive investigations be conducted while continuing routine inspections?
- Do most inspections show that the business is operating legitimately? (If inspections frequently show violations, then it could be possible that inspections are not being conducted often enough to deter violations and illegal activities, and penalties for violations may not be stiff enough.)

If all three questions can be answered affirmatively, then the number of vice officers is probably sufficient.

- **The Vice Division should establish additional measures to help capture the effectiveness of its investigations, specifically regarding quality-of-life complaints involving noise and traffic complaints during evening and nighttime hours.** For example the number and nature of neighborhood complaints could be tracked along with how they were addressed, the time interval from when they were received until they were dealt with, and an entry noting a follow-up contact with the complainant. Basic data on the number and type of inspections and citations written, and whether the investigations were complaint-driven or proactive should also be collected.

Other Units

The Airport Division

The Airport Division of the HPD is part of the Homeland Security Command within Strategic Operations. The Division provides police services at Houston's three main airports: the George Bush Intercontinental Airport, the William P. Hobby Airport, and Ellington Airport. Although no Airport Division personnel are assigned to Ellington Airport, officers may respond if needed. Ellington Airport is a joint use civil/military installation.

- **The Airport Division should follow recent TSA recommendations requesting an increased presence at airport security checkpoints and ticket counters during peak travel times.** Based on current staffing strategies and the need to cover six current (and potentially seven terminals) between George Bush Intercontinental and Hobby Airports, the

department would need to add two officers per terminal for day shift and two officers per terminal for the evening shift to provide the *minimum* additional officer resources needed seven days a week. The officers would be added to current patrol staffing levels. A total of 24 officers would be needed immediately with an additional four officers for the future Hobby Airport international terminal. This staffing increase should provide adequate coverage to meet this TSA recommendation.

The Special Operations Division

The Central Business District's (CBD) patrol shifts, Division Tactical Unit, and Differential Response Team are all covered in the reactive patrol analysis portion of the study. These division units are responsible for CBD patrol. The Special Operations Division's remaining specialized units, including the Special Events Unit, Special Response Group, and Mounted Patrol Team, are discussed in the sections below. The division's Bicycle Administration and Training Unit (BATU) is discussed in the Civilianization section of the report.

Special Events Unit: The unit (four officers) supports all special events within the city. Events include: parades, "fun runs," street functions/festivals, dignitary visits, and all other major events for the police department and the city.

- **This planning function does not require sworn personnel. Consideration should be given to staffing this function with civilians.**

Special Response Group: The SRG's function is to train and manage more than 500 officers from throughout the agency who can respond quickly to a large crowd or emergency situation. The SRG provides these officers with a 40-hour course of instruction and ongoing training efforts. The group is composed of two squads, one with a sergeant and four officers, the other with a sergeant and three officers. Certain members receive additional training in responding to civil disturbances and the use of certain crowd control munitions. Given the size, diversity, and complexity of the city, such a response capability is required.

- **Staffing in this unit is minimal but adequate. PERF recommends no changes to this unit.**

Mounted Patrol: Mounted officers are highly visible and approachable; residents and visitors often enjoy asking officers about their horses, which creates opportunities for officers to build relationships with community members. Mounted Patrol has one lieutenant, five sergeants and 26 officers. Although HPD's mounted unit makes few arrests per month (mostly on city ordinances charges), it does issue some 500 citations per month.

- **The combination of police activity and non-tangible benefits, when coupled with the Texas tradition of mounted police, justifies the resources allocated to this function.**

The Auto Theft Division

The Auto Theft Division investigates several types of auto theft-related crimes, including theft of motor vehicles, theft of vehicle parts, burglary of motor vehicles, and identity theft resulting from Auto Theft Division cases. The Auto Dealers Detail, a department licensing and regulatory component for all city automotive-related businesses, recently was moved to the Auto Theft Division from the Vehicular Crimes Division. It is discussed in the "Regulatory Functions" section of this report.

As a whole, the City of Houston has seen a dramatic decrease in motor vehicle theft over the last 10 years. Uniform Crime Reports indicate a 39% decrease in auto thefts in Houston from 2003 to 2012. The division has used crime analysis components to identify trends in auto theft and burglaries of motor vehicles. They have had success in addressing these trends with proactive responses, including the use of bait cars, informants, and surveillance.

Analyzing workload for the proactive unit within the Auto Theft division poses several challenges. First, proactive investigations initiated by the unit may take several weeks or months to develop. They involve the use of confidential informants, the purchase or sale of stolen equipment, and frequent long and short term surveillance operations. These investigations can often be labor-intensive, such as a burglary of motor vehicle surveillance operation in a shopping mall parking lot, and they generally lead to few arrests.

Interviews and a review of division statistics indicate approximately 24 of the 40 officers are assigned to proactive investigations. The appropriate number of proactive division investigators becomes a matter of division priorities and department philosophy. Although the number of auto thefts and related division cases in the city has declined over the years, an aggressive proactive enforcement effort should be maintained to ensure auto theft trends are quickly identified and

adequately addressed. **The project team would recommend no changes to the current number of proactive investigators.**

The Gang Division

This unit is multi-layered with coordination between the Gang Division and gang-related work by officers in the patrol divisions. Patrol divisions assign members of their Division Tactical Units and Division Gang Units to gang coordination and liaison for the investigation of organized gang criminal activity and to pursue proactive strategies to discourage juveniles from joining gangs. There are several units within the Gang Division to manage all gang-related intelligence and information databases. These include the Investigative Unit (TAG Center) (which is covered in the section on “Inter-Agency Task Forces,” the GREAT (Gang Resistance Education and Training) Unit, the Crime Reduction Unit and the Technical Surveillance Unit. The department’s participation in the GREAT program, although at a relatively low level (one part-time sergeant and six officers), helps build positive relationships between the department and participating schools. It also helps the Gang Unit keep abreast of emerging gang issues, and these outputs justify the department’s allocation of resources to it.

The productivity of the Crime Reduction Unit, which is tasked with focusing on gang hot spot areas and repeat gang offenders, justifies its staffing of a lieutenant, six sergeants and 67 officers. In 2013, the number of suspects jailed averaged 43 per officer. Although this is less than one arrest per week, officers must always be working as a team to ensure officer and community safety.

The Technical Surveillance Unit (one sergeant and two officers) assists the Gang Division in carrying out its mission. Consideration should be given to whether the operations of the unit could be conducted by appropriately trained civilian personnel.

The Major Offenders Division

The Major Offenders Division is comprised of three major groupings: Special Thefts, Targeted Offenders and Inter-Agency Task Forces. The units in this division conduct a variety of specialized, proactive investigations. The Inter-Agency Task Forces groups and the Targeted Offenders unit are described in the Inter-Agency Task Forces section of this report.

Special Thefts is made up of the Environmental Investigations Unit, the Police Impersonation Squad, the Swindle Squad, the Cargo Theft Squad and the Livestock/Animal Cruelty Squad. The squads that make up Special Thefts have diverse missions. They average about 163 cases per officer per year, or a little over three per officer per week. They generated nearly \$6.5 million in recovered property and environmental citations. The total volume of these cases, and the dollar value of recovered property and environmental citations, justifies the five sergeants, 16 officers and six civilians assigned to the Special Thefts group.

The Narcotics Division

Criminal activity involving the use and trafficking of narcotics, along with the related crimes against persons and property crimes that occur as a result, continues to be a major concern for the HPD. Numerous drug trafficking organizations operate in and around the Houston region, distributing a wide variety of controlled dangerous substances including cocaine, marijuana, methamphetamine, heroin, and pharmaceutical drugs. The Narcotics Division, composed of a total of 209 positions, is the primary component of the HPD tasked with investigating and disrupting drug trafficking organizations. Additional smaller scale drug investigations are conducted by specialized components in the Field Operations patrol divisions.

The Narcotics Division utilizes many of its resources as part of a multi-jurisdictional endeavor that conducts proactive, undercover investigations of criminal activity involving controlled substances. Investigators respond to citizen-driven complaints and investigations resulting from arrests, criminal intelligence, and confidential informants. The various narcotics enforcement squads that make up the division are staffed on a discretionary basis. Workload is predominantly self-initiated in nature. Those portions of the division – the HIDTA Task Forces – are described in the section of the report on “Inter-Agency Task Forces.”

The remaining elements of the division are two sections with eight dedicated squads to address general narcotics enforcement within the city. These squads are not part of the HIDTA Task Forces and work solely at the discretion of the department. The sections are divided into two areas, General Narcotics North and General Narcotics South. Each area has one lieutenant, one sergeant for each of its four squads and six or seven officers per squad. The squads are assigned to cover day, evening and night shifts. The sections are primarily responsible for handling citizen complaints regarding open air drug markets, drug houses, and numerous anonymous tips and leads.

Interviews and observations indicate these squads are highly effective at producing large numbers of arrests and drug seizures. The study team agrees with the division's philosophy of dividing the general narcotic sections into two areas, north and south, to better understand the community's drug related issues, know the offenders and drug trafficking organizations involved, and concentrate often-limited investigative resources on the most significant targets in the area.

- Drug use and trafficking can have a significant impact on a community's quality of life. It affects a number of other crimes including homicide, robbery, assault, burglary, and theft. **Based on the city's violent and property crime, the project team would not recommend any reduction in staffing to the General Enforcement squads.** These officers are the primary component, operating strictly within the city, to address citizen-initiated complaints.

Civilianization

The term "civilianization" in law enforcement refers to efforts to fill jobs currently held by sworn personnel with non-sworn personnel. Civilianization generally is undertaken for several reasons:

- To achieve a reduction in cost if a civilian, at a lower salary rate, can perform functions that were being carried out by a sworn officer.
- To obtain expertise in specific competencies. When a civilian is hired to carry out a specific task, the skills, knowledge and abilities required for the position can be specific to that job, rather than applying the more generalist capabilities of a police officer.
- To move sworn officers from administrative/clerical responsibilities to enforcement activities where their skill set and training can be applied more effectively.

In practice, these benefits of civilianization are not always achieved. For example, civilian salaries in the marketplace may be more competitive than those of police officers, so it may not be less expensive to hire a civilian to do work previously done by a sworn officer.

The HPD has a variety of civilian staff members assigned throughout the agency. This study has identified several additional areas within the Special Investigations and Homeland Security Commands that should be reviewed by the department for civilianization. In general, each division within the commands has several officers assigned to perform routine administrative work or manage the division's information systems. Interviews conducted with division

commanders indicate that many of these positions could be performed by better-trained or lower-cost civilian employees. Officers are currently performing those duties because the work is critical to division operations, and the department lacks the necessary civilian staffing to perform those tasks. Specific areas that should be reviewed for civilianization include the Auto Theft Detail, the Narcotics Division's Administration Unit, the Vice Division's Administration Unit, and the Bicycle Administration and Training Unit.

- The HPD should utilize the department's Planning component to review all division sworn administrative positions with the division captain and develop a civilianization plan for future budget discussions. Prior to requesting additional officers for necessary patrol and investigative functions, the department should first identify those administrative positions staffed by sworn officers that could be civilianized with better-trained or lower-cost civilian staff.

Benchmarking and Crime Trends

The appendix at the end of the report contains a number of benchmarks comparing Houston to other state and national jurisdictions in several crime categories. First is a comparison of 2012 FBI UCR violent and property crime data benchmarking Houston's crime and department staffing levels against San Antonio, Dallas, Austin and Fort Worth in order to make baseline crime comparisons. Of the five cities, Houston had the highest violent crime rate but fell in the middle for property crime rates.

Staffing comparisons were made to benchmark Houston's sworn, civilian, and combined staffing against the same four state and five national jurisdictions using 2012 UCR data. For each agency, the percentage of each department's sworn and civilian personnel is shown.

Next, 2012 UCR data was used to compare Houston's crime and staffing levels against those of five relatively similar police departments nationally: Philadelphia, PA; Phoenix, AZ; Memphis, TN; Washington, DC; and Baltimore, MD. Compared nationally against other large cities, Houston had the second-lowest violent crime rate but the second-highest property crime rate.

Lastly, crime trend analysis was performed for the City of Houston by reviewing FBI Part I UCR data. We analyzed violent crime and property crime rates (including rates per thousand), and analyzed each of the four individual violent crime categories (homicide, rape, aggravated assault

and robbery) and three individual property crime categories⁵ (burglary, larceny/theft, and auto theft) over a 10-year period. Both violent crime and property crime rates show a downward trend.

⁵ Though arson data is captured in UCR, this was excluded as a category for the purposes of this report as arson investigations are typically investigated by fire departments.

HOUSTON POLICE DEPARTMENT PATROL AND REACTIVE INVESTIGATIONS STAFFING

Background

This section of the report was produced by Justex Systems, Inc., of Huntsville, Texas and incorporates its Allocation Model for Patrol and Allocation Model for Investigations into the study “Houston Police Department: Operational Staffing Model” conducted by the Police Executive Research Forum in 2013/2014. The analysis is premised upon the desire of HPD to seek more than a traditional staffing review from this endeavor, and in particular a durable workload and staffing analysis tool. The Justex approach is designed to achieve that end.

The Justex approach to achieving optimal staffing will be “deployment by analysis.” A deployment by analysis strategic approach transcends traditional deployment models. Deployment by analysis merges staffing and productivity with crime and disorder prevention, and critical incident response strategy. Traditional deployment models are necessary, and subsumed in this approach, but are not sufficient. The Justex version of a patrol allocation model was originally developed by the Northwestern Traffic Institute program, funded by the National Highway Traffic Safety Administration. The model is currently employed by numerous Texas police agencies, but had to be significantly re-designed to fit the unique needs of HPD. Additionally, Justex tailored its newly developed Allocation Model for Investigations (AMI) to HPD. In development for over five years, the AMI model provides quantified analysis of a department’s investigative effort. Details are provided in this section of the report.

System Concept and Solution

Justex’s AMP and AMI models are computerized allocation programs that allow decision makers to input criteria and goals for numerous performance objectives. These decisions are then weighted to produce the number of personnel needed to fulfill the desired goals set by the decision makers.

For patrol, there is no one right answer for the question, “How many patrol officers?” The appropriate question is, “What performance levels will we achieve with a given number of personnel or officers?” The approach used in this study has been to leave the Houston Police

Department in a position to answer this question for itself. The AMP model will be tailored to the unique situation in the HPD and the model will be left intact for making allocation decisions in the future.

In addition to the AMP patrol allocation model, Justex Systems has spent five years developing a parallel model for investigations. The Allocation Model for Investigations (AMI) is built around the same philosophical premises of the AMP model—that is, there is no answer to the question “How many detectives do we need?” Rather, the appropriate question is “How many detectives are required to provide stipulated levels of investigative services?” For each follow-up category and proactive level, stipulated “time required” is entered into a formula to provide a final “human resources required” value.

Allocation Model for Patrol (AMP)

The patrol division of a police agency is frequently referred to as the “backbone of the department.” In the Houston Police Department patrol is deployed to 15 jurisdictional patrol subdivisions. Patrol officers are the primary operational arm of the police department. Patrol officers act as first responders to virtually every citizen call for service (CCFS). The patrol division is thus used as the mechanism to respond to a myriad of requests, many of which may have little to do with crime control or law enforcement.

Determining the number of patrol officers needed to serve a community is a complex calculation that is dependent on a variety of factors, both within and without the control of police administrators and other officials. First, a substantial portion of the workload of the patrol force is driven by the number of citizen calls for service. As the number, type, and complexity of the calls for service fluctuate, so too does the workload of the patrol force and correspondingly the number of officers needed to handle that workload. Second, calls for service are not evenly distributed throughout the day or by day of week. Certain times and days are more active than others and calls for service do not queue in an orderly fashion. Several citizens may seek a police response at essentially the same time. The department must be staffed to handle several competing requests for service. While call prioritization can deal with part of this problem, often calls for service of equal urgency are received at the same time. In contrast, certain times of day may see little, if any, citizen-initiated calls for police services.

The sheer geographical size of the community has an effect on the number of patrol officers necessary. Each area of a community has a right to expect the same level of police services.

While more units may be assigned to portions of the jurisdiction where the most calls for service originate, for operational and political reasons the department cannot totally abandon other areas. Officers must be available to staff these less-active portions of the jurisdiction, if only for traffic enforcement and general patrol purposes.

Various departmental policies affect the number of officers needed. For example, the decision of whether to dispatch one or two police units to particular types of calls greatly affects the number of officers needed. Sending two units to a domestic disturbance essentially doubles the number of officers needed to handle that type of calls for service. When a second officer is required to be at the scene, two patrol units are unavailable to handle another call for service. At some point it becomes cost-effective to deploy two-officer units.

Department response time and visibility goals also influence the number of patrol officers needed. If department executives decide that the response time goal for a Priority 1 call is to be no more than five minutes, sufficient patrol officers will need to be deployed throughout the jurisdiction so that an officer can reach any point within the five minute desired window. Similarly, if the department wishes a highly visible patrol force, sufficient officers are necessary to patrol the various streets, downtown areas, and sports venues at a frequent-enough interval to create a sense of police presence. While research suggests that normal levels of police visibility have little effect on the occurrence of serious crime, it does affect perceptions of safety and security. Public perception of safety and security is significantly reinforced by the highly-visible presence of uniformed police officers.

The level of responsibility a patrol officer possesses to handle a call-for-service also influences staffing needs. For example, if a patrol officer's responsibility upon responding to a robbery call is complete following an initial effort to locate the offender, that takes much less time than if the officer also has the responsibility of remaining at the scene and assisting detectives in their immediate follow-up investigation of the incident. This latter responsibility might tie up the officer for several hours, time during which the officer is not available to respond to new calls for service.

Another important factor that influences a patrol officer's workload and thus the number of officers needed is the amount of "uncommitted" time available to an officer. In an era where problem-oriented policing and community policing strategies are preferred in most police agencies, patrol officers need reasonable amounts of uncommitted time to interact with the community and perform problem-oriented tasks in an uninterrupted manner. Both approaches,

community engagement and problem-oriented interventions, have laudably been assimilated at HPD. Officers cannot be expected to work effectively within their community to interdict neighborhood crime, disorder and nuisance problems if they are being interrupted to handle a call for service assigned by the dispatcher. Similarly, the entire traffic enforcement function is dependent upon officer self-initiated activity. Officers who are issuing citations to drivers are generally unavailable at that moment to engage in their other patrol responsibilities.

Patrol officers also need time to perform administrative tasks that are ancillary to their normal responsibilities. For instance, officers often must complete incident reports documenting calls for service and the manner in which it was handled and these reports take time to prepare properly. When officers are completing a report form, they are unavailable to perform most other patrol functions.

Allocation Model for Patrol (AMP): Characteristics

Over the last twenty years, police researchers have sought to develop a method whereby the number of patrol officers needed to deliver basic police services could be calculated in an objective manner. Several models have been proposed. While each focused on the number of calls for service or other officer workload determinants, many used complicated mathematical formulas and were of more theoretical interest than practical use. However, in 1993 the Traffic Institute at Northwestern University, under contract to the National Highway Traffic Safety Administration, developed the first “user friendly” method of estimating the necessary number of patrol officers needed to deliver police services. This approach was named the Patrol Allocation Model (PAM). Unfortunately, PAM was developed before personal computers became ubiquitous in society and police agencies. It required an enormous number of hand calculations to produce usable information—provided entry or computation errors had not occurred.

Prior to release, PAM was field tested in the following 12 cities:

- Boise (Idaho) Police Department
- Knoxville (Tennessee) Police Department
- Tucson (Arizona) Police Department
- Addison (Illinois) Police Department
- Boca Raton (Florida) Police Department
- Brick (New Jersey) Police Department
- Brunswick (Ohio) Police Department
- Chandler (Arizona) Police Department

- Crystal (Illinois) Police Department
- Medina (Ohio) Police Department
- Oak Park (Illinois) Police Department
- Sandy (Utah) Police Department

The PAM model takes into account multiple variables. Models that look at only one or a few variables such as police-citizen ratios are too simplistic to get an accurate prediction of the number of officers required. A state-of-the-art model accounts for variables such as calls for service, officer-initiated activities, expectations for the amount of time needed to handle a call, and leave rate (vacation, training, sick time, etc.). It also adds additional variables in the calculations such as roadway miles, average patrol speed, patrol interval performance objective, and frequency of two-officer units. However, as noted, the model was not computerized.

In computerizing the model, the research team utilized data from the Fort Worth Police Department, as well as data from the field test cities used in 1993 for the model's development. In addition to computerizing the model, AMP expands certain aspects of PAM to provide a more accurate estimate of the number of patrol officers needed. The model was used to develop patrol staffing levels for all four Fort Worth Police Department field operations divisions: North, South, East, and West.

Because AMP is a computer-based program, computation errors are virtually eliminated. Importantly, AMP allows the user to easily alter one or more of the data entries to quickly determine the effect of any change. Hypothetical variations can be tested. Thus, the user can quickly determine the effect that shortening the Priority 1 response time goal would have on staffing needs or how increasing the time allocated to officer-initiated activity might impact the need for more personnel.

AMP is intended to provide agencies with a means to calculate the resources necessary to deliver specified levels of service. Such a model is designed to provide a reasonable estimate, given a particular call load, of the number of patrol officers necessary to maintain specified levels of deterrent patrol, visibility, response time, and immediate availability for emergency response. Patrol units are multifunctional responding to service demands, both critical and non-critical, maintaining spatial and time distribution to assure rapid response to emergency situations, providing reassuring visibility to a community, engaging in active crime deterrent efforts, and remaining on emergency standby for critical situations. While it is possible for the computer

model to accurately calculate how many patrol units are necessary to drive by a given point on any residential street once every thirty-six hours—a visibility objective—whether those units actually drive by that point is a different matter. Clearly, different officers will utilize different patrol patterns, and some locations on residential roadways will be driven by much more frequently than others. All one can say is that on average, a patrol unit will drive by any given location every x number of hours, given the accuracy of the variables entered into the model.

Related is the fact that policing is a dynamic system that adjusts to changes in the environment. In the case of the patrol function, officers will alter their behavior depending upon call load. On a shift with a light call load officers may tend to spend more time on calls, breaks and administrative duties. On shifts where calls are in queue, particularly when critical calls are backing up, officers will likely adjust their behavior to cut short their time at the police station, take fewer breaks, and perhaps even skip lunch. They may even reduce the amount of time spent on individual calls. Arguably, the quality of service will suffer when officers make such an adjustment, but at the same time they are being responsive to other more pressing needs. The response times to Priority 1 calls cannot be mathematically predicted with absolute precision with a given staffing level. An objectively reasonable estimate of service levels is possible given stipulated variation in staffing levels. Yet, this is far superior to mere guesswork or comparisons to police agencies in presumptively similar communities.

Primary Objectives of AMP

AMP is designed to determine the number of officers that need to be assigned to patrol based on established performance objectives. The model first determines the number of officers needed to answer calls for service and then builds on that foundation to ensure that enough officers are assigned to patrol so that performance objectives can be met. Five primary performance objectives for patrol are used in this model. They include:

- Visibility of officers – It is important for the police to be visible to citizens in order to make citizens feel safe. And establishing a sense of community safety and security is an important goal of any police agency. AMP sets visibility objectives for patrol and determines how many officers should be assigned to patrol activities to meet these objectives.
- Ability to meet response time goals for Priority 1 calls – it is crucial for officers to be able to respond quickly to a Priority 1 call. These calls involve potentially life-

threatening situations. Additionally, a rapid response greatly enhances the rate of apprehension. Research completed by Sam Houston State University doctoral student Abdullah Cihan, supervised by Dr. Larry Hoover, using HPD data indicates that rapid response to burglar alarms does indeed increase significantly the odds of making an apprehension⁶ and takes into account the number of officers that need to be assigned to patrol in order to meet the department's response time goal of 5 minutes for Priority 1 calls.

- Ability to meet response time goals for Priority 2 calls – it is also important for officers to be able to respond to Priority 2 calls in a timely manner in order to prevent a situation from escalating and to maintain citizen satisfaction with the police response. The model also takes into account the number of officers that should be assigned to patrol in order to meet response time goals for Priority 2 calls.
- Having an officer immediately available to respond to a Priority 1 call – The department must have officers immediately available who can respond to a Priority 1 call-for-service. If all on-duty officers are busy then responses to Priority 1 calls will be delayed. Therefore, a performance objective is set in this model for the percentage of Priority 1 calls for which there should be at least one officer available to respond. The model then takes that percentage into account in determining the number of officers to be assigned to patrol. Given a jurisdiction the size of Houston, the analysis will need to occur for geographical subdivisions, certainly no larger than the Patrol Division substations.
- Engagement in self-initiated patrol – officers are expected to spend a certain percentage of their on-duty time performing “proactive” or directed patrol activities, such as detecting traffic violations, stopping suspicious persons, and patrolling high-crime or problematic locations to maintain an active police presence. The term “self-initiated” is used herein to characterize this central element of police patrol. The activities conducted under the auspices of self-initiated patrol are distinguished

⁶ Cihan, A., Hoover, L.T. & Zhang, Y. “Police Response Time to In-progress Burglary: A Multilevel Analysis” *Police Quarterly*, 15: 3, September 2012, pp. 308 - 327.

from visibility since officers are expected to concentrate self-initiated activity on problematic locations.

With call-for-service response, these five performance objectives constitute the primary elements of AMP and are the primary determinates of staffing requirements. However, the AMP model also takes into account additional performance objectives which have an effect. For example, officers also spend a certain percentage of their time on administrative activities such as report writing, court time, meal breaks, and tending to their patrol vehicles. The model also considers these additional activities performed by officers when determining the number of officers to be assigned to the patrol function.

Patrol Staffing Calculation

Thirty-four numerical values are used in AMP. These variables generally fall into four categories:

1. Numbers derived from historical data (Historical). AMP uses data from a prior chronological period as the base for predicting staffing needs in the future. To the degree that the past is a valid predictor of the future, the utility of this data can certainly vary.
2. Fixed numbers derived from established policies and practices (Fixed Practice). The area of the jurisdiction and the miles of roadway are two examples of this type of data. The data is essentially fixed and not subject to variance during the time frame of the study. Likewise, the numbers are not within the control or subject to the manipulation of the police department.
3. Numbers derived from national studies (National). Some data is simply unavailable to HPD, or at least very difficult to obtain. Information such as the average speed of a police vehicle while on patrol and the average speed of that same vehicle when responding to an emergency has not been measured by most agencies. However, a national research effort during the development of PAM did collect such data. These national averages are used in this report. To the extent that HPD patrol officers drive faster or slower than the national average, the accuracy of the estimate of officers needed could be affected slightly.

4. Data driven by policy decisions (Policy). Because the number of patrol officers needed in a jurisdiction is driven by the policy decisions made by police executives, those decisions are factored into the final analysis. Items such as response time goals and officer availability can have a significant effect upon the final calculation. While existing practices and goals can be used to conduct the calculations, the model also allows one to determine the change produced if certain policy decisions are altered. It may be desirable for the agency to make modifications to existing policies, if it needs to reduce the number of officers assigned to patrol. In contrast, altering policies to provide better-quality police services will almost always increase the number of patrol officers needed.

Below are the 34 numeric variables used in the computations. The variables are labeled as Historical, Fixed Practice, National, or Policy depending on their origin. In a few instances the data is calculated from the other previously entered variables. These points are labeled “Calculated.”

Calls for Service Variables

1. Total number of calls for service handled by each division – Historical
2. Average service time (fraction of hour) per call-for-service – Calculated
3. Total number of days in the workload sample period – Calculated
4. Shift length – Fixed Practice

Performance Objectives Linked to Deployment Density

5. Area (square miles) – Fixed Practice
6. Average response speed (MPH) for emergency activities – National
7. Average response speed (MPH) for non-emergency activities – National
8. Patrol visibility performance objective (hours), arterial roadways – Policy
9. Patrol visibility performance objective (hours), residential roadways – Policy
10. Response time objective for Priority 1 calls – Policy

11. Response time objective for Priority 2 calls – Policy
12. Percentage of Priority 1 calls for which there will be at least one officer available – Policy

Jurisdiction Characteristic Variables

13. Number of miles, arterial roadways by division – Fixed Practice
14. Average patrol speed (MPH), arterial roadways – National
15. Number of miles, residential roadways by division – Fixed Practice
16. Average patrol speed (MPH), residential roadways – National
17. Average work week (hours) – Fixed Practice
18. Leave rate per officer (vacations, holidays, sick leave, training) – Calculated

Immediate Availability Variables

19. Percentage of calls for service that cannot be preempted – Policy
20. Percentage of administrative activities that cannot be preempted – Policy
21. Percentage of self-initiated/directed activities that cannot be preempted – Policy

Policy Variables

22. Weights assigned to patrol visibility and response times – Policy
23. Administrative time in minutes per hour per officer – Policy
24. Self-initiated/directed patrol time in minutes per hour per officer – Policy
25. Unrecoverable patrol time in minutes per hour per officer – Calculated
26. Percentage of time patrol units are staffed with two officers – Calculated
27. Average number of officers supervised by each field supervisor – Policy

28. Percentage of field supervisor on-duty time spent on patrol activities – Policy

AMP New Features

29. Scheduled overtime – Policy
30. Fixed post assignments, % of CFS handled – Policy
31. Specialty assignments, % of CFS handled – Policy
32. Supervisors (sergeants), % of time on patrol functions – Policy
33. Directed patrol time allocation – Policy
34. Foot patrol assignments and characteristics – Policy

Policy Decisions Used in AMP

Out of the 34 variables used in the model, 19 of the variables can be considered to be at least partially policy decisions. Administrators set values for these variables for use in the model, and they can be modified by the department as policies change. For example, if it is believed that a value is too high or low, then another value can be set and the number of officers needed to meet this new objective can be determined. Each of the 19 policy decisions is discussed below.

1. Patrol interval performance objective (hours), arterial roadways

This policy decision is based on the answer to the question, how often should a patrol officer pass any given point on an arterial roadway? If a person were to stand on an arterial roadway, how often should they see a patrol officer? This data entry is an average time. Because of patrol strategies and techniques, officers may actually pass one point several times before they pass some other point. Likewise, it is not expected that officers will actually drive every street within the jurisdiction during a designated time period. Rather AMP simply uses the hypothetical average to calculate the visibility goal.

2. Patrol interval performance objective (hours), residential roadways

The same technique described immediately above is used for residential streets. Splitting the question between arterial and residential streets allows the policymaker to vary the relative importance of visible patrol in residential areas compared to primary traffic areas.

3. Response time objective for Priority 1 calls

The response time goal for Priority 1 calls is set by the police department. Officers must be able to reach any point within the jurisdiction within the specified time objective. Variables affecting response time include the area in square miles, the driving speed of the responding vehicle, and the distribution of officers throughout the community. A jurisdiction with large corporate limits will need more officers to meet its response time goal than a more compact area. Experience suggests that major city police agencies utilize response time goals for Priority 1 calls ranging between five and eight minutes.

4. Response time objective for Priority 2 calls

The discussion above holds equally true for Priority 2 calls. The commonly used goal is a 15-minute response time.

5. Percentage of Priority 1 calls for which at least one officer is available

This variable speaks to the issue of having at least one officer unencumbered nearly all of the time who can respond to a Priority 1 call. Since Priority 1 calls are potentially life-threatening emergencies, the percentage set for this policy decision is typically high, usually 98 percent. While a value of 100 percent might seem preferable, use of 100 percent in the formula generates a staffing level of infinity.

6. Percentage of calls for service that cannot be preempted

It is assumed that there are occasions when an officer who is on another call-for-service can clear that call and respond to a Priority 1 call. When the officer is finished responding to the Priority 1 call, then the officer can return to the previous call. Therefore, a certain percentage of calls for service can be preempted if an officer is needed to respond to a Priority 1 call-for-service. On the other hand, it is argued that some calls for service cannot or should not be preempted because of the severity of the call-for-service or because of citizen satisfaction reasons.

7. Percentage of administrative activities that cannot be preempted

Likewise, it is assumed that many administrative activities can be preempted in order to respond to a Priority 1 call-for-service. Administrative activities generally include meals or other breaks, vehicle maintenance, report writing, and court time. The percentage of administrative activities that cannot be preempted is normally set fairly low. Again, however, it must be emphasized that HPD officers are frequently at inconvenient locations performing administrative tasks, and while they in theory can preempt the task, there will be a delayed response.

8. Percentage of self-initiated/directed patrol activities that cannot be preempted

In addition, it is assumed that a certain percentage of self-initiated/directed patrol activities can be preempted if an officer is needed to respond to a Priority 1 call for service.

9. Weights assigned to patrol visibility and response times

AMP focuses on four primary performance objectives: public visibility of patrol officers, ability to meet response time goals for Priority 1 calls, ability to meet response time goals for Priority 2 calls, and having an officer available to immediately respond to a Priority 1 call. Presumptively, the weights are set to be equal (.25 each). But, by weighting the performance objectives differently, policymakers can decide which of the performance objectives is most important. For example, a policymaker could decide that meeting response time goals for Priority 1 calls is the most important performance objective in their jurisdiction. The policymaker could then weight this performance objective higher than the others.

10. Administrative time in minutes per hour per officer

Administrative time can include meals and other breaks, vehicle maintenance, report writing, and court time, as well as other administrative activities. This policy decision is based on the answer to the question: how many minutes per hour should an officer spend on administrative activities?

11. Self-initiated/directed patrol time in minutes per hour per officer

The self-initiated/directed patrol time includes time in which an officer can target “hot spots”, stop suspicious individuals, make traffic stops, as well as engage in other proactive activities. The answer to this policy decision greatly affects the number of patrol officers needed because as officers are given more time to engage in self-initiated activity, they are less available to handle calls for service.

12. Unrecoverable patrol time in minutes per hour per officer

It is recognized that some patrol time is unrecoverable for the purposes specified in the AMP model. In other words, the time period is too short to increase visibility, to perform a directed patrol activity, or to conduct an administrative activity. This includes short periods of time between the clearing of one call and the receiving of another. For example, it is common for an officer to clear a call and receive another within a few minutes. In this example, there is not enough time between calls for the officer to meet any of the other performance objectives. Therefore, this unrecoverable patrol time is simply lost relative to accomplishing department objectives. The value set for this variable is a policy decision, but five minutes per hour is typically assumed by Justex Systems.

13. Percentage of time patrol units are staffed with two officers

The AMP model makes an adjustment for the percentage of time patrol units are staffed with two officers. Two-officer units do reduce the need for back-up units to certain calls for service, but two-officer units are not twice as capable of meeting the performance objectives as one-officer units. For example, two-officer units are not twice as visible as a one-officer unit. Likewise, a two-officer unit cannot respond twice as fast to a call-for-service as a one-officer unit. The value set for this variable is a policy decision because the department can set the percentage of time it is acceptable to have two-officer units. Note that even in agencies that deploy 100 percent one-officer units, there may often be two-officer units deployed for field training of recruits.

The redesigned model for HPD also included the variables. The additions are enumerated in Table 1.

Table 1. Variables in Upgraded AMP**Call Type Categories Expanded**

Annual Number of Priority-1 Dispatched Calls
Annual Number of Priority-2 Dispatched Calls
Annual Number of Other Dispatched Calls
Annual Number of Backup Assignments

Foot Patrol Distance Calculation

Foot Patrol linear distance

Fixed Post Assignments

Number of Posts staffed 24-hours / 7-days per week
Number of Posts staffed 24-hours / 6-days per week
Number of Posts staffed 24-hours / 5-days per week
Number of Posts staffed 12-hours / 7-days per week
Number of Posts staffed 12-hours / 6-days per week
Number of Posts staffed 12-hours / 5-days per week
Number of Posts staffed 10-hours / 7-days per week
Number of Posts staffed 10-hours / 6-days per week
Number of Posts staffed 10-hours / 5-days per week
Number of Posts staffed 8-hours / 7-days per week
Number of Posts staffed 8-hours / 6-days per week
Number of Posts staffed 8-hours / 5-days per week

Time Spent by Expanded Call Type Categories

Avg. person-hours per Priority-1 Calls
Avg. person-hours per Priority-2 Calls
Avg. person-hours for Other Calls
Avg. person-hours for Back-up Calls

Call Load of Fixed Post Assignments

Average % of calls handled by Officers at Fixed-Post Assignments
--

Scheduled Overtime

Scheduled Overtime (<i>Average hours per week / per officer</i>)
--

Directed Patrol Time Spent

Patrol interval (<i>hours</i>), for foot patrol
Average Number of Directed Patrols per day
Average Time for each Directed Patrol (min.)

Foot Patrol Speed Variable

Average walking speed for foot patrol in mph, default value is 3 mph.

These eight additional variables add accuracy to patrol staffing projections in major municipal jurisdictions such as Houston.

HPD Projected Staffing Requirements

Justex gathered the necessary data from HPD and calculated staffing by patrol division employing the AMP model and basic policy assumptions. The results are appended to this report, and provided to HPD in digital format. A summary of the results is provided in Tables 2 and 3.

The first step in employing AMP is to estimate current performance given current staffing. The “regular” patrol divisions (excluding Airports and Special Operations) were staffed at the time of data compilation at 2,174 officers and 338 supervisors. In consultation with HPD command staff, supplemented by judgments from Justex experience, performance levels (such as proactive patrol minutes per hour, administrative minutes per hour) were projected given 2,174 officers. The values in the AMP model were refined such that it projected 2,165 officers—a very close correspondence (within ½ of 1%).

This simulation is labeled “Benchmark”, and is the initial analysis included in Appendix A. A summary of the critical values is presented in Tables 2 and 3. The Benchmark reflects what the current performance values are from this analysis, i.e. the current state-of-affairs. AMP is then

employed to project the number of officers needed to deliver alternative “quantities” of service, such as increasing proactive patrol time or decreasing response time. AMP works equally well to project how many fewer officers would be required if service levels were decreased, such as reducing proactive patrol time.

For the comparison of staffing required to achieve alternative performance levels a benchmark staffing level was computed and then 11 performance levels were varied. These involved adding a second back-up officer responding to the number of calls for service that policy dictates should have two officers deployed, but did not in the baseline annual period.

Some models varied the amount of proactive patrol time, i.e., self-initiated activity, by increasing proactive patrol to 15 minutes per hour and 20 minutes per hour instead of the current 10. Reserving an average of 25 percent or 33 percent of each shift for proactive, self-initiated patrol would be more in keeping with national comparisons. Although there is no universal national standard, more typically a standard of 40 percent of patrol time is allocated to proactive patrol. Concurrent to increasing proactive patrol from 10 to 15 or 20 minutes per hour, administrative time was increased from 3 to 5 minutes per hour, a more realistic value.

The visibility interval was altered for both arterial and residential streets in some models, increasing a “drive-by” frequency. For other models response time to Priority 1 and Priority 2 calls for service was increased – a change that is not recommended but is presented to demonstrate the effect on required staffing.

All other variables were fixed as constant. Patrol travel times were set at the national figures determined in the initial NHTSA study. The percentage of calls dispatched that could not be preempted was set at 25 percent; officer-initiated activities at 50 percent. The percentage of administrative time, including court, which could not be preempted was fixed at 5 percent. Finally, the percentage of time that at least one unit would be available in a division to respond to Priority 1 calls was set at 98 percent. This is a figure that has been used in all other iterations of AMP. If the figure is set at 100 percent the queuing mathematics produces a value of infinity. Using 98 percent assumes that in a true emergency a unit could be reassigned from an existing call, or a unit from an adjoining division could be dispatched.

Finally, a scenario was created that would indicate the performance levels that might be achieved if Houston were staffed at the same police-citizen ratio as Chicago. Chicago's population is 2,708,382; Houston is approximately 2,177,273 (census projection employed in the Uniform Crime Reports). The Chicago Police Department is staffed at 11,944 sworn; Houston is at 5,318. That provides a police-citizen ratio in Chicago of 4.41 officers per 1,000 population; Houston is staffed at 2.45 per 1,000. Currently HPD assigns 40 percent of its sworn strength to regular patrol divisions. If Houston were staffed at 4.41/1,000 HPD would have 9,602 sworn, an increase of 4,284 officers, or 80 percent. Assuming the current regular patrol division staffing ratio, 40 percent, would provide 3,840 assigned to patrol. We then calculated what that would provide in the critical values of self-initiated patrol and administrative time. The estimate, leaving all other values constant, is 25 minutes per hour self-initiated patrol and 5 minutes per hour administrative—in line with the commonly accepted value of 40 to 50 percent of patrol time reserved for proactive self-initiated patrol. Earlier it was noted that the use of police/citizen ratios is a simplistic comparison. Indeed, that is the case. In presenting the comparison to Chicago, Justex only intends to note that staffing of HPD is not out of line with other major American cities.

The models are displayed in the following table.

Houston Police Department Operational Staffing Model

May 2014

Table 2. AMP Models Employed

Version	Variable Changes	Officers Required	Change	Sergeants Required	Change	Positions Required	Change
A. Benchmark	Estimated Performance Standards Given Current Staffing. Excludes Airports & Special Ops. Self-Initiated patrol @ 10 min/hr. Visibility Arterial @ every 4 hrs. Visibility Residential @ every 24 hrs.	2,174	0	338	0	2512	0
B. Adding Two-Officer Calls	Adds Current Number of Calls that Should Have Two Officers Dispatched, But Do Not	2,493	319	384	46	3242	365
C. Self-Initiated Patrol from 10 to 15 minutes Visibility @ 4-24	Self-Initiated patrol from 10 to 15 min. per hr. Visibility Arterial @ every 4 hrs. Visibility Residential	2785	611	426	88	3211	699

Houston Police Department Operational Staffing Model

May 2014

	@ every24 hrs.						
D. Self-Initiated @ 15 min hr. Visibility, @ 1-12	Patrol Interval Arterial from every 4 to 1/hr. Interval Residential from once every 24 hours to once Every 12 hours	3016	842	459	121	3475	963

E. Self-Initiated Patrol to 20 Min-Hr. - Visibility @ 4-24	Self-Initiated patrol increased from 15 min/hr. to 20 min/hr., Visibility reset to 4 -24	3152	978	478	140	3630	1118
F. Self-Initiated 15 Min Hr.; Visibility @ 8-12	Self-Initiated patrol @ 15 min/hr. Visibility every 8 hrs. Arterial and every 12 hrs. Residential	2783	609	425	87	3208	696

Houston Police Department Operational Staffing Model

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G. Self-Initiated 20 Min Hr.; Visibility @ 8-12	Self-Initiated patrol @ 20 min/hr. Visibility every 8 hrs. Arterial And every 12 hrs. Residential	3148	974	478	140	3626	1114
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Houston Police Department Operational Staffing Model

May 2014

H. Self-Initiated 20 Min Hr.; Visibility @ 1-24	Self-Initiated patrol @ 20 min/hr. Visibility increased on arterial to once /hr.	3384	1210	511	173	3895	1383
I. Self-Initiated 20 Min Hr.; Visibility Reduced to 8-72	Self-Initiated patrol @ 20 min/hr. Visibility Reduced to 8-72	3089	915	469	131	3558	1046
J. Response Time for Priority 2	Priority 2 response time increased from 10 minutes to 15 Benchmark values Self-Initiated patrol @ 10 min/hr. Visibility Arterial @ every 4 hrs. Visibility Residential @ every 24 hrs.	2139	-35	333	-5	2474	-40
K. Response Time for Priority 1	Priority 1 response time increased from 5 minutes to 10 Priority 2 left at increase to 15 Self-Initiated	2103	-71	328	-10	2431	-81

Houston Police Department Operational Staffing Model

May 2014

	patrol @ 10 min/hr. Visibility Arterial @ every 4 hrs. Visibility Residential @ every 24 hrs.						
L. Variables at Chicago Level	Estimate of Chicago's Performance Variables With Chicago Police/Citizen Ratio at 4.41/1000 Houston's Police/Citizen Ratio is 2.45/1000 For Chicago Staffing Houston Would Require 9,602 officers; Regular Patrol Staffing = 40% of Total = ~3,850 Provides Self-Initiated Patrol @ 24 minutes/hr.	3850	1676	583	245	4433	1921

NOTE: Each scenario following “B. Adding Two Officer Calls”, incorporates B. Numbers reported as “Change” is the difference between each scenario including B and the Benchmark (current).

Houston Police Department Operational Staffing Model

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Table 3. AMP Models Critical Variables EmployedSummary

	Self-Initiated Patrol In Minutes/hour	Priority 1 Response Time (Mins)	Administrative In Minutes/hour	Patrol Interval Arterial Once Every x hours	Patrol Interval Residential Once Every x hours	Priority 2 Response Time (Mins)
A. Benchmark	10	5	3	4	24	10
B. Adding Two-Officer Calls	10	5	3	4	24	10
C. Increase Self-Initiated Patrol	15	5	5	1	12	10
D. Increase Interval Visibility	15	5	5	1	12	10
E. Increase Self-Initiated Patrol to 20	20	5	5	4	24	10
F. Self-int. @ 15; Vis. @ 8- 12.	15	5	5	8	12	10
G. Self-int. @ 20; Vis. @ 8- 12.	20	5	5	8	12	10
H. Increase Arterial Visibility to 1/hr.	20	5	5	1	24	10
I. Decrease Visibility to 8 - 72	20	5	5	8	72	10
J. Increase Response Time to Priority 2	10	5	5	24	15	15
K. Increase Response Time to Priority 1	10	10	5	24	15	10

Houston Police Department Operational Staffing Model

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L. Variables at Chicago Level	24	5	5	12	10	5
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Allocation Model for Investigations (AMI)

Police investigators primarily perform the following tasks:

1. Determine whether a crime has been committed;
2. Identify the crime suspect;
3. Locate and apprehend the suspect;
4. Collect evidence of guilt for prosecutor / courtroom use; and,
5. Recover property wrongfully held by suspects.

The amount of effort that any individual investigator expends on each of these five tasks is a function of the complexity of the investigation and the specific assignment of the investigator. For example, in a burglary investigation, establishing that a crime has actually been committed consumes far less investigative effort than identifying the offender. An investigator assigned to the pawnshop detail may recover a large amount of stolen property without ever identifying of suspect.

While some research has been conducted on the desired strength and geographical deployment of uniformed patrol personnel, very limited research has been conducted on the ideal number and assignments of investigative personnel. Most research on the investigative function has examined either the nature of the job in general or the identification of “solvability factors” to assist in case investigations. We do not know of any studies that have been commissioned to determine the optimum number of investigators for a municipal police department. (A list of research that has been published on investigative productivity is below.)

Investigative Productivity Reference List:

- Brandl, S. G., & Frank, J. (1994). The relationship between evidence, detective effort, and the disposition of burglary and robbery investigations. *American Journal of Police*, XIII (3), 149-168.
- Eck, J. E. (1983). *Solving Crimes: The Investigation of Burglary and Robbery*. Washington, D.C.: Police Executive Research Forum.

- Eck, J. E. (1996). Rethinking Detective Management. In L. T. Hoover (Ed.), *Quantifying Quality in Policing*. Washington, D.C.: Police Executive Research Forum.
- Greenberg, B., Yu, O., & Lang, K. (1972). *Enhancement of the Investigative Function: Volume-- Analysis and conclusions*. Springfield, Va.: National Technical Information Service.
- Greenwood, P., & Petersilia, J. (1975). *The Criminal Investigation Process--Volume I: Summary and Policy Implications*. Santa Monica, Calif.: RAND Corp.
- Greenwood, P., Petersilia, J., & Chaiken, J. (1977). *The Criminal Investigation Process*. Lexington, Mass.: D. C. Heath.
- Horvath, F., & Meesig, R. T. (2002). *A National Survey of Police Policies and Practices Regarding the Criminal Investigation Process: Twenty-Five Years After RAND*. East Lansing, Mich.: Michigan State University, School of Criminal Justice.
- Sanders, W. B. (1977). *Detective Work: A Study of Criminal Investigations*. New York: Free Press.

Two of the better known, albeit now extremely dated, studies on the nature of the investigative function were conducted by the *President's Commission on Crime and Administration of Justice* in 1967 and in 1975 by the RAND Corporation.

The President's Commission examined the investigative practices of the Los Angeles Police Department. The report, *The Challenge of Crime in a Free Society: Science and Technology*, did not directly speak to the number of investigators a police department should have, but it did identify several factors that must be considered when making investigative staffing decisions. The study found that the patrol force made a large portion (90%) of the arrests. About 25 percent of these were based on detective follow-ups (warrants). Thus, detectives were directly or indirectly responsible for about 35 percent of all arrests.

About one-third of all arrests were made within 30 minutes of the commission of the offense while nearly one-half of all arrests were made within two hours of the commission of the offense; presumably, uniformed patrol officers were primarily responsible for these arrests. The research also found that two-thirds (66%) of all arrests were made within one week of the commission of the offense; 94 percent of all arrests occurred within one month. Investigative efforts expended over the next eleven months raised that percentage by only 4.5 percent. Thus, 98.5 percent of all offenders who would be arrested had been arrested within one year of the

crime coming to the attention of the police. Within this group, about half were arrested by patrol officers without extensive follow-up investigation.

The study further reported that 2.8 cases were cleared for each arrest made, indicating that single perpetrators are responsible for multiple offenses. As to the work of the detectives, two-thirds of the cases they cleared involved suspects whose identity was initially determined by responding patrol officers.

The LAPD study leads to several conclusions. First, in half of the arrests the investigator's role was largely case preparation not related to the identification of the suspect. Further, the study revealed that investigative effort beyond one month after the commission of the offense, on average, produces only an incremental difference in arrest rates. Finally, reactive investigation of criminal incidents was most successful when the identity of the offender is already known.

The RAND study (1975) examined the investigative practices of 153 cities. Once again, the question of investigative division staffing was not directly addressed. However, the study concluded that differences in staffing levels appeared to have no appreciable effect on crime, arrest, or clearance rates. "In other words, if the total number of officers in a department is kept fixed, switching some of them into or out of investigative units is not likely to have a substantial effect on arrest or clearance rates."

As to investigative activity, the RAND study found that, on average, investigators spent 45 percent of their time on non-case work, such as travel and administrative matters. More importantly, of the 55 percent of the time actually spent investigating, 40 percent of the time (22% overall) was expended on investigating matters that are never solved. Only 12 percent of the time (7% overall) was expended on investigating matters that were solved. Another 48 percent of the time (26% overall) was spent on cleared cases after arrest.

In a detailed examination of the Kansas City, Missouri, Police Department, the RAND researchers found that most cases that detectives worked on were handled in one to two days. Over 86 percent of the cases were placed in a suspended status within one week.

One other bit of research on the investigative function bears mention. The Bureau of Justice Statistics' Law Enforcement Management and Administrative Survey (LEMAS) reports that nationwide, on average, 16 percent of the sworn personnel in police departments are assigned to investigative functions. The LEMAS study does not further disaggregate the data. Thus, national averages for the number of homicide detectives versus the number of undercover narcotics investigators in agencies of varying size is not available.

Correspondingly, the previously mentioned RAND study found that over all respondents, 17.3 percent of their sworn force was assigned to investigative units. Over one-half of the participating departments reported 14 to 20 percent of personnel assigned as investigators. Within this group of investigative personnel, 78 percent worked "reported crime" while 22 percent worked in vice, narcotics, internal affairs and other proactive investigative units.

Productivity Measures of Investigative Work

At the core of the staffing issue is the difficulty of isolating "productive" investigative effort versus "nonproductive" investigative effort. The aforementioned studies would lead us to believe that investigators who are assigned offenses that have already occurred (reactive investigators) spend most of their time on activities that cannot be tangibly and directly linked to solving the crimes.

Productivity Measurement Options

Clearance rates are, of course, the primary but not the only means by which investigator productivity is measured. However, clearance rates are imbued with measurement difficulty. First of all, there are two basic types of clearance—clearance by arrest and clearance by exception. While the clearance by arrest statistic is clearly preferable, it is widely accepted that clearance by exception counts as well. The criteria for clearing a case by exception vary by jurisdiction, by investigative unit within a jurisdiction, and by individual investigators.

Beyond definitional issues, clearance by arrest or exception varies enormously according to circumstance, by types of cases, and by the type and size of jurisdiction. Crimes are more difficult to clear in large urban areas than they are in small towns where the list of suspects is reasonably short. Finally, clearance rates vary by the standards of proof required by the agency and prosecutor.

Given the problem with using clearance rates as a productivity measure, it is often suggested that rates for cases accepted for prosecution by the prosecutor be used instead. However, this statistic has its own set of shortcomings. First, it obviously varies by investigator, department policy, and district attorney's office. The standards for acceptance employed by one prosecutor's office may be dramatically different from the standards employed by another. This makes inter-jurisdictional comparison of the relative efficacy of investigations impossible. Second, even within the same county, district attorney acceptance rates will vary over time. Changes in office personnel, policy, or in the political climate can cause acceptance rates to change these rates at least as problematic as clearance rates as a measure of investigative effort.

Caseload Issues

The difficulty in ascertaining productivity creates serious problems in calculating what an appropriate investigator caseload might be. There is enormous variation in the time dedicated per case depending on the type of offense. In many jurisdictions, for example, the domestic violence caseload is four times the standard crimes against person caseload. For domestic violence cases, offenders are virtually always known; and case preparation seldom involves physical evidence (excepting photographs of injuries and recovered weapons). There is an enormous disparity between a caseload of offenses of this type and one consisting of protracted fraud investigations. Caseloads within a given offense category might conceivably vary by the impact of the specific subcategory of offending behavior upon victims. In other words, one might not be as likely to vigorously pursue bad check cases against grocery stores that are sloppy about verifying the validity of the check as against bad check writers who victimize the elderly. There is additional variation depending on the relative social impact of certain offending behaviors. A computer virus, for example, may not inherently be an offense which strikes one as heinous. However, its enormous impact upon society is such that vigorous pursuit and prosecution of those who plant viruses is called for. Finally, caseload might vary by the probability of a successful solution. For example, resolution of theft of wheel-cover cases has such a low probability of occurring that almost universally a reactive investigation to such crimes simply does not occur. Caseload in this instance consists of filing a report, primarily for insurance purposes; if the offense is to be attacked, it will likely be by proactive efforts such as curtailing the secondary parts market or use of bait cars.

In *Solving Crimes: The Investigation of Burglary and Robbery* (1983), Eck observed that quantification of the probability of solvability was nearly impossible. He suggested instead that cases be categorized into one of three types: those that cannot be solved with a reasonable

amount of effort; those that have already been solved by circumstance and require only the suspect to be apprehended; and those that, with a reasonable amount of effort might be solved, but certainly will not be solved without such effort. Managing caseloads under this model consists of dedicating some time to screening out the cases in the first category—those that cannot be solved; a fair amount of time dedicated to the second category (preparing solved cases for court) and saving as much time as possible to be dedicated to the small percentage of cases where some investigative effort might make a difference in clearance. However, previous efforts to guide decision making in this respect through “solvability models” have not generally been effective.

Measuring Productivity—the Impact upon Staffing

The inability to effectively measure outcome or even to establish reasonable workload parameters results in a focus on process rather than result. For example, assessment of investigator productivity may be based on whether report supplements are filed on time, the quality of writing in reports, whether victims are called back, the case filing rate—regardless of the quality of cases, and perhaps whether the investigator appears to stay busy.

AMI: Characteristics

The Allocation Model for Investigations (AMI) has been developed by Justex Systems to quantify investigative effort. It may be used for determining both baseline and change levels of staffing for investigative units. Three key elements exist in the model:

- First, is the recognition that investigative units vary in the manner in which they operate; thus, staffing models likewise need to differ. Unlike patrol, there is no universal mathematical model that can be constructed.
- Second, historical data can be used to determine presumptive baseline staffing. Future staffing levels should be determined from variance in workload demands from this baseline. A baseline can be established using AMI, but the model will also function to ascertain incremental change.
- Third, for all but the proactive enforcement units, such as narcotics investigators, individual caseloads should be calculated as the number of new cases per month. Primary and secondary caseload responsibilities should be examined in determining the appropriate number of new cases assigned to each investigator per month, but the individual investigator’s primary caseload should control the decision. Using

the number of pending or open cases generates “phony numbers” and “fuzzy math”, and should be avoided.

Justex Systems’ AMI is premised on the same underlying assumption that forms the foundation of the Allocation Model for Patrol (AMP), i.e., that there is no magic “right” number of investigators. The core issue is what a jurisdiction wishes to “purchase” in the way of police services. More patrol officers translate into shorter response times, greater time available for proactive patrol, greater visibility, and fewer times when there are no units available for high - emergency dispatch. Logically, taken together these conditions should result in more effective crime control.

Similarly, the effect of adding more investigators is difficult to quantify in terms of ultimate outcomes. One would hope that more cases would be cleared by arrest, but that is difficult to specify given the range of variables discussed in the previous section. What can be quantified, however, is the amount of additional investigative effort. What we want to specify is “what additional percentage of cases of type x will be investigated to the additional extent y.”

The AMI staffing model is predicated upon a series of assumptions. While some assumptions may not hold true for every situation, they will be assumed true and followed for operational purposes. These assumptions are:

1. Not every crime is capable of being solved regardless of the amount of resources committed to its investigation.
2. Staffing issues should be determined at the unit level.
3. Staffing levels must be computed differently depending upon the investigative style of each unit.
4. Not all reports of crimes can receive investigative attention.
5. The experience and expertise of investigators and their supervisors must be relied upon to select the criminal incidents that should receive the most attention and that are most likely to be solved.
6. With a few exceptions—primarily criminal homicide and sexual assault—if a suspect is not identified within 45 days of the crime’s occurrence and no reasonable investigative

leads remain, further investigative effort should not be expended on the case. The case should be placed in a suspended status.

7. Cases in a suspended status should not factor in the workload computation.
8. Baseline staffing levels should be determined largely by examining the primary caseload within each unit.
9. Supervisory personnel and sworn support staff should not be considered when establishing baseline staffing levels.
10. Baseline staffing levels should be reviewed annually.
11. Historical staffing experience will serve as base for future staffing levels.

AMI is designed to allow police management to quantify the additional investigative effort that will be purchased by the addition of more detectives in meaningful terms. The model first categorizes cases into a typology that relates to required investigative effort rather than to the Penal Code or Uniform Crime Reporting (UCR) classification of the offense. The typology can be conceptually thought of as a matrix. Across the top are four columns of suspect identity status conferred upon assignment to an investigator. Down the rows are 17 offense categories.

The 4x17 matrix with suspect categories produces 68 cells, plus the ten investigative incidents without suspect categories equals 78 cells. Each cell represents an expected level of investigative effort. That effort is specified in anticipated hours of follow-up. Expectations can then be set for each of the 78 cells. A larceny/theft with no suspect information is normally investigated in less than 30 minutes. This type of case might involve a computer entry into stolen property files and a victim call-back.

At the other extreme is a homicide investigation with some suspect identification information present. The seriousness of the offense justifies an extensive investigation, and the fact that there is some suspect identification developed provides leads—something to investigate. If investigative units do not handle a particular case type, perhaps not handling Lost/Found Property for example, a zero is entered.

Public order offenses are listed, e.g., prostitution, but data are entered only for assignments that are made on a case by case basis, such as response to citizen complaints or post-arrest case processing. If a separate proactive investigation drug or vice unit exists, productivity data for that unit is separately calculated. **There is no means to calculate “time required” data for proactive investigations within AMI. Staffing levels for proactive investigations remain a policy issue.**

The key to employing the matrix as an investigative allocation tool is to understand that staffing will determine the extent to which each of the 78 cells receives what level of investigative effort. Development of a version tailored to HPD has been a critical component of this project.

In an investigative division that is severely understaffed, even serious offenses with suspect identification developed will receive only nominal (less than 30 minutes) effort. If 30 minutes does not identify the suspect, then the case is “filed”. Further, even cases with known but at-large suspects, and cases with the suspect in custody, will receive only basic attention (31 minutes to 3 hours). Pursuit of convincing and overwhelming evidence for a trial, or negotiated plea, could potentially be strengthened by more investigative effort, but will not be. Use of AMI provides an agency with the background data to allow “directed” enhancement (or diminution) of investigative effort.

“Purchasing” Investigative Services

AMI provides a tool for specifying what will be purchased with increased investigative staffing. Rather than generically, “we need more detectives,” the model moves discussion to “we need to conduct extensive rather than basic investigations on robberies with identified or in-custody suspects (to assure conviction or an acceptable plea).” It forces explicit policy on uncomfortable issues—“we are not going to investigate theft cases with unknown suspects beyond victim call-backs (nominal – less than 30 minutes).”

For the model to be useful for management decision-making, some aggregation of case types is necessary, based upon two primary criteria. First, case types are grouped into logical units by the nature of the offense, e.g., traffic investigations. Second, the amount of time spent on each category is necessarily averaged. Averaging introduces error, but a model treating each case as unique is unworkable. At the same time an average can be very misleading when a database consists of extreme variability across a few instances. In the course of developing normative values for AMI, Justex encountered one illustration in the University of Texas at Houston data

set—Larceny/Theft. The low number was .25 hours (fifteen minutes). The high number was 40.5 hours. The high number is 162 times the low number. Miscellaneous investigation cases ranged from .75 hours to a very high 102.5 hours, an “outlier” case requiring an amount of time far beyond the norm. Another example from Waco in the sample data set is aggravated robbery with a suspect in custody. The low number was 2 hours; the high number was 32 hours. The cases reported fell into two groups, one group with 2 to 8 hours, and the second group with 15 to 32 hours. However, the substantial majority of the data did not show this type of variation. Theft from a vehicle with suspect unknown were nearly all reported at less than 30 minutes, with only a few outliers – the outliers likely due to recovery of parts or property. **Such variation illustrates the importance of populating the model with HPD specific data based on a substantial sample.**

Further, one does not allocate resources based upon extreme and rare events. Patrol cannot be staffed to handle a major riot at any time 7/24. Other agencies are called in as are off-duty officers in such circumstances. Similarly, investigations cannot be staffed to handle a case of national significance at all times. Should such a case arise, extra resources will have to be budgeted on an emergency basis.

HPD Data Sources

For an agency the size of Houston a customized model was developed by employing a large sample of Case Effort Logs. That is what occurred. During a 60-day period in the spring of 2013 a total of 167 HPD investigators maintained a time expended log. Case by case activities were logged by the following nineteen categories of effort:

1.) Interviewing Victim, Complainant, Witnesses, or Other Involved Persons
2.) Interviewing Perpetrator/Suspect
3.) Conferring with HPD Personnel (e.g., Responding Officers, Other Investigators)
4.) Conferring with Prosecutor's Office Personnel
5.) Conferring with non-HPD Law Enforcement Personnel
6.) Attempting to Locate Someone Involved with Case (e.g., Witness, Relative, Neighbor)
7.) Database or Records Check (e.g., TCIC/NCIC, CCH, AFIS, Credit Check)

8.) Running a Warrant
9.) Making an Arrest
10.) Processing Physical Evidence
11.) Appearing in Court Concerning This Case
12.) Writing Supplemental Reports
13.) Traveling
14.) Conferring with Confidential Sources
15.) Conducting Physical Surveillance
16.) Reviewing Case File
17.) On Call Status
18.) Case Closed
19.) Other (Briefly Explain)

The nineteen category detail was gathered for later analysis. The critical data was the time spent by type of case, and then subdivided by suspect status: 1. Suspect Unknown, 2. Possible Suspect ID, 3. Known Suspect at Large, 4. Suspect In Custody. Investigative effort in all but the most serious cases for #1 (Suspect Unknown) consists of little beyond reviewing the offense report and assuring that any evidence that might develop into a lead is in the HPD database (primarily stolen property); Category #2 (Possible Suspect ID) is discussed below; Category #3 (Known Suspect At Large) effort consists of apprehension effort—for less serious issues apprehension might be delegated to Patrol and associated units, while for very serious offenses enormous investigative effort might be expended; Category #4 done correctly entails suspect interrogation and/or debriefing for intelligence

Category 2, Possible Suspect ID: This is the category of cases that Eck (1983) characterized as critical—in that investigative effort might bring an arrest but without such effort the case will definitely not be solved. Categories #1, #3, and #4 must be done effectively—they are the bread-and-butter of police investigative units. Nonetheless, they are the mechanistic component of investigations poignantly described by the RAND Corporation forty years ago. Be that as it may, these three categories are appropriately first in line for investigative effort—preparation of a case for trial will take priority over pursuing leads that may or may not prove fruitful. There is evidence that additional staffing is necessary to adequately investigate cases in this category. The following data were obtained from HPD operational reports spanning the time period 2010 through 2013:

1. Eighty-five percent of the burglary and theft cases were “not assigned” (7,960 monthly average over that period of time) – mostly due to no solvability factors; however, within that 85 percent, 6 percent were suspended (468 monthly average) due to insufficient staffing. In other words, there were some leads, but insufficient investigative staffing to work a substantial number of incidents.
2. Eighty-seven percent of the financial crime cases were “not assigned” (1,079 monthly average), with 98 percent being suspended (1.054 monthly average).

Justex has concentrated its analysis and recommendations upon the resources for the various investigative units to pursue cases in Category 2—to expend effort on cases without a known suspect but with leads that if pursued might identify the perpetrator. However, concentration on this category of cases should not be interpreted as indicating that Categories #1, #3, and #4 are fully and adequately staffed at HPD. Note in the AMI analysis the variation in time spent on four violent crime categories with a suspect in custody:

<u>Offense</u>	<u>Hours Spent on Cases with “Suspect in Custody”</u>
Murder / Criminal Homicide	197
Aggravated Assault	125
Robbery	16
Forcible Rape	58

Time spent once a suspect is in custody is dedicated to a single goal – preparation of a case for court. Developing evidence to elevate the standard criteria for arrest (probable cause) to the standard for conviction (proof beyond reasonable doubt) requires not only sophisticated skill but time as well. Of the 19 categories of investigative activity enumerated above, 13 are applicable to post-custody processing. HPD data indicate that homicide cases receive 12 times the hours spent in court preparation than occurs for robbery supports the premise that robbery merits greater time spent. Even if an argument is made that a comparison with aggravated assault is more valid, the value of 125 hours on post-custody investigation for aggravated assault is still 8 times the 16 hours average value for robbery. Forcible rape falls between these values at 58 hours—3 ½ times the average hours dedicated to robbery.

Given these premises the staffing analysis of investigations also includes a single selected increase in category #4 – time spent on Suspect in Custody robbery cases.

HPD Investigative Staffing Calculations

It must first be noted that no one at HPD perceived that investigative staffing could be decreased without substantial harm to agency effectiveness. This is likewise the professional judgment of Justex Systems. Every macro indicator suggests that investigations at HPD is at best minimally staffed. At the same time budgetary constraints for the City of Houston must be kept in mind. Thus, the focus of our analysis is identification of the most cost effective options.

Data from the time/effort logs completed by 167 investigators representing all reactive investigative units were combined with caseload data provided by HPD to obtain the annual number of cases investigated (not to be confused with when cases occurred) by offense category and within each offense category by the four suspect statuses. Figure 1 illustrates the relative proportion of case types investigated by HPD. Note that ~75 percent of the cases investigated are accounted for by just five categories: Simple Assault, Sex Offenses, Offenses Against Family, Fraud/Forgery/Counterfeiting, and Miscellaneous. The number of cases is, of course, just half of the equation. Figure 2 illustrates relative time spent. Although the three violent crime offenses of Murder, Robbery, and Aggravated Assault constitute only 2 percent of the cases investigated, they account for nearly 50 percent of effort expended.

Table 4 contains the detailed summary of the data provided by the investigator time logs. In Appendix B1 and B2 the table is reproduced and split in half to increase font size for ease of detailed reading.

Table 5 provides potential increases in investigative staffing to achieve several objectives. First, a projection of increased staffing to achieve an across-the-board 10 percent increase in time spent for all offenses—Persons/Property/Public Order—indicates that an additional 45 investigators are required. Second, the cost of the same 10 percent increase separately for persons' offenses requires 27 additional investigators; a 10 percent increase for only property offenses calculates at 15 additional investigators.

In summary, Justex:

1. Recognizes a need for additional staffing among most investigative units;

2. Nevertheless, feels compelled to make four specific recommendations, particularly pertaining to “some suspect leads” cases, as listed in Table 5;
3. However HPD management needs some flexibility in allocation due to constantly changing offense patterns (some technology driven) combined with rapidly-evolving investigative technology;
4. Therefore, Justex recommends a 10% across-the-board rather than specific recommendations unit by unit increases.

Table 5’s enumeration does not imply that the 10% be exactly evenly allocated. A survey of Investigative Division commanders revealed excessively high numbers of cases with leads that were not investigated in 2013 due to lack of personnel: for Burglary and Theft, nearly 15,000; nearly 3,000 assault cases in the Homicide Division; nearly 3,000 hit-and-runs. The situation is so egregious in Burglary and Theft that a separate increase is recommended in Table 5 for that unit. However, every unit should be staffed such that all cases with leads receive at least some attention. Achieving that end should be the focus of the allocation of any new resources.

Figure 1. Houston Police Department Categorization of Cases by Type

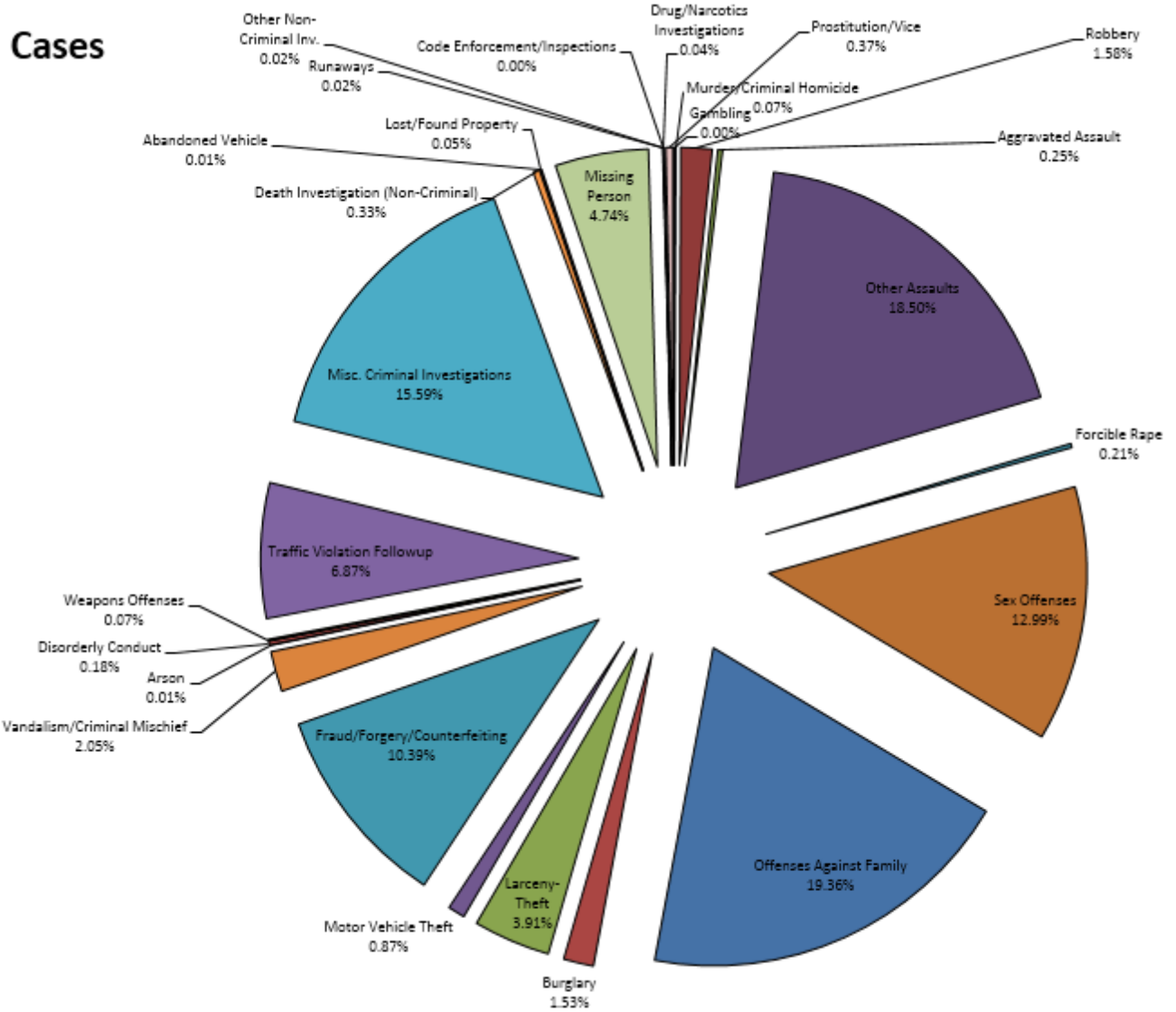
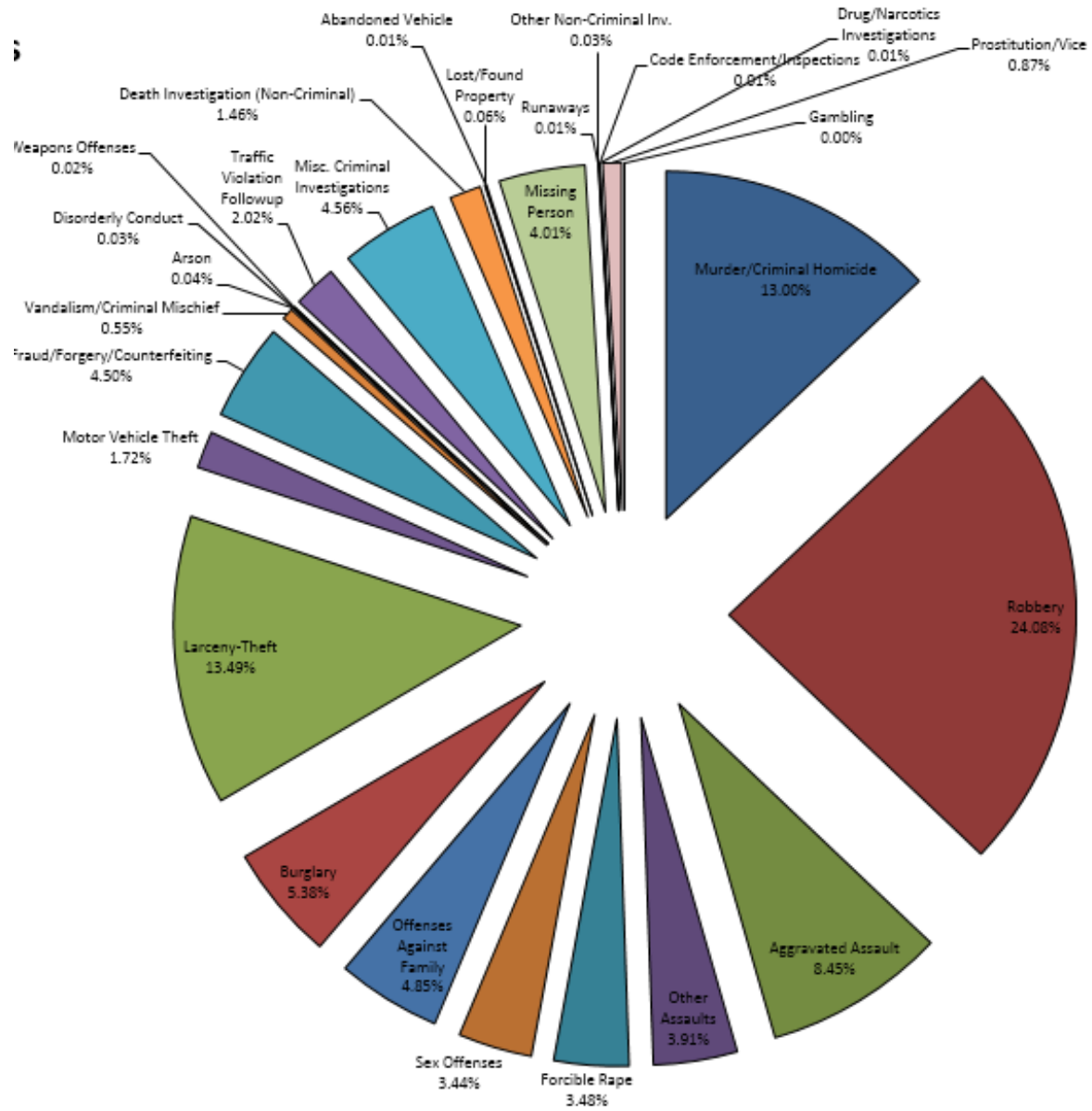


Figure 2. Houston Police Department Categorization of Cases Investigated by Time Spent



Houston Police Department Operational Staffing Model
May 2014

Table 5. Summary of Investigative Staffing Scenarios

<u>Version</u>	<u>Variable Changes</u>	<u>Investigators</u>	
		<u>Required</u>	<u>Additive</u>
A. Benchmark	Estimated Performance Standards Given Current Staffing AMI Simulation This Version= 480	480	0
B. Increase Persons/Property/Public Order by 10%	Across-the-board 10%; excludes non-criminal and special assignments	45	525
C. Increase Person Crime by 10%	Increase by 10% time spent on investigating Homicide, Aggravated Assault, Robbery, Simple Assault, Rape, Sex Offenses, Offenses Against Family	27	507
D. Increase Property by 10%	Increase by 10% time spent on investigating Burglary, Theft, Fraud, Auto Theft, Vandalism, Arson	15	495
E. Increase Robbery w Leads	Hours spent on Possible Suspect ID Increased from 11.27 to 20.00	12	537*
F. Increase Rape with Leads	Hours spent on Possible Suspect ID Increased from 21.87 to 40.00	9	546**
G. Increase Robbery Prep	Increase hours from 16 to 30 on Suspect in Custody cases to provide depth court preparation	8	554**
H. Increase Burglary & Theft	Increase the percentage investigated with Possible Suspect ID by 25%; for burglary from 2004 to 2505; for theft from 4150 to 5187 Burglary = +8, Theft = +19	27	581**
I. Targeted Increases Total	Increase by stipulations above robbery, rape burglary and theft (E., F., G., H.) = 56 additional positions	56	581*

May 2014

-Table 5 Continued-**Staffing Change Detail**

<u>Version</u>	<u>Current</u>	<u>Enhanced</u>	<u>Change</u>	<u>Rounded</u>
A: Benchmark	480	480	0	480
B: Increase Persons/Property/ Public Order by 10%				
Homicide	70.84	77.95	7.11	7
Robbery	66.35	73.00	6.65	7
Aggravated Assault	46.04	50.66	4.62	4
Simple Assault	21.29	23.42	2.13	2
Rape	18.97	20.87	1.90	2
Sex Offenses	18.77	20.65	1.88	2
Offenses Family	26.40	29.05	2.65	3
Burglary	29.33	32.28	2.95	3
Theft	73.51	80.89	7.38	7
Auto Theft	9.36	10.30	0.94	1
Fraud	24.54	27.01	2.47	2
Vandalism	2.99	3.29	0.30	0
Arson	0.21	0.23	0.02	0
Disorderly	0.16	0.17	0.01	0
Weapons	0.09	0.10	0.01	0
Traffic	11.00	12.10	1.10	1
Miscellaneous	24.87	27.36	2.49	2
Subtotal	444.72	489.33	44.61	45
Non-Criminal & Special Assgn.	35.09	35.09		
Total	479.81	524.42		525.00

Houston Police Department Operational Staffing Model

May 2014

<u>Version</u>	<u>Current</u>	<u>Enhanced</u>	<u>Change</u>	<u>Rounded</u>
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C: Increase Person Crime by 10%

Homicide	70.84	77.95	7.11	7
Robbery	66.35	73.00	6.65	7
Aggravated				
Assault	46.04	50.66	4.62	4
Simple Assault	21.29	23.42	2.13	2
Rape	18.97	20.87	1.90	2
Sex Offenses	18.77	20.65	1.88	2
Offenses Family	26.40	29.05	2.65	3
Subtotal	268.66	295.60	26.94	28

D: Increase Property by 10%

Burglary	29.33	32.28	2.95	3
Theft	73.51	80.89	7.38	7
Auto Theft	9.36	10.30	0.94	1
Fraud	24.54	27.01	2.47	2
Vandalism	2.99	3.29	0.30	0
Arson	0.21	0.23	0.02	0
Subtotal	139.94	154.00	14.06	14

Targeted Staffing**Change Rounded****E. Increase Time on Robbery with Leads**

12

Increased from 11.27 to 20.00

F. Increase Time on Forcible Rape with Leads	9
Increased from 21.87 to 40.00	
G. Increase Robbery Case Preparation Time	8
H: Increase Burglary & Theft with Leads Follow-Up %	27
I. Targeted Increases Total	56

The next step was to review the information extrapolated from the 167 time/effort logs to ascertain probable foci for investigative resources that are directed only at expanded effort to pursue cases with Possible Suspect ID leads. Among the violent crime categories, Justex found the following variation in average hours for Possible Suspect ID cases:

<u>Offense</u>	<u>Average Hours Dedicated</u>
Murder / Homicide	41.99
Aggravated Assault	48.67
Robbery	11.27
Rape	21.87

Clearly there is a significant gap between Murder / Homicide and Aggravated Assault compared to Robbery and Forcible Rape. To increase the average time spent on robberies with possible suspect ID from 11.27 hours to 20.00 hours would require 12 additional robbery investigators. To increase the average time spent on forcible rape from 21.87 hours to 40.00 hours would require 9 additional investigators. The values of 20 hours and 40 hours are premised upon our professional judgment informed by the activity logs of 19 investigative activities cited earlier. Taken together increases in effort for robbery and rape to bring them more in line with homicide and aggravated assault would require 21 additional investigators.

Third, we calculated the staffing increase necessary to increase post-custody investigations for robbery. To increase the average hours spent from 19 to 30, bringing robbery closer in line with the other three violent Part I offenses, would require 8 more investigators. Fourth, a calculation was made to determine the number of additional investigators required to pursue a larger

percentage of Burglary and Theft cases with leads. Increasing by 25 percent the number of Burglary and Theft cases with leads that are investigated would require an additional 27 investigators. The four targeted increases—cases with leads for (1) robbery and (2) rape, (3) post-custody investigation for robbery, and (4) higher percent of follow-up for cases with leads for burglary and theft—would total 56 additional investigative positions, a 12 percent increase. A 10 percent across-the board increase, plus targeted increases adds 101 additional investigators; an overall 21 percent increase. Could more investigators be fruitfully employed? Absolutely. However, Justex chose to be conservative, focusing upon the most critical needs. As noted earlier *We are mindful of the budgetary constraints of the City of Houston. Thus, the focus of our analysis is identification of the most critical and cost-effective alternatives.*

OPERATIONAL STAFFING REVIEW OF THE PROACTIVE AND REGULATORY FUNCTIONS OF THE HOUSTON POLICE DEPARTMENT

INTER-AGENCY TASK FORCES

The Houston Police Department supplies personnel and equipment to a wide array of inter-agency task forces. These multi-jurisdictional operations allow a more comprehensive approach to crime problems that have an impact on the entire metropolitan area.

For many years local law enforcement agencies devoted their resources to crimes that occurred in their jurisdictions. Cross boundary crimes were problems for county, state or federal agencies. But, beginning in the late 1960s, the multi-jurisdictional nature of drug crime brought recognition that the resources of a single agency were not enough to effectively combat drug crime and drug trafficking. The idea of multiple law enforcement agencies pooling resources to address specific crime problems, especially drug-related problems, began to grow.

This growth was fueled in part by the federal Bureau of Narcotics and Dangerous Drugs (BNDD), a Department of Justice agency created in 1968 that established the concept of drug task forces involving federal, state, and local officers.⁷ The first of these task forces was launched in New York City in 1970. BNDD also established Metropolitan Enforcement Groups, in which local jurisdictions in a metro area shared resources, including personnel and equipment.

The rationale behind these joint approaches was that each representative brought different and valuable perspectives and experiences to the table, and that close collaboration among the members could result in cross-training and the sharing of expertise.

⁷ One of the four major goals of the BNDD was to “work with state and local governments in their crackdown on illegal trade in drugs and narcotics, and help to train local agents and investigators.”

<http://www.justice.gov/dea/about/history/1970-1975.pdf>

In the next several years, the task force concept became an essential part of the operations of the BNDD and of its successor organization, the Drug Enforcement Administration (DEA). The task forces grew out of recognition that multi-layered problems of drug crime and trafficking could only be addressed through a multi-jurisdictional approach.

Further expansion of the tasks force concept occurred in 1982 when then-Attorney General William French Smith announced a program to crack down on organized crime, particularly syndicates involved with illegal drug trafficking. A key premise was to replicate the success of the South Florida Organized Crime Drug Enforcement Task Force, by creating 12 additional such task forces, including one based in Houston.

In 1984, significant incentives were created for local jurisdictions to participate in multi-jurisdictional task forces. The Comprehensive Crime Control Act of 1984 authorized federal criminal justice agencies to share assets forfeited by criminal enterprises with state and local law enforcement agencies.

Because of the multijurisdictional nature of the work, it is very difficult for a municipal police agency to determine the value of its contribution to a task force. Such metrics as the amount of drugs seized, the number of investigations conducted, the number of reports written, the number of arrests made, and the value of property recovered and seized are often recorded for the entire task force. Task forces have not generally tried to break down the impact of its collective work according to the contributions of the member agencies. Thus, a member police department would be hard-pressed to determine what the change in overall impact would be if it added one more officer to a task force, or withdrew an officer.

On a broader level, it is also difficult to assess the impact of an entire task force on the overall problem it was created to address. For example, although there are various estimates of the supply of drugs in the United States, it is difficult to prove that the DEA drug task forces have decreased the supply of drugs by a certain percentage.

The difficulty of measuring the value of task forces has long been an issue in policing. Tasks forces are created and maintained because police executives know that something needs to be done to address drugs and related multijurisdictional problems, and pooling resources and taking a regional approach seems like a smart approach. But there is no established method to decide how many officers are needed to have a noticeable impact on the problem.

A kind of surrogate measure of the value of participating in task forces emerged when seized asset sharing became possible. Under federal law, billions of dollars' of assets seized from drug traffickers have been shared with local police agencies, according to the degree of commitment the local agencies made to drug task forces. For many tasks forces, the concept of equitable sharing of seized assets in proportion to an each agency's contribution provided a rough assessment of the value of their contribution. The more resources a jurisdiction provided to a task force, the greater their share of the proceeds. Adding one officer could increase the jurisdiction's share, and subtracting one officer could lead to a decreased share.

Some law enforcement agencies saw this monetary incentive as an additional reason to participate in inter-agency tasks forces.

Participation in task forces also may be influenced by the funding stream of the task forces. Funds for salaries, overtime, equipment and operating expenses may also come from an outside agency to encourage task force participation.

Houston Task Forces

The Houston Police Department participates in a variety of task forces, including 13 described below. HPD has conducted no systematic assessment of the value of the work of the 187 officers it has assigned to the task forces in which it participates. For some of the task forces, data exists about the number of arrests they have made, the number of cases handled, the value of assets seized, etc. However, as a whole, the contribution of Houston officers cannot be separated from the actions of the task force.

In order to better judge the impact of the HPD's commitment of resources to task forces, PERF recommends that each task force be required to furnish specific data to measure the outcomes of its operations related to its core mission, detailed below. These recommended measures are in addition to current data that the task forces may collect on overall activities and outputs. Because most of the recommended measures are not being currently collected, the initial collection effort will serve as a baseline. Future measures can be compared to the baseline to determine progress. It is also important that the personnel responsible for overseeing the work of the task force document the "intangibles" or stories of how the task force's collaborative efforts

contributed to results that could not have been otherwise achieved (e.g., intelligence or data sharing that made a difference in solving a case).

Houston Auto Crimes Task Force (HACTF) – The HACTF is a grant-funded panel consisting of five units: the Crime Reduction Squad; Port/Accessory Squad; Salvage Shop Squad; Hispanic Squad; and Crime Prevention /Outside Agencies Squad. The task force investigates the sale or purchase of automobile components stripped from stolen vehicles, auto theft hot spots, the rebuilding of vehicles with stolen salvage numbers, the import or export of stolen vehicles, the transport of stolen automobiles south of Texas and the U.S. border and the theft of heavy equipment and tractor trailers. Member agencies include the Fort Bend County Sheriff's Office, the Harris County Sheriff's Office, the Texas Department of Public Safety, the Harris County Metropolitan Transit Authority Department of Public Safety and the Houston Police Department. HPD has six sergeants assigned with nine officers. An administrative assistant supports the unit lieutenant. Unit grant funding is provided by the Texas Department of Motor Vehicles' Auto Burglary Theft Prevention Authority.

Suggested measurements of operations: How many arrests for auto-related crimes have been made by the task force? What percent of those arrests has cleared crime committed in the City of Houston?

Investigative Unit (TAG Center) (Multi-Agency Gangs Task Force)

The stated goal of this unit is to reduce violent crime in Houston through “shared expertise, intelligence and manpower.” Members of this task force seek to arrest and prosecute strategically targeted violent gang members in order to disrupt and dismantle their organizations. The task force has members from the FBI, Houston HIDTA, the Bureau of Alcohol, Tobacco, Firearms and Explosives, Immigration and Customs Enforcement, the Drug Enforcement Administration, the Army National Guard, the Harris County Sherriff's Department, and the Houston Police Department's Gang Division. HPD contributes a captain, one lieutenant, three sergeants, 14 officers and one intelligence analyst to this effort.

Suggested measurements of operations: How many arrests of violent gang members have been made by the task force? How many gang organizations have been dismantled? How many of the arrests have cleared crime committed in the City of Houston? How many dismantled gang organizations have been located primarily in the City of Houston?

The Gulf Coast Violent Offenders Task Force

This task force apprehends violent fugitives, including U.S. Marshals Service fugitives and state and local violent offenders. Participants include the U.S. Marshals Service, the Houston Police Department, the Harris County Sheriff's Office, the Galveston County Sheriff's Office, the Texas Department of Criminal Justice, the Texas Department of Public Safety, the Texas National Guard Counter Drug Program, the U.S. Department of Homeland Security, the U.S. Department of Housing and Urban Development, the Social Security Administration, the Veterans Administration, the U.S. Postal Inspectors Service, and U.S. Immigration and Customs Enforcement. HPD has four officers assigned to this task force.

Suggested measurements of operations: How many violent fugitives have been arrested by the task force? How many crimes have been cleared in the City of Houston as a result of those arrests?

ATF (Achilles) Task Force

HPD personnel assigned to the Achilles Task Force work with the federal Bureau of Alcohol, Tobacco, Firearms and Explosives. The task force, using federal firearms statutes, investigates gun-related violent crimes and seeks the apprehension of armed career offenders. Personnel include ATF agents, officers from a variety of local agencies and officers from the Houston Police Department. There are five HPD officers assigned to this task force.

Suggested measurements of operations: How many armed career offenders have been arrested? How many gun-related violent crimes in the City of Houston have been cleared as a result? How many illegal guns were seized in Houston by the task force?

HIDTA (High Intensity Drug Trafficking Area) Task Force

The HPD assigns 117 sworn personnel to HIDTA operations. Personnel are assigned to the following initiatives:

- Major Drug Squad (MDS);
- Truck, Air, Rail and Port (TARP);
- Targeted Narcotics Enforcement Team (TNET);
- Forfeiture Abatement Support Team (FAST);
- Houston Money Laundering Initiative (HMLI);
- Houston Intelligence Support Center (HISC);

- Narcotics Operations Control Center (NOCC);
- Pharmaceutical Diversion Squad (PDS); and
- Heroin Squad.

The number of officers assigned to the elements of this operation will depend on the extent to which HPD senior management is satisfied with the operations and outcomes of the efforts. All HIDTA-related workload is conducted by a combination of agencies.

Suggested measurements of operations: What has been the volume and value of drugs seized by the task force? What has been the value of assets seized by type (cash, vehicles, etc.)? How many arrests have been made for drug charges? What is the estimated impact on drug trafficking in the Houston area?

The **Houston Joint Terrorism Task Force (JTTF)** brings together FBI agents, other federal law enforcement officials, and state and local police officers from the Houston FBI Office's jurisdiction to investigate and prevent acts of terrorism. The JTTF facilitates the collection and sharing of timely, vetted intelligence with local agencies and the larger U.S. intelligence community. The JTTF is headquartered in Houston, with satellite offices in Beaumont, Bryan, Conroe, Texas City, and Corpus Christi, Texas. The HPD has eight officers assigned to this task force.

Suggested measurements of operations: How many emerging threats have been identified? How many terrorist activities have been disrupted? How many specific intelligence analyses have been forwarded to operational units for action?

The **Houston Field Intelligence Group** consists of intelligence analysts, special agents, language analysts, and financial analysts from the FBI, as well as analytic and investigative personnel from local, state, and federal partners, including:

- The Houston Police Department (with one officer and six civilians assigned);
- The Harris County Sheriff's Office;
- The Texas Department of Public Safety;
- The U.S. Army Counterintelligence Field Activity;
- The Texas National Guard (Army and Air Force); and
- NASA.

The mission of the group is to provide actionable intelligence in support of other multi-agency task forces including the Joint Terrorism Task Force, the Major Thefts Task Force, and the Violent Crime Task Force as well as to local law enforcement agencies.

Suggested measurement of operations: How many specific intelligence analysis products have been forwarded to HPD operational units? How many arrests has this intelligence contributed too? As a result, how many crimes in the City of Houston have been cleared? How often does this group meet (or officially communicate) with the other multi-agency task forces and law enforcement agencies it supports? What are the strategic outcomes of this information sharing? What other groups receive and/or act on this intelligence?

The Houston Area Cyber Crime Task Force brings together local, state, and federal experts to combat computer intrusions, viruses, and other cyber threats. HPD has two officers assigned.

Suggested measurements of operations: How many arrests have been made by the task force? As a result, how many crimes in the City of Houston have been cleared?

The **Human Trafficking Rescue Alliance** works in conjunction with law enforcement agencies and social service organizations to locate and liberate individuals trafficked into the United States across international borders and held against their will or forced to work for the financial gain of others. The task force consists of FBI special agents, Immigration and Customs Enforcement (ICE) special agents, two officers from the Houston Police Department, deputies from the Harris County Sheriff's Office, and members of other state and federal law enforcement agencies.

Suggested measurements of operations: How many individuals have been located and freed as a result of the Alliance's work? How many were located in the City of Houston? How many persons were arrested for crimes committed in the City of Houston? How many Houston missing person cases were cleared? How is information shared with the Houston Innocence Lost Task Force and how frequently does this occur? Has this information sharing led to arrests in Houston?

The **Houston Innocence Lost Task Force (HILTF)** was originally formed as an informal working group composed of FBI agents and two officers from the Houston Police Department

Vice Division to investigate domestic human trafficking. A formal task force was created in 2007 and deputies from the Harris County Sheriff's Department were added. The HILTF proactively locates and rescues U.S. children who are trafficked throughout the country for purposes of commercialized sex offenses.

Suggested measurements of operations: How many children have been located and rescued through HILTF? How many victims and offenders were from Houston? How many persons were arrested for trafficking crimes committed in the City of Houston? How many Houston missing person cases were cleared? How is information shared with the Human Trafficking Rescue Alliance and how frequently does this occur? Has this information sharing led to arrests in Houston?

The **Houston Asian Organized Crime Task Force** brings together representatives of the FBI and the Houston Police Department to address the Asian organized crime problem in the Houston metropolitan area, which has significant South Asian and Vietnamese populations. These cases involve drug trafficking, bribery, alien smuggling, money laundering, and murder for hire. The ultimate goal of the task force is to dismantle the most significant Asian crime enterprises. The HPD has four officers assigned.

Suggested measurements of operations: How many arrests have the task force made of persons accused of committing crimes in Houston? How many crimes were cleared as a result of these arrests? How many significant Asian crime enterprises have been disrupted? How many were Houston-based and/or had significant operations in the City of Houston?

The **Major Theft Task Force** works to identify and conduct prioritized investigations of major theft criminal enterprises operating within or through the greater Houston metropolitan area, using federal, state, and local law enforcement resources. Through coordinated investigations, the task force pursues prosecutions to disrupt and eventually dismantle major theft groups. HPD has three officers assigned to this task force.

Suggested measurements of operations: How many prosecutions has the task force presented that effectively disrupted major theft groups working in the City of Houston? How many were successful? How many crimes were cleared as a result of these efforts?

The **Houston Violent Crime Task Force** conducts prioritized investigations of bank robberies (focusing on the most violent robberies and on serial robberies), investigates crimes against children and crimes aboard aircraft or at sea, locates and apprehends major violent fugitives, and investigates criminality at federal penal institutions. The FBI, other federal agencies and Houston area law enforcement agencies all contribute personnel to this task force. The HPD has five officers assigned to it.

Suggested measurements of operations: How many violent offenders has the task force arrested? As a result, how many crimes were cleared which were committed in the City of Houston? Has the task force made a discernible impact on violent crime in Houston?

These specific measures proposed should help the Houston Police Department better assess the value of its participation in these task forces moving forward. The information gathered will help provide guidance as the department considers the following big-picture questions:

- Is the impact in Houston greater than if the personnel were assigned to similar responsibilities within the department?
- Are there other areas in the department where the demand for resources is greater?
- Would shifting resources impact the effectiveness of the task force or overall crime in the city?
- Is the Task Force producing timely and accurate information that HPD can use in its other initiatives or activity reports to keep the department abreast of its activities? Is this information being shared in a timely and effective manner with the others who could use it to inform their work?
- What is the department's return on its investment? Does the effort the department puts in yield an equal or greater return in the short term? Long term?

Making a concerted effort to regularly collect and review the data from the task forces to answer these questions will help HPD leaders in their ongoing efforts to candidly assess whether the resources allocated to task forces are being used most effectively.

TRAFFIC: CRASH REDUCTION AND CONGESTION ABATEMENT

The Houston Police Department devotes considerable resources to traffic enforcement in order to reduce collisions, promote traffic safety, and maintain the flow of traffic. At the end of 2013 there were 200 employees assigned to the Traffic Enforcement Division (one captain, five lieutenants, 23 sergeants, 130 officers and 41 civilians).⁸ The Vehicular Crimes Division was composed of 121 employees (one captain, three lieutenants, 19 sergeants, 94 officers and 4 civilians).⁹

The Traffic Enforcement Division, located within the Field Operations Command, focuses mainly on proactive enforcement. The Vehicular Crimes Division of the Investigative Operations Command is deployed to serious accidents. Patrol units are deployed to minor accidents as well as to local speeding complaints.

The Traffic Enforcement Division is made up of the following units:

- Administration¹⁰ – one captain, one lieutenant, three sergeants, nine officers¹¹
- DWI Task Force – one lieutenant, three sergeants, 18 officers
- Truck Enforcement – one lieutenant, three sergeants, 20 officers
- SOLOs (Motorcycles) – one lieutenant, five sergeants, 39 officers
- Traffic Enforcement – one lieutenant, five sergeants, 33 officers
- Highway Interdiction – eight officers
- Mobility Response Team – four sergeants, 29 civilians

The Vehicular Crimes Division, headed by a captain, is made up of the following units:

- The Crash Investigations Unit – two lieutenants, 16 sergeants, 70 officers, two civilians
- The Crash Reconstruction Unit – one sergeant and five officers

8 Source: 2013 Annual Report, Traffic Enforcement Division

9 Source: 2013 Annual Report, Vehicular Crimes Division. These figures reflect the move of the Auto Dealers Detail to the Auto Theft Division

10 Includes “Truck Administration” – one sergeant and two officers

11 Source: Traffic Enforcement Division Personnel by Rank and Assignment, 3/30/14

- The Hit and Run Unit – one lieutenant, two sergeants, 19 officers, two civilians

The Traffic Enforcement Division

The Traffic Enforcement Division defines its mission as conducting enforcement activities directed at improving traffic safety and reducing injuries from motor vehicle accidents. Each of the Division's units is discussed in turn below:

Administration Unit

The Administration Unit, composed of the captain, one lieutenant, three sergeants and nine officers, is responsible for the division's equipment, for handling fleet issues, monitoring the operations and upkeep of the division's technology, addressing budget issues, and managing the division's records.

DWI Task Force

The primary function of the DWI Task Force is to search for impaired drivers and get them off the road.

Two year workload data for the DWI Task Force is presented in the table below.

DWI Task Force	2012	2013
Offense Reports / Supplements	2,836	3,157
Accident Reports	16	5
Total	2,852	3,162
Moving Citations	2,894	717
Non-Moving Citations	1,998	636
Total	4,892	1,353
DWI Arrests	2,678	3,112
Misdemeanor Arrests	2,712	2,924
Felony Arrests	243	295
Total	5,633	6,331

In 2013, each of the unit's 18 officers averaged 352 arrests, including 173 DWI arrests. Although the unit's citations declined from 2012 by 72%, DWI arrests increased by 16% and total arrests increased by 12%. Although the decline in citations is noticeable, **the increase in**

arrests and the high number of DWI arrests per officer (based on PERF's knowledge of comparable agencies) justify the resources committed to this unit.

Truck Enforcement Detail

The Truck Enforcement Detail enforces laws and safety regulations that pertain primarily to commercial vehicles. Two-year workload data for the Truck Enforcement Detail is presented in the table below.

Truck Enforcement Detail	2012	2013
Accident Reports	223	193
Citations Issued	13,163	10,937
Misdemeanor Arrests	201	124
Felony Arrests	7	1
Truck Checks	12,850	11,274

The Truck Enforcement Detail averaged 365 citations per officer in 2013, and each officer averaged 376 truck checks that year. Both of these averages decreased from 2012, indicating a loss of productivity. Still, the unit is operating to find unsafe trucks and encourage operators through citations to repair them. Of the 11,300 truck checks made in 2013, 10,900 generated at least one citation. **This level of activity justifies the resources committed to the unit.**

Motorcycle Detail (SOLOs)

The Motorcycle Detail (also known as SOLOs) uses motorcycles to navigate congestion and restore the flow of traffic on Houston's freeway system. The detail also provides escorts for oversized vehicles and assists in dignitary protection assignments.

Two year workload data for the Motorcycle Detail is shown in the table below.

Motorcycle Detail (SOLOs)	2012	2013
Offense Reports / Supplements	152	219
Accident Reports	1,195	1,286
Citations Issued	59,565	56,330
Misdemeanor Arrests	30	49
Felony Arrests	6	14
Escorts	100	81

See the discussion of the Motorcycle Detail's productivity in next section, "Traffic Enforcement Unit."

Traffic Enforcement Unit

The Traffic Enforcement Unit is responsible for enforcing speed and other traffic-related regulations on Houston's major thoroughfares.

Two-year workload information for the Traffic Enforcement Unit is shown in the table below.

Traffic Enforcement Unit	2012	2013
Offense Reports / Supplements	322	331
Accident Reports	76	49
Moving Citations	50,240	53,410
Non-Moving Citations	23,185	32,277
Misdemeanor Arrests	3,749	4,098
Felony Arrests	62	52

As mentioned previously, the Motorcycle Detail (SOLOs) issued 56,300 citations during 2013 for an average of 1,444 per each of the 39 officers assigned, compared to the Traffic Enforcement Unit which issued 85,700 citations during 2103 for an average of 2,597 per each of the 33 officers assigned. SOLO officers averaged 33 crash reports for the year while Traffic Enforcement officers averaged less than two per year. SOLOs accounted for 49 misdemeanor and 14 felony arrests. The Traffic Enforcement Unit accounted for 4,098 misdemeanor and 52 felony arrests. **The differences in productivity between these two units are substantial.**

Highway Interdiction Unit

The Highway Interdiction Unit is designed to interrupt the flow of illegal drugs along Houston's highways especially via commercial vehicles. The unit was created approximately five years ago and assists the Truck Enforcement Unit. Two of the unit's eight officers are canine handlers with drug detection dogs. The unit coordinates actionable intelligence with several HIDTA task force units operating in the Houston area.

Two-year workload data for the Highway Interdiction Unit is presented in the table below.

Highway Interdiction Unit	2012	2013
Offense Reports / Supplements	176	226
Accident Reports	4	7
Citations Issued	2,155	1,474
Misdemeanor Arrests	408	726
Felony Arrests	129	171
Cash Recovered	\$1,227,940	\$1,673,455
Cocaine (grams)	64,915	41,374
Marijuana (lbs)	6,817	2,551
Other Drugs (grams)	80,452	17,044
Value	\$792,083	\$228,644

The unit's eight officers increased the amount of cash recovered by 36% from 2012 to 2013, but the amount of drugs seized declined significantly. Both felony and misdemeanor arrests were higher in 2013 than in 2012. Interviews with unit personnel indicate fluctuations in arrests and seizures occur year-to-year and are not a result in changes to tactics or staffing.

Recommendation: *The department should transfer the Highway Interdiction Unit to the Narcotics Division, so that it can more closely interact with the department's other units dedicated to narcotics enforcement. Although the unit works closely with the Traffic Division's Truck Enforcement Unit, its mission is clearly drug interdiction and not vehicle safety inspections. By working closely with other units in the Narcotics Division, information sharing is improved and coordination is improved. Arrest and seizures made by the Highway Interdiction Unit will almost always lead to some type of actionable intelligence. Coordination with other narcotics units will be much simpler under the same command and control.*

Mobility Response Team (MRT)

The mission of the Mobility Response Team is defined as responding to and mitigating instances of significant acute non-freeway traffic congestion caused by accidents and other unexpected events.

Two-year workload information for the Mobility Response Team is shown in the table below.

Mobility Response Team	2012	2013
Traffic Direction - Actual	4,491	5,809
Primary Calls for Service	13,396	11,519
On View Incidents	5,165	5,714
Flag Down Incidents	72	91
Hazards Reported	2,014	2,032
Minor Accidents (Blue Form)	42	38
Disabled Vehicles	231	304
Crime Incidents Reported	1,408	947
Parking Citations	7,617	6,531

Although the number of primary calls given to the MRT decreased from 2012 to 2013, the number of traffic direction activities increased by 29%. **Overall, the unit, now staffed with civilians except for the sworn supervisor, provides value for improving the flow of traffic around accidents.**

Vehicular Crimes

The Vehicular Crimes Division (VCD) has been serving as HPD's expert on motor vehicle crashes. Members of the division provide cadet and in-service training to officers on how to conduct crash scene investigations. The primary mission of VCD is the investigation of catastrophic crashes occurring within the City of Houston. The Vehicular Crimes Division's three units are described below. The Division also has a sergeant and a small administrative staff responsible for maintaining the budget as well as personnel time, the fleet and equipment, crime analysis and case disposition.

Crash Investigation Unit

The Crash Investigation Unit investigates catastrophic crashes and ensures freeway mobility during the morning and evening peak travel times on Houston's freeway system, as part of the "SAFEClear" program, which is designed to remove disabled vehicles from freeways as quickly as possible. Crash investigation personnel work seven days a week, and are divided into teams consisting of a sergeant, and two to seven officers depending on the shift. The span of control is low, with an overall average of one sergeant per 4.4 officers. Shifts include day, swing and night

shifts. The swing and night shifts require more personnel based on the caseload. The unit is staffed with two lieutenants, 16 sergeants, 70 officers and two civilians.

The table below shows the workload recorded for the unit in 2013.

2013		
CRASH INVESTIGATIONS UNIT 70 Officers		Per Officer per year
Offense Reports/Supplements	3,710	53.0
Crash Reports	6,050	86.4
Citations Issued	5,478	78.3
Misdemeanor Arrests	227	3.2
Felony Arrests	53	0.8
Fatal Crash Investigations	188	2.7
HPD Crash Investigations	680	9.7
HFD Crash Investigations	160	2.3

The data in this table indicate that Crash Investigation officers average about one offense report/supplement per week, about two crash reports per week, and less than two citations per week. They average four arrests per year and three fatal crash investigations annually. These officers will each average about ten crash investigations involving HPD owned and operated vehicles per year and just over two Houston Fire Department crash investigations. **The workload and productivity of the unit, as measured by the above data, is low.**

Crash Reconstruction Unit

The Crash Reconstruction Unit investigates all fatal and serious motor vehicle crashes, and reconstructs crash scenes under the direction of a day shift lieutenant, a sergeant and five officers.

Crash Reconstruction Unit 2013 Activity			
	#	Per Week	Per week per officer
Crash Reconstructions	46	0.9	0.2
Crash Reports Reviewed	11257	216.5	43.3
Cases Invest. (Follow-Up)	666	12.8	2.6
Crash Data Downloads	158	3.0	0.6
Training Hours	2272	43.7	8.7
Reconstruction Reviews	44	0.8	0.2

Of the 11,257 cases reviewed, 6% (666) received a follow-up investigation. Of those follow-up investigations, 46 (7%) generated a reconstruction. Reconstructions averaged about one per week. Crash reconstructions are complex and time consuming. They may require on-scene examinations as well as computer and mathematical modeling. Often, multiple unit members will work on a single reconstruction project. There is no need for the reconstruction personnel to be sworn officers. **Over time, the unit should be civilianized. Maintaining a sworn supervisor would allow citations to be issued if a reconstruction determines that illegal driver actions were a contributing factor.**

Part of the responsibility of the unit is to provide training to other members of the department on investigating crashes and preparing crash reports. The amount of training provided by unit members averaged over 40 hours per week in 2013.

Recommendation: *The amount of crash reconstruction activity, coupled with the extensive training delivered, justifies the current staffing of this unit, although the unit should be civilianized over time.*

Hit and Run

The Hit and Run Unit investigates automobile accidents involving the crimes of “Failure to Stop and Render Aid” and “Failure to Give Information.” The unit is staffed with one lieutenant, two sergeants, 19 officers and two civilians. Most investigative officers work in plainclothes following up on potential leads. The following table shows the 2013 workload for the Hit and Run Unit:

Hit and Run 2013	
Cases Received	11251
Cases Assigned	3149
Cases Suspended	8102
Cases Open	1884
Cases Cleared	114
Cases Inactivated	3294
Total Disposed	3411
Misdemeanor Arrests	52
Felony Arrests	35
FSRA Call Outs	75

Of the 11,251 cases received, 28% are assigned. This translates to just over three cases per investigator per week. Cleared cases¹² totaled 114 in 2013. Although some 2013 clearances may be from previous years, comparing 2013 clearances to 2013 cases suggests a clearance rate of about 1%. Making a comparison to the 2013 cases assigned shows a clearance rate of less than 4%.

It is difficult to “clear” hit and run cases. Other than damage to the victim’s car, there is usually little evidence. Forensic examination may turn up paint from the other vehicle, but analysis will generally be a low priority. The department does use its website’s “News Releases” link to post press releases, photos or videos, and request information from the public.¹³ **The current resource investment provides a low value return, given the number of clearances.**

Recommendation: *Reorganize the HPD Traffic Function to focus on crash reduction and traffic flow improvement.* The Traffic Enforcement Division and the Vehicular Crimes Division should be combined into a single Crash Reduction Division (CRD) headed by a captain.

¹² HPD uses the FBI Uniform Crime Reporting definitions for a cleared case. This would include a case cleared by arrest or cleared by exception.

¹³ [http://www.](http://www.houstontx.gov/police/news.htm)

[houstontx.gov/police/news.htm](http://www.houstontx.gov/police/news.htm)

The primary components of the CRD should be as follows:

The Traffic Enforcement Unit (33 officers), the Motorcycle Units (SOLOs, 39 officers), Crash Investigation Unit (70 officers) and the Hit and Run Unit (19 officers) should be combined into a single new Crash Reduction and Congestion Abatement Unit (CRCAU). Each of the four Area Commands (North, East, South, and West) should be allocated a CRCAU component. Each Area Command component would consist of one lieutenant, one traffic crash analyst, and four street squads – each squad with one sergeant, six officers and two SOLOs (128 total officers). The hours and days of operation of the street squads will be determined based on analysis of when crashes are most frequent. The SOLOs on each squad will have the maneuverability provided by a motorcycle and will increase prompt access to crashes that tie up traffic. If motorcycle officers are still needed from time to time for escort duty, they could be pulled from the street squads that will still have sufficient capacity to investigate serious crashes and work to modify driver behavior. The squads can also investigate hit and run incidents. Given the low clearance of these investigations, it is unlikely that dispersal of the Hit and Run Unit will have much effect. The units that will make up the new unit have a total of 161 officers, the new configuration will require 128 officers, thus freeing 33 officers for other assignments.

A key aspect of the CRCAU plan is a heavy focus on the analysis component, to determine specific crash reduction strategies for modifying specific driver behavior at frequent crash locations/corridors. The primary measure that should be used to judge the unit is the extent to which crashes decline. A secondary measure will be the number of citations/warnings purposefully issued at specific locations for the specific violations that are being targeted by the department to reduce crashes. Another consideration should be whether congestion subsides as driver behavior improves.

The second element of the new Crash Reduction Division will be the Crash Reconstruction Unit, which should be civilianized as described above.

The DWI Task Force, the Truck Enforcement Unit, the Mobility Response Team should all be part of the Crash Reduction Division with the current staffing. The Highway Interdiction Unit should be transferred to Narcotics.

This reorganization will allow 38 officers to be reassigned to other operational divisions within HPD. Thirty-three will be gained by the creation of CRCAU and five from civilianizing the Crash Reconstruction Unit.

The Houston Police Department does not have exclusive jurisdiction for traffic in the city. Although most of the city is in the limits of Harris County, parts of the city are in Fort Bend and Montgomery Counties. Hence, three sheriffs' departments can investigate crashes and issue citations in the city of Houston. Also, within Harris County there are eight elected Constables, one for each of the eight Harris County precincts. In Texas, constables and their deputies are fully empowered peace officers with county-wide jurisdiction and can make vehicle stops, issue citations and investigate crashes.

Recommendation: *In recognition of this dispersed authority, the Houston Police Department should take the lead in bringing the involved agencies together to create an area-wide traffic mitigation and crash reduction strategy. This should be coordinated through a Houston Area Traffic monthly Compstat meeting, with attendees to include the captain and lieutenant from the HPD Crash Reduction Division, representatives from each of the three Sheriffs' Offices, the Houston METRO Police Department (the transit police force) and representatives from each of the eight Harris County Constables.*

Recommendation: *The Crash Reduction Division should issue a monthly report which examines changes in the number and severity of crashes, citations and warnings issued for specific locations and violations, general citations and warnings and violations, traffic analysis products sent out, Compstat problem to be addressed, and Compstat results in crash reduction.*

REGULATORY FUNCTIONS

The Houston Police Department, similar to many U.S. large police agencies, performs regulatory functions as part of its overall mission. HPD regulatory activities focus on automotive dealers and parts suppliers, sexually oriented businesses (SOBs), gambling and alcoholic beverages. The Auto Dealers Detail, a component of the Auto Theft Division focuses on auto dealers and parts suppliers; the Vice Division regulates Sexually Oriented Businesses (SOBs), gambling and alcoholic beverages. Regulation of these enterprises is established by state law and local ordinances. Effective regulation requires that the Auto Dealers Detail and Vice Division conduct a combination of reactive and proactive efforts. PERF believes that there is enormous benefit to HPD's practice of proactively using regulatory power to identify and investigate crimes that are associated with these otherwise legal activities.

For instance, a proactive approach to reviewing the facilities and licenses of sexually oriented businesses may lead to the discovery of prostitution or a human trafficking ring. Similarly, random inspection of gambling houses may uncover money laundering, narcotics activity, or activities relating to organized crime. Review of the records and facilities of automotive-related businesses may lead to the recovery of stolen autos or the discovery of illegal "chop shops." The use of the department's regulatory functions can be a powerful tool in discovering related illicit activity.

Determining optimum staffing in these divisions or squads can be a challenge for HPD managers. Unlike other criminal investigation components, in which officers investigate a reported crime, much of the work regarding regulatory review and inspection is based on tips, intelligence, or proactive efforts. In addition, many regulatory violations are misdemeanor crimes and may not be a priority for local prosecutors.

The Auto Dealers Detail and the Vice Division are described below.

Auto Dealers Detail

The Auto Dealers Detail was recently moved from the Vehicular Crimes Division to the Auto Theft Division. It performs a regulatory function within the city and is fully funded through administrative fees placed on automotive-related businesses in Houston. It is staffed by one lieutenant, five sergeants, 16 officers, and eight civilians. Two of the sworn officers provide

information systems management. The remaining 14 officers conduct on-site business inspections, issue citations for violations, and hold unclaimed vehicle auctions. The eight civilian staff members conduct administrative functions including processing fees, applications, and filing. The unit's mission is to ensure that the automotive industry complies with the laws that govern their operations and to dispose of abandoned vehicles through public auctions. The detail works from a city office complex that contains all city-related permit processing.

Created in 1945, the Auto Dealers Detail licenses a variety of automotive-related trades, including car dealerships and salespersons, repair shops, salvage yards, storage lots, tow truck drivers, paid parking lots, and auto parts stores. Each trade is required to complete licensing specifications to comply with business-specific federal and state laws and city ordinances subject to approval of the City of Houston Automotive Board. Applications pending Board approval can be reviewed online. Relevant businesses are investigated for violation of regulations. Interviews with Auto Dealers Detail staff indicated there are roughly 8,000 businesses registered with the city.

The detail conducts the public auction of unclaimed vehicles in state licensed vehicle storage facilities as required by Texas Transportation Code, Chapter 683. This process includes the notification of registered owners and lien holders of a pending sale and a notice of auction to the general public. Interviews with detail staff indicate the 14 officers each spend one half day preparing for the auction and one full day auctioning vehicles each week. The officers conduct business inspections with the remaining three and one half days each week.

Workload for the Auto Dealers Detail for 2013 is shown in the following table:

Auto Dealers Detail 2013	
Regulatory Inspections	7,251
Hearings	115
Citations Issued	1,020
Permits Issued	10,689
Vehicles Auctioned	17,322
Revenue Generated	\$7,236,991.73
New Business Located	920

The unit's workload is demanding. Interviews with detail staff indicate that their target is for each officer to conduct six inspections per day during the 3.5 days per week they are not

involved in auctions. This would equate to roughly 20 inspections per week. But in 2013, they were only able to average roughly 10 inspections per week. Unit members issue a combined average of 20 citations a week and process an average of 206 permits. Unit members also locate an average of 18 new businesses weekly. Auctions result in an average disposal of 1,440 vehicles per month. Each officer is assigned roughly two to three vehicle storage facilities and holds one auction per week. The unit generated over \$7.2 million in revenue in 2013.

Chapter 8 of the Houston Code of Ordinances provides the definitions and application of laws that affect automotive-related businesses operating within the city. The Auto Dealers Detail Unit, through the authority of the chief of police, was created to process licensing and enforce regulations. Although the chief of police or his designee has a number of tasks and responsibilities as a result of the ordinance, no mandate has been found in the ordinance requiring that this be done by sworn police officers.¹⁴

Recommendation: *The HPD should review whether many of these actions of regulatory operation should be civilianized, and whether the work performed by the Auto Dealers Detail should even be a police function. Civilianizing all of the positions and moving it to another city agency would free up 22 sworn positions. Civilians could be empowered to issue the class C citations. They could notify police when they discover possible criminal violations. If this change were made, the number of inspectors could increase at the same level of funding, or the cost of service could be decreased, because civilians in such governmental functions are paid less than police officers. Civilianization of the component is further covered under the Civilianization section of the report.*

Vice Division

The Vice Division is part of the Special Investigations Command within Investigative Operations. It is a highly specialized, task-oriented component initiating predominantly proactive investigations. Beyond the traditional prostitution and gambling offenses handled by vice investigators, the unit serves in a regulatory role regarding licensed and unlicensed game rooms, sexually oriented businesses, and liquor establishment. In addition, the division recently

¹⁴ Houston Code of Ordinances, Chapter 8, Automotive Dealers and Auto Wreckers.
<http://library.municode.com/index.aspx?clientId=10123>

added a human trafficking investigative component, assigning four officers to two separate task forces.

The sections below describe several Houston ordinances that provide the basis for regulation and investigation by the Vice Division.

Houston Code of Ordinances, Chapter 3: Alcoholic Beverages

Chapter 3 of the Houston Code of Ordinances provides definitions and regulations placed upon businesses within the city that sell or dispense alcoholic beverages. Although there is no observed mandate placed on the HPD regarding this ordinance, the Vice Division's General Vice and Club Squads conduct the majority of inspections and enforcement operations.

Interviews with Vice Division commanders and staff indicate a cooperative enforcement effort with the TABC. These operations include the TABC providing the division with names and addresses of businesses for inspection or proactive sting operations. Prior operations include sending underage customers into an establishment to purchase alcoholic beverages. The Vice Division supplied statistics indicating 142 department-wide liquor violations in 2013. This was a 33% reduction compared to 2012. There are more than 8,000 Houston businesses with TABC licenses.

Houston Code of Ordinances, Chapter 5: Amusements

Chapter 5 of the Houston Code of Ordinances, Article VI, identifies the definitions and regulations pertaining to game rooms and amusement redemption machines. **The ordinance requires unrestricted access to these establishments for inspection by law enforcement officers during business hours.** But there were no other observed mandates placed upon the HPD as a result of this ordinance.

Although any law enforcement officer may check and cite an establishment for violations, the Vice Division has primary investigative responsibilities. Statistics supplied by the Vice Division indicate that department-wide, HPD cited 258 gambling violations in 2013, triple the number reported in 2012. The increase, as explained by division staff, was predominantly due to more time available for proactive inspections.

Division investigations of gaming establishments are initiated as a result of complaints received or proactive enforcement efforts. These investigations often include surveillance and undercover operations. The city has more than 200 licensed and 100+ unlicensed game rooms in operation. Enforcement efforts are prioritized by the division and are often driven by citizen complaints.

Chapter 28: Miscellaneous Offenses and Provisions

Chapter 28 of the Houston Code of Ordinances, through several separate articles, identifies the definitions and regulations for adult arcades and adult mini-theatres, sexually oriented businesses, sexually oriented business employees' conduct and operations, adult establishments, and massage establishments. These are covered in Articles II, III, VIII, XI, and XII respectively. A review of the ordinances observed no identified mandate placed on the HPD.

Within HPD, the Vice Division has primary responsibility for enforcement actions regarding these offenses. Enforcement priorities in the Vice Division are often a result of resident complaints, regulatory activities, special requests or assignments from within the department, and self-initiated work based on arrests and criminal intelligence. Nuisance abatement can be an effective enforcement tool in vice operations.

The division's current authorized staffing is 53 sworn officers and two civilian support personnel. The positions are shown in the chart below.

Vice Division Authorized Staffing

Position Description	Authorized Positions
Captain	1
Lieutenant	2
Sergeant	8
Sr. Police Officer	18
Officers	24
Civilian Support Personnel	2
Total Personnel	55

At the end of 2013 the division was divided into Day Shift and Night Shift, each headed by a lieutenant. There were two General Vice Squads on days and two on nights. Each shift had a Major Investigations Squad. Day Shift had a Human Trafficking Squad and Night Shift had a Club Squad. A sergeant is in charge of each squad.

General Vice Squads

The two General Vice day shift squads are divided between the north and south portions of the city. Each squad has four or five officers reporting to the squad sergeant. The general vice squads are responsible for general vice-related crimes and regulatory activities. They work with the appropriate Patrol Division Tactical Unit, conducting operations such as reverse prostitution stings.

The General Vice night shift squads are comprised of four or five officers reporting to a sergeant, and are similar to the day work squads, and responsible for general vice-related crimes and regulatory activities. They work frequently with the Patrol Division, handling prostitution complaints. The General Vice night shift predominantly works in the southern portions of the city.

Both day and night shifts have one Major Investigations squad. They work investigations that may require additional time and resources such as operations that may require surveillance.

Human Trafficking / Administration

The division has an Administrative Squad with a combination of sworn and civilian employees with eight total personnel and a sergeant. The Administrative Squad conducts vice-related computer investigations, maintains the division's computer equipment, and is responsible for day-to-day administrative duties. It will also authorize investigative "holds" which identify individuals of interest that are to be held pending further investigation.

The Human Trafficking Squad has nine officers and one sergeant. Within this squad, four are officers assigned to task forces addressing human trafficking. The division has only recently created the Human Trafficking Squad and task force assignments and is in the process of training and educating its officers. Interviews with division commanders indicate the squad is being asked to investigate or assist with the investigation of numerous new cases. The division has recently seen an influx in investigations that may begin as smuggling or prostitution but quickly develop into a nexus for human trafficking. Division commanders expect the workload to increase significantly as officers become trained and more experienced in identifying the crime.

Gambling Offenses

Certain forms of gambling are legal in Texas as long as the prizes are noncash merchandise, toys, or novelties of limited value. Bingo parlors are one target of the Vice Division. Game rooms are another. Game rooms typically have a variety of gambling devices including slot machines, video lottery terminals, and “8 liners,” which resemble slot machines. One of the Day Shift General Vice Squads focuses on gambling and performs frequent inspections to monitor these machines, so they are not used to generate cash winnings.

Cases can be difficult to prosecute, although temporary license suspensions can be issued and machines and money can be seized. Gambling offenses are mostly Class A misdemeanors and prosecutorial focus can be difficult to achieve.

Since Houston has few controls on zoning of gambling establishments or other businesses, enforcement efforts are usually driven by local complaints. The nuisance abatement process can be an effective tool in some cases.

Sexually Oriented Businesses

A major focus of the Vice Division is on Sexually Oriented Businesses (SOB). According to Texas statute, SOBs are required to collect fees for each customer “admitted to businesses that provide live nude entertainment or live nude performances for an audience of two or more individuals, and authorize on-premises consumption of alcoholic beverages, regardless of whether the businesses are required to hold a license or permit under the Alcoholic Beverage Code.”

The Vice Division will inspect and monitor SOBs that allow alcohol consumption without collection of the fee. The unit will work with agents of the Texas Alcoholic Beverage Commission (TABC). Such cases are typically Class A misdemeanors and are not a priority for the prosecutor’s office.

More importantly, the unit monitors SOBs and massage parlors to combat prostitution. The prostitution issue takes on major significance since the Houston area has human trafficking problems like many U.S. urban areas.

Recent data supplied by the Vice Division indicates there are 72 topless or hostess clubs, 57 adult bookstores, and 140 spas or massage parlors known to the division. The division lacks the resources to establish a scheduled review of each establishment, so it relies on random checks or tips or leads to initiate an investigation.

Regulating gambling and SOBs is difficult for the division. Vice offenses are mostly Class A misdemeanors unless there is human trafficking or narcotics trafficking. Some of these businesses are part of a network composed of both legitimate and illegitimate businesses, and licensees can be quickly transferred. Evidence is difficult to collect, and some businesses have equipment to detect and prevent audio/visual recording by law enforcement.

Vice-related enforcement efforts often generate criminal intelligence that is forwarded to other components in the department or to the FBI. Information on narcotics, gang activity, and money laundering all may be collected. The division has investigated recent cases with potential connections to terrorist organizations.

The Vice Division maintains a monthly report documenting department-wide charges for vice-related crimes and division workload divided between day and night shifts. Division statistics capture the number of arrests, charges placed, cases worked, incident reports written, complaints assigned, and complaints cleared.¹⁵ Data for 2013 is provided in the chart below.

Vice Division 2013 Year End Statistics

Shift	Arrests	Charges	Cases Worked	Incident Reports	Complaints Assigned	Complaints Cleared
Day Shift	735	1,388	594	627	177	181
Night Shift	1,530	2,619	1,062	1,086	178	162
Total	2,265	4,007	1,656	1,713	355	343

¹⁵ The HPD follows the case clearance definitions defined by the Federal Bureau of Investigation, which can be found at: <http://www.fbi.gov/about-us/cjis/ucr/crime-in-the-u.s/2010/crime-in-the-u.s.-2010/clearances>

The day shift statistics included two General Vice squads, one for the north and one for the south parts of the city. It also included statistics for the day squad handling Major Investigations and the Human Trafficking Squad.

The night shift statistics included two General Vice squads, both assigned primarily to the southern area of the city. In addition, the night shift statistics include the night Major Investigations squad and the Club Squad. The night shift squads investigate all vice related crimes but tend to focus on prostitution enforcement.

The report shows the division had a total of 1,656 cases worked, with the day shift handling only 36% of the total workload, compared to 64% handled by the night shift. This is expected, because the day shift has about half the resources of the night shift, and because there is a greater likelihood of vice-related offenses in the evening and nighttime hours. This same pattern can be seen with arrests. With 2,265 total division arrests in 2013, two-thirds of all arrests occurred on the evening shift.

When reviewing actual complaints assigned to investigators, the day and evening shift each handled 50% of the 355 total complaints. Complaints assigned are cases that come to the attention of the division from outside sources, including citizen complaints. These cases were divided among the 36 officers assigned to investigate cases. The number of complaints assigned (a “reactive” function) makes up only 21% of all the cases worked in the division, which demonstrates the proactive nature of the majority of the division’s workload. When divided among the 36 investigators, each one handles only about 10 complaints assigned from information obtained from outside the division per year.

With regard to the Human Trafficking Squad, the 2013 year end statistics indicate that only one case was worked by the division. This does not account for the workload of the domestic and international task force groups to which the division has assigned personnel. Task force staffing provides the agency with additional support to work cases in and around the City of Houston.

Recommendation: *Based on the increase in awareness of incidents involving human trafficking by agencies nationwide, the division should maintain its current involvement in these task forces and divert the majority of all cases to the appropriate unit for proper investigation. Such cases transcend jurisdictional boundaries and are most effectively worked with the resources available through a multi-agency task force.*

The 2013 year end statistics indicate that the majority of all vice-related arrests and charges citywide are a result of the work of the Vice Division. Department-wide statistics show 4,850 vice-related charges were recorded in 2013, a 13% increase over 2012. The Vice Division was responsible for roughly 83% of all vice-related charges department-wide. Total department arrests for vice-related activities were down in 2013 compared to 2012 by 7%, with 3,015 total arrests. Roughly 75% of all vice-related arrests are generated by the Vice Division. The majority of charges placed were for prostitution. Gambling, liquor law violations, vice-related narcotic charges, and sexually-oriented business and related lewdness and indecent exposure charges only accounted for 15% of the 4,850 total vice charges.

Staffing the Vice Division is a management decision based on the scope of the problems and perceived need for enforcement within the city, and the preference of city leaders and the communities that are served. The philosophy of the city government and HPD also determine the level of regulation imposed on the many liquor, gambling and sexually oriented businesses located within the city. Often vice-related activities are handled at the patrol division level, with patrol officers or patrol division specialized units addressing citizen complaints.

Simply based on the large number of businesses to regulate and the roughly 600 square miles of city, the division must prioritize workload and utilize additional departmental resources in a variety of investigative efforts. The current staffing of 36 investigators does not allow the time needed to regulate all of the numerous gambling, SOBs, or liquor establishments. Although the division gets only several hundred cases assigned from a complaint outside of the division, the officers proactively initiated over 1,650 cases themselves.

The regulatory efforts of the Houston Police Department help provide control over businesses that can be easily used for illegal purposes. If left unattended by regulatory oversight, automotive businesses can be used to promote auto theft and theft of auto parts; SOBs can become fronts for prostitution and human trafficking; gaming parlors can house illegal gambling; and, liquor establishments can sell to minors and avoid taxation, among other illegal activities. All can be part of organized crime, helping to launder money and/or traffic drugs. These enterprises can also be a source of neighborhood complaints due to noise, traffic, crimes committed nearby, general disorder, and even violence.

Recommendation: *The number of officers directly supervised by a sergeant is within a reasonable span of control, and these officers are effective within current parameters, but they cannot effectively cover all of the enterprises within the City.* Division members are responsible for the majority of vice-related arrests and charges placed department-wide. **Because vice arrests and investigations uncover a variety of other more serious crimes, additional staffing should be considered for this division.**

It is difficult, however, to determine the amount of police resources that should be devoted to regulation. PERF has proposed that the automotive regulatory function be civilianized and, perhaps, moved to another city agency. Civilianizing the function at the same level of funding could result in an expansion of inspections since civilian positions are cheaper than police officer positions. Vice operations need to remain a sworn function since they are more closely related to crime thus requiring a sworn officer's arrest power.

Ultimately the number of officers assigned to vice operations is a policy decision that can be informed by three criteria.

- Can neighborhood complaints be dealt with promptly?
- Can proactive investigations be mounted while continuing routine inspections?
- Do most inspections show that the business is operating legitimately? (If inspections frequently show violations then the frequency of inspections may not be a deterrent to violations and illegal activity, or the penalties may not be steep enough.

If all three questions can be answered affirmatively, then the number of vice officers is probably sufficient. Statistics supplied by the Vice Division did not include the number of inspections or establishments cited. Interviews with division staff indicate that most investigations are complaint-driven and involve several officers and numerous hours to conduct surveillance and undercover tactics. Division personnel will often work with area-specific Patrol Division staff on these operations, due to limited Vice Division staffing.

Although statistics collected by the Vice Division are similar to those collected by other police agencies across the country, they do not provide information regarding how effective officers are at reducing the incidence of vice-related violations.

Recommendation: *The division should establish additional measures to help capture the effectiveness of its investigations, specifically regarding quality-of-life complaints*

involving noise and traffic complaints during evening and nighttime hours. For example the number and nature of neighborhood complaints could be tracked along with how they were addressed, the time interval from when they were received until they were dealt with, and an entry noting a follow-up contact with the complainant. Basic data on the number and type of inspections and citations written, and whether the investigations were complaint-driven or proactive should also be collected.

AIRPORT

The Airport Division of the HPD is part of the Homeland Security Command within Strategic Operations. The Division provides police services at Houston's three main airports: the George Bush Intercontinental (GBI) Airport, the William P. Hobby Airport, and Ellington Airport. Although no Airport Division personnel are assigned to Ellington Airport, officers may respond if needed. Ellington Airport is a joint use civil/military installation. The commanding officer of the HPD Airport Division, a captain, has responsibility for all three airports.

The division has several external duties, including serving as the department's liaison with federal agencies, the Houston Airport System, and several passenger and cargo airlines. It is imperative that the division provides a high level of safety and security for each airport community. Security inside the airports must meet or exceed TSA standards. Traffic on airport roadways must be managed and controlled to promote efficient movement of vehicles and pedestrians. And security must be maintained with constant vigilance to protect against terrorist threats. HPD's Airport Division positions are reimbursed on a monthly basis by the airports from their own revenues. Although all positions are paid for with Houston Airport System enterprise funds, the HPD Airport Division may have several unfilled positions at any given time because the department's policy is to spread vacancies across the entire organization.

The Airport Division maintains police facilities at George Bush Intercontinental and Hobby Airports. Although division patrol personnel, including lieutenants, sergeants and officers, are assigned to each airport individually, the division's Criminal Investigation Unit, Tactical Unit, and Explosive Detection Canine Unit are a shared resource between all airports. For reporting purposes, these three specialty units are assigned to the George Bush Intercontinental Airport. Office space to conduct day-to-day operations is available at both George Bush Intercontinental and Hobby Airports.

Patrol and most civilian staff at GBI and Hobby airports are assigned to one of three shifts: day (0600 to 1400 hours), evening (1400 to 2200 hours), and night (2200 to 0600 hours). To provide adequate overlap between shifts, each shift has approximately one half of their officers start and finish their shifts one hour later than the hours cited above (e.g., one half of the day shift would work 0700 to 1500 hours). Patrol coverage at the Bush and Hobby airports is provided in all airport terminals and exterior roadways and property.

George Bush Intercontinental Airport Staff Organization

The Airport Division at George Bush Intercontinental Airport has a total authorized staffing of 138. That includes the one division captain, five lieutenants, 18 sergeants, 94 police officers, and 20 civilian employees. One division lieutenant is assigned to an administrative role and works traditional Monday through Friday day shift. A second lieutenant is assigned command of the division's specialty units and also works day-work hours. Three lieutenants, 14 sergeants, and roughly 72 officers are assigned to the three patrol shifts. The remaining sergeants and officers are assigned to the division's specialty units described below. Patrol staffing is displayed in the chart below.

Total Officers Assigned per Shift

Rank	Day Shift	Evening Shift	Night Shift
Lieutenant	1	1	1
Sergeant	5	5	4
Officer	28	28	16
Civilian	7	7	6

Each airport terminal is protected with foot patrol officers. According to interviews with division command members, the foot patrol officers do not use bicycles or two- or three-wheeled motorized vehicles to move around the interior of the terminals. This, according to Airport Division staff interviewed, was based on customer service feedback. These officers maintain no fixed position, but stay within their assigned terminal for quick and efficient response. The division goal is to respond to any checkpoint in the airport in five-minutes or less. Interviews of division command personnel indicate there have been no current issues maintaining this response time. The exterior roadways and property are patrolled by vehicle.

The Transportation Security Administration (TSA) has numerous push-button type alarms throughout the airport that are automatically and immediately relayed to the HPD officers' radio with the location of the alarm. Officers are monitored on the same radio channel by both airport and HPD dispatchers. Shift commanders assign additional patrol personnel on holidays and other days that have higher than usual airport traffic.¹⁶

¹⁶ For airport security purposes, this report will not identify specifically where or how many officers are working per shift at any given time.

Two of the division's civilian employees serve as crime analysts and work traditional day shift hours. The remaining 18 civilians are divided between the day, evening, and night shifts. This provides roughly seven day-shift, seven evening-shift, and six night-shift civilian employees. These positions provide 24/7 front desk coverage at the George Bush Intercontinental Airport police facility. The civilian employees assist in writing reports, answer phones, and provide general customer service.

Total Civilians Assigned per Shift

Rank	Day Shift	Evening Shift	Night Shift
Civilian	7	7	6

Patrol staff at George Bush Intercontinental Airport handled 8,771 calls for service in 2013, an 8.1% increase over the 8,112 handled in 2012. Although arrests dropped from 723 in 2012 to just over 400 in 2013, the number of weapons violations increased 183% (According to division staff, the increase in reported weapons violations was primarily due to improvements in the division's reporting process, rather than a sizeable increase in weapon violations.). Over 85% of all patrol calls for service are on the day and evening shifts. The workload described above averages out to roughly 24 calls for service per day over all three shifts. George Bush Intercontinental Airport's 2012 and 2013 call for service workload is further shown below.

George Bush Intercontinental Airport Calls for Service

	2012	2013	% Change
Patrol (Day Shift)			
Calls for Service			
Priority 1	24	23	-4.2%
Priority 2	560	628	12.1%
Priority 3	691	820	18.7%
All Calls for Service	3,150	3,450	9.5%
Arrests	232.5	122	-47.5%
Patrol (Evening Shift)			
Calls for Service			
Priority 1	20	24	20.0%
Priority 2	541	613	13.3%
Priority 3	1,383	1,394	0.8%
All Calls for Service	3,938	4,175	6.0%
Arrests ¹⁷	369		
Patrol (Night Shift)			
Calls for Service			
Priority 1	19	12	-38.8%
Priority 2	200	374	87.0%
Priority 3	318	542	70.4%
All Calls for Service	1,027	1,145	11.5%
Arrests	169		
Patrol Arrest			
Total Amount	723	412	-43.4%
Weapons Violations	198	562	183.8%

Based on current workload and the number of facilities requiring police coverage, the division has the minimum numbers of officers necessary to provide adequate police service. Any increase in workload, significant increase in passenger use, or the future addition of terminals and/or checkpoints will require additional police coverage. The division has an effective working relationship with the Houston Airport System and should have adequate time to prepare for changes and increase necessary staffing.

¹⁷ The 2013 arrest data for evening and night shifts was not included in this chart due to suspected typographical errors on supplied Airport Division reports.

Hobby Airport

The division assigns 52 total personnel to Hobby Airport, including three lieutenants, ten sergeants, 29 officers, and ten civilian front station desk personnel. All sworn personnel at Hobby Airport are assigned to patrol and rotate on the same shift pattern as previously described for George Bush Intercontinental. The three lieutenants are each assigned a shift: day, evening and night. Each of the three shifts has three sergeants assigned, with the 10th sergeant assigned to day-work administrative duties. The officers are divided between all three shifts, with roughly 10 assigned to day shift, 10 assigned to evening shift, and eight assigned to the night shift. The division utilizes one officer in a community service type position. Division patrol staffing can change based on vacancies, but officers are assigned to shifts as shown in the chart below.

Total Officers Assigned per Shift

Rank	Day Shift	Evening Shift	Night Shift
Lieutenant	1	1	1
Sergeant	4	3	3
Officer	11	10	8
Civilian	4	3	3

Civilian personnel are divided between all three shifts and have front-desk duties. They provide customer service information, assist in writing reports, and assist in administrative matters.

Total Civilians Assigned per Shift

Rank	Day Shift	Evening Shift	Night Shift
Civilian	4	3	3

During the day and evening shifts, the division has a minimum number of officers covering the terminal on foot patrol, both in and outside of the TSA checkpoint, with several additional officers patrolling the exterior roadways and property of the airport. For airport security purposes, this report will not identify specifically where or how many officers are working per shift at any given time.

Officers responded to 3,489 calls for service at Hobby Airport in 2013, a 3% increase in calls from the previous year. Although the majority of calls come during the evening shift, the day work shift actually had the largest increase in workload compared to the previous year. This workload equates to roughly 9.5 calls per day over all three shifts. Division personnel at Hobby

Airport seized 55 weapons in 2013, a 37% reduction in weapon seizures from the year prior. Hobby Airport's call for service workload for 2012 and 2013 is shown below.

Hobby Airport Calls for Service

	2012	2013	% Change
Patrol (Day Shift)			
Calls for Service			
Priority 1	12	13	6.3%
Priority 2	138	125	-9.4%
Priority 3	214	245	14.5%
All Calls for Service	983	1,278	30.0%
Arrests	42	8	-81.0%
Patrol (Evening Shift)			
Calls for Service			
Priority 1	12	7	-41.7%
Priority 2	110	112	1.8%
Priority 3	380	321	-15.5%
All Calls for Service	1,706	1,471	-13.8%
Arrests	20	88	240.0%
Patrol (Night Shift)			
Calls for Service			
Priority 1	7	4	-42.9%
Priority 2	57	44	-22.8%
Priority 3	128	153	19.5%
All Calls for Service	717	740	3.2%
Arrests	50	14.5	-71.0%
Patrol Arrest			
Total Amount	214	81.5	-61.9%
Weapons at Checkpoint			
Weapons Violations	87	55	-37.0%

Interviews with HPD Airport Division command personnel indicate that the Houston Airport System intends to add an international terminal to Hobby Airport in the fall of 2015. To provide coverage similar to the current Hobby Airport terminal, with one additional officer assigned to patrol the airport's roadways and property due to the increase in vehicular traffic, the division would need to add approximately 21 additional officers and three sergeants (one sergeant per shift). This does not include the potential for additional explosive detection canines for cargo and baggage checks. The HPD Airport Division must be involved in ongoing airport plans, to ensure that HPD is aware of all anticipated airport enhancements and completion dates.

Criminal Investigations Unit

The Airport Division's Criminal Investigations Unit is staffed with one sergeant and four officers. The unit works Monday through Friday, day-work hours, with schedule changes as needed. This unit is responsible for the follow-up investigation of most cases occurring at each airport. The unit handled 606 cases in 2013, 18% less than the previous year. The unit cleared roughly 22% of its assigned cases. Interviews with division supervisors indicate the fluctuations in the Criminal Investigations Unit 2012 and 2013 statistics were due to fluctuating staffing levels in the unit versus any significant changes in crime.

One major crime problem for the Criminal Investigations Unit is burglary of motor vehicles in the airport parking lots. Other property crimes such as baggage, cargo and other thefts are of concern. For 2013, division staff interviews indicate the officers had five to eight cases assigned to them at a time. Based on PERF's work with other criminal investigative units, this is an acceptable workload for the four officers currently assigned. The unit's workload for 2012 and 2013 is shown below.

Criminal Investigations	2012	2013	% Change
Cases Assigned	742	606	-18.3%
Cases Cleared	203	134	-34.0%
Cases Inactivated	528	514	-2.7%
Misdemeanor Arrests	16	12	-25.0%
City Warrants	78	11	-85.9%
Felony Arrests	9	7	-22.2%
Fugitive Arrests	0	0	0.0%
CLOP	30	36	20.0%
Felony Charges Filed	29	9	-69.0%
Misdemeanor Charges Filed	26	24	-7.2%
Assist with Charges	0	0	0.0%

Tactical Unit

The Tactical Unit is staffed with one sergeant and eight officers. They provide a specialized response to airport crime issues, ranging from directed uniformed patrol, to plainclothes surveillance, to bicycle patrol. Members of the unit work a variety of hours and days of the week depending on crime issues. The unit counts on the analysis provided by the two crime analysts to plan operations.

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In addition to the tasks mentioned above, the unit is involved in dignitary protection, transporting prisoners, patrolling the parking lots to prevent car break-ins, and performing hotel checks. Warrant service is another duty of the Tactical Unit. The unit's 2012 and 2013 workload is shown below.

Tactical Bike Unit	2012	2013	% Change
Primary Calls	196	223	13.8%
Secondary Calls	87	60	-31.0%
Incident Reports	253	232	-6.3%
Accident Reports	19	8	57.9%
Tactical Action Plans	18	46	155.6%
Administrative Assignments	1,202	1,225	1.9%
Citizen Assists	3,103	4,197	35.3%
Crime Initiatives	1,155	2,071	79.3%
Traffic	185	166	-19.3%
Class C Arrests	63	5	-92.1%
Class A/B Arrests	32	21	-34.4%
Felony Arrests	62	69	11.3%
Total Arrests	172.5	128	-25.8%
Total Warrants Run	60	31	-43.3%

Explosive Detection Canine Unit

The Explosive Detection Canine Unit currently has two sergeants and 11 canine teams providing 24/7 coverage. One sergeant is assigned to day work and the other to evenings. Six canine teams are assigned to day work, with the remaining five assigned to evenings. The night is covered by a combination of day and evening canine teams staggering their start and finish times to cover the night shift. At least one canine team patrols George Bush Intercontinental Airport and Hobby Airport each at any given time.

Canine teams are a vital element in the airport security system. Those working at the airport are single-purpose, with the mission of explosives detection. Ideally they should be used to consistently screen both passenger baggage and air cargo. The unit can spend over 60 hours per month conducting training exercises. In addition, the unit conducts dignitary protection sweeps, checks unattended items and suspicious packages, and conducts cargo and public visibility checks. The HPD canine teams work in conjunction with TSA, which also has dogs assigned to the airports. The airport unit is seeking to add canine teams, and the TSA has offered to reimburse the department for them. Generally, other costs for the airport unit are covered by the Houston Airport System's Enterprise Fund. The unit's 2012 and 2013 workload is shown below.

Explosive Detection Canine Unit	2012	2013	% Change
Dignitary Assignments	126	87	-31.0%
Unattended Vehicles/Items	869	728	-16.2%
Cargo Sweeps/Visibility (hrs.)	2,462.45	2,052.90	-18.6%
Public Visibility (Terminals) (hrs.)	3,313.25	2,649.55	20.0%
Training (total hrs.)	769.06	821.12	6.8%

The division utilizes these specialized units to preserve the safety of the airport and to maintain a high level of security. While all the resources of the HPD may be at the disposal of the Airport Division as circumstances warrant, in practice the department's response to airport matters is limited to Airport Division personnel.

Recommendation: *The division should consider Segway Personnel Transporters for use at the airports.* These modes of transportation have proven highly effective, cost-efficient and environmentally friendly for law enforcement purposes in airport settings. Because officers using Segways stand on a raised platform, they are more visible to the public, and they have a good observation point to see what is happening around them. Segways allow officers to move quickly to the scene of an incident from a platform and enable quicker response. Although not a substitute for the additional staffing recommended above should the workload be increased as expansions are considered, Segways will allow for enhanced visibility and productivity. The Airport Bureau should acquire these transporters and incorporate them into its patrol operations.

Transportation Security Administration Recommendations

The assessment of the Airport Division included a review of TSA recommendations and applicable federal law regarding transportation and aviation programs. A discussion and review of Title 49 of the United States Code regarding airport security was conducted with division command. Based on interviews and review of applicable chapters, the Airport Division is meeting the standards for passenger safety as required in the code.¹⁸

¹⁸ United States Code Title 49 Transportation, Chapter 449 Security

On March 26, 2014, TSA announced a report and review of the shooting of a TSA officer and other employees at the Los Angeles International Airport.¹⁹ The report includes a series of recommendations, one of which was to set a standard for law enforcement presence at checkpoints and ticket counters during peak travel times. Although the Airport Division may be able to meet this recommendation with its current staffing, it would provide minimum coverage at best in other terminal areas based on current deployment strategies.

A better solution is to meet this recommendation with adequate staffing in other terminal areas. To do this, each terminal at both George Bush Intercontinental and Hobby would require one additional officer for both the day and evening shifts. This additional officer would provide enough presence to adequately cover each security checkpoint (presuming a peak travel time of early mornings and mid-evenings and taking into consideration that there are currently enough officers on random patrol to cover the ticket counters at any time).

Currently there are five terminals at George Bush Intercontinental Airport and one terminal at Hobby Airport with an international terminal on the way, for potentially seven terminals total. Adding one extra officer to each day shift and evening shift to assist in covering peak travel times will result in the department needing to assign an additional 24 officers immediately, with another four officers required for a new Hobby Airport terminal. This staffing is based on the need for a minimum of two additional officers for day and evening shifts per terminal, as recently recommended by TSA. This should provide the Airport Division a minimum number of officers to provide adequate day and evening coverage.

Recommendation: *The Airport Division should follow recent TSA recommendations requesting an increased presence at airport security checkpoints and ticket counters during peak travel times.* Based on current staffing strategies and the need to cover six current and potentially seven terminals between George Bush Intercontinental and Hobby Airports, the department needs to add two officers per terminal for the day shift and two officers per terminal for the evening shift to provide the *minimum* additional officer resources required seven days a week. The officers would be added to current patrol staffing levels. A total of 24 officers would be needed immediately with an additional four officers for the future

¹⁹ Transportation Security Administration, Enhancing TSA Officer Safety and Security: Agency Actions and Path Forward, March 26, 2014

Hobby Airport international terminal. This staffing recommendation should provide adequate but minimum coverage to meet this TSA recommendation.

Exercises and Training

Interviews with division command indicates the various patrol and specialty units participate in active shooter and other airport exercises in joint partnership with TSA and other airport operations. In addition, the division is currently establishing a core group of officers as certified trainers to provide the division with its own training capabilities beyond the traditional required departmental mandates. The division has established effective communication and relationships with other airport law enforcement agencies and Homeland Security partners.

SPECIAL OPERATIONS

The Special Operations Division operates as part of Strategic Operations and the Homeland Security Command. The division provides patrol and specialized services to the Central Business District (CBD), and Hermann and Memorial Parks. Officers working in the CBD patrol in vehicles, on bicycles, and on horseback. Other specialized units within the division provide support for major events in the CBD and throughout the city.

The Central Business District's patrol shifts, Division Tactical Unit, and Differential Response Team are all covered in the reactive patrol analysis portion of the study. These division units are responsible for CBD patrol. The Special Operations Division's remaining specialized units, including the Special Events Unit, Special Response Group, and Mounted Patrol Team, are discussed in the sections below. The division's Bicycle Administration and Training Unit (BATU) was discussed previously in the Civilianization section of the report.

Overall, the Special Operations Division has approximately 226 total sworn officers, including one captain, five lieutenants, 33 sergeants, and 187 officers. The division has nine civilian personnel who assist with administrative tasks.

The specialized units not previously discussed in the report are described below.

Special Events Group

The Special Events Group has four sworn staff. The unit supports all special events within the city, including parades, "fun runs," street functions/festivals, dignitary visits, and all other major events for the police department and the city. **This planning function does not appear to require sworn personnel.**

Special Response Group

The Special Response Group (SRG) has a lieutenant in charge with two small teams – one team is composed of a sergeant and three officers; the other team of a sergeant and four officers. The SRG's function is to train and manage more than 500 volunteer police officers, who are regularly assigned to other divisions throughout the agency, who can respond quickly to a large crowd or emergency situation. The SRG provides these officers with a 40-hour course of instruction and

ongoing training efforts. Certain members receive additional training in responding to civil disturbances and the use of certain crowd control munitions.

The administrative and training tasks required to maintain a contingency of more than 500 volunteer officers are considerable. Given the size, diversity, and complexity of the city, such a response capability is required. Analysis of the unit's workload indicates that it is involved in planning or responding to between 10 and 20 special events per month. In addition, the unit spends approximately five days per month conducting training within the department. **Staffing in this unit is minimal. PERF recommends no staffing or other changes to this unit.**

Mounted Patrol Unit

The Mounted Patrol Unit has 32 sworn personnel, including one lieutenant, five sergeants and 26 officers. Routine patrols cover the CBD and Hermann and Memorial Parks. They can respond to major crime scenes and unplanned events citywide (mass gatherings, protests, structure fires, incidents involving a response by SWAT, etc.). The Mounted Patrol Unit also participates in crowd control at public events. The unit assists with searches in terrain not conducive to foot or vehicular traffic. The unit is available to perform demonstrations regarding the unit's capabilities in Houston and outside the city for community, church, or business groups. Its stable facility is open to the public from 8 a.m. to 4 p.m. most days.

Police mounted units offer mostly non-tangible benefits to a police department and its community. Mounted officers are highly visible and approachable; residents and visitors often enjoy asking officers about their horses, which creates opportunities for officers to build relationships with community members. Although HPD's mounted unit makes few arrests per month (mostly on city ordinances charges), it does issue approximately 500 moving and non-moving traffic citations per month. **The combination of police activity and non-tangible benefits, when coupled with the Texas tradition of mounted police, justifies the resources allocated to this function.**

AUTO THEFT DIVISION

The Auto Theft Division investigates several types of auto theft-related crimes, including theft of motor vehicles, theft of vehicle parts, burglary of motor vehicles, and identity theft resulting from Auto Theft Division cases. The division contributes personnel to the Houston Auto Crimes Task Forces and is composed of a Support Unit, Proactive Unit, Reactive Unit, and a Special Investigations Unit. The Auto Dealers Detail, a department licensing and regulatory component for all city automotive-related businesses, recently was moved to the Auto Theft Division from the Vehicular Crimes Division.²⁰

The division now has 103 authorized positions, including one captain, six lieutenants, 24 sergeants, 56 police officers, and 16 civilian personnel.

Recommendations regarding staffing for the reactive components of the division -- the Incoming Case Investigations Unit, and the Special Investigation Unit -- are included in the Justex section of this report. The Houston Auto Crimes Task Force (HACTF) is described in the section of this report on Inter-Agency Task Forces.

As a whole, the City of Houston has seen a dramatic decrease in motor vehicle theft over the last 10 years. Uniform Crime Reports indicate a 39% decrease in auto thefts in Houston from 2003 to 2012. The division has used crime analysis components to identify patterns in auto theft and burglaries of motor vehicles. They have addressed these patterns with proactive responses, including the use of bait cars, informants, and surveillance.

Houston's experience reflects a national trend. The number of motor vehicle thefts nationwide in 2012 was down 37 percent since 2000, and down 54 percent since 1993, according to the FBI's UCR reports.²¹ One major factor has been the incorporation of strong anti-theft technologies in many new vehicles for a decade or more.

20 See discussion of the Auto Dealers Detail in the LIST SECTION HERE.

21 http://www.fbi.gov/about-us/cjis/ucr/crime-in-the-u.s./2012/crime-in-the-u.s.-2012/tables/1tabledatadecoverviewpdf/table_1_crime_in_the_united_states_by_volume_and_rate_per_100000_inhabitants_1993-2012.xls

2012/tables/1tabledatadecoverviewpdf/table_1_crime_in_the_united_states_by_volume_and_rate_per_100000_inhabitants_1993-2012.xls

Support Services Unit

The Support Services Unit manages the division's information systems and provides administrative and investigative support to the division, with four authorized police officer positions, a civilian office assistant, and one crime analyst. The four sworn officers have been assigned administrative and information systems management roles, because the division has no civilian staffing to address the need.

Proactive Unit

The Proactive Unit is divided into two squads, the Crime Reduction Squad and the Bait Vehicle Squad. Each squad has a sergeant. Six officers are assigned to the Crime Reduction Squad and two officers are assigned to the Bait Vehicle Squad. The squads work in conjunction with each other to investigate organized auto theft operations. The unit uses a total of 12 bait cars to assist in their investigative efforts. The Crime Reduction Squad targets hot spots with high numbers of auto thefts, auto theft organizations, chop shops, and insurance fraud operations identified by crime analysis support.

Division Workload and Findings

In 2013, the division was assigned 3,569 total cases for investigation, a 12.6% decrease compared to the previous year. Of those cases, investigators filed 510 criminal cases. Approximately 44% of the cases filed were for auto theft, with 37% for other felony charges such as burglary of motor vehicle. Other arrests were for a variety of offenses. The division cleared a total of 2,811 cases in 2013, with 16% cleared by arrest. Arrests for the division totaled 711, a 5.5% increase over the previous year.

The chart below shows the statistics captured by the division with the exception of the Auto Dealers Detail. The data below was provided at the division level and does not allow further review or analysis at the unit level.

Houston Police Department Operational Staffing Model

May 2014

Activities	2012	2013	% Change
Arrests			
Auto Theft	340	317	-6.8%
BMV (Burglary of a Motor Vehicle)	56	59	5.4%
Others	278	335	20.5%
Total Arrests	674	711	5.5%
Criminal Cases Filed			
Auto Theft	221	223	0.9%
Felony (inc. BMV and Others)	160	190	18.8%
Misdemeanor	136	97	-28.7%
Total Cases Filed (Charges)	517	510	-1.4%
Cases Assigned			
Auto Theft	2,523	1,853	-26.6%
BMV	1,213	1,347	11.0%
Other	348	369	6.0%
Total Cases Assigned	4,084	3,569	-12.6%
Cases Cleared			
Unfounded/Inactive/Cleared by Investigator	2,364	2,002	-15.3%
Arrests	389	450	15.7%
Exception	311	359	15.4%
Total Cases Cleared	3,064	2,811	-8.3%
Holds Processed			
Authorized	1,909	1,985	4.0%
Released with Charges	1,849	1,970	6.5%
Released without Charges	342	274	-19.9%
Incoming Case Investigators	17.18	16.75	-2.5%
Average Case per Investigator	12.77	10.17	-20.4%
Total Days ATV22/Bait Vehicles Deployed	1,045	2,483	137.6%
Property Recovered	\$13,436,842	\$14,883,318	10.8%
Total Stolen Vehicles Recovered	2,210	1,713	-22.5%
Total Number of Stings Conducted	902	460	-49.0%

Analyzing workload for the proactive unit within the Auto Theft division posed several challenges. First, because the division only maintains data at the division level, contributions of the individual units cannot be broken out. In addition, proactive investigations initiated may take several weeks or months to develop. They involve the use of confidential informants, the purchase or sale of stolen equipment, and frequent long and short term surveillance operations. These investigations can often be labor-intensive, such as a burglary of motor vehicle surveillance operation in a shopping mall parking lot, and lead to few arrests.

22 All Terrain Vehicle (ATV)

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Interviews and review of division statistics indicate approximately 8 of the 56 officers are assigned to proactive investigations. The appropriate number of proactive division investigators becomes a matter of division priorities and department philosophy. Although the number of auto thefts and related division cases in the city has declined over the years, an aggressive proactive enforcement effort should be maintained to ensure auto theft trends are quickly identified and adequately addressed. **No changes are recommended to the current number of proactive investigators.**

What should be further evaluated for division efficiency is the number of sergeants assigned within the division. A review of the division's organizational chart indicates 24 authorized sergeants to oversee 40 authorized officer positions. The organizational chart shows several squads with fewer than two officers reporting to a sergeant. Realizing these are specialty functions, and close supervision is essential for operational and administrative success, it should be expected that the division limits the number of officers directly reporting to each sergeant. **But having two or fewer officers reporting to a sergeant is likely an inefficient use of supervision.**

Recommendation: *The HPD Auto Theft Division should review the span of control for division sergeants and ensure that division first-line supervisors are being utilized in an effective manner. Although there is no absolute rule for an agency to follow, difficulty in tasks, officer experience, and type of supervision required must be factored into this review. Unless strictly serving in an administrative capacity, a sergeant with two or fewer officers reporting may have a limited workload unless the sergeant is conducting actual investigations similar to the officers. If sergeants were conducting actual investigations, this too would be an inefficient use of a supervisor.*

GANG DIVISION

The Gang Division is part of the Special Investigations Command within Investigative Operations.

Work Profile

This unit is multi-layered with coordination between the Gang Division and gang-related work by officers in the patrol divisions. Patrol divisions assign members of their Division Tactical Units and Division Gang Units to gang coordination and liaison for the investigation of organized gang criminal activity and to pursue proactive strategies to discourage juveniles from joining gangs. There are several units within the Gang Division to manage all gang-related intelligence and database preservation. These include the Investigative Unit (TAG Center), the G.R.E.A.T. Unit, the Crime Reduction Unit and the Technical Surveillance Unit. There is also an administrative function that provides support, monitors expenditures and assists with a variety of reports. The Administrative Unit is composed of one lieutenant (who also oversees the Technical Surveillance Unit and G.R.E.A.T.), one sergeant (who also supervises G.R.E.A.T.), an officer, and two civilians.

Investigative Unit (TAG Center) (Multi-Agency Gangs Task Force)

The stated goal of this unit is to reduce violent crime in Houston through “shared expertise, intelligence and manpower.” Members of this task force seek to arrest and prosecute strategically-targeted violent gang members in order to disrupt and dismantle their organizations. The task force has members from the FBI, Houston HIDTA, the Bureau of Alcohol, Tobacco, Firearms and Explosives, Immigration and Customs Enforcement, the Drug Enforcement Administration, the Army National Guard, the Harris County Sheriff’s Department, and the Houston Police Department’s Gang Division. HPD contributes a captain, one lieutenant, three sergeants, 14 officers and one intelligence analyst to this effort.

The table below reflects the 2013 activity of the Task Force as a whole.

2013 Activity	
Active Cases Worked	443
Jailed Suspects	669
Value of Assets Seized	\$1.2 million
Cases Reviewed by Intel Officers	15,128
Gang Cards Reviewed	19,054
Gang Incidents Reviewed	6,465

The task force reviews a large volume of intelligence data looking for patterns of gang activity. These sources include case reports, gang member contact cards completed by patrol and other field officers and all incidents in which gangs/gang members were alleged to have been involved. This data is used to identify gang leaders and violent gang members in order to gather sufficient evidence to arrest them. Such investigations are often complex and lengthy and require visual and audio surveillance. In 2013 the task force worked 443 active cases and arrested 663 suspects.

Because data is maintained only for the entire task force the contribution of the HPD personnel assigned to it cannot be determined. As with the other task forces additional data should be collected so the department can determine the extent to which its commitment generates positive local outcomes. Recommendations for additional data elements that should be collected are found in the section on Inter-Agency Task Forces.

Gang Resistance Education and Training (G.R.E.A.T.) Unit

HPD contributes personnel to the Mayor's Gang Office to coordinate the Gang Resistance Education and Training (G.R.E.A.T.) Program. The G.R.E.A.T. Unit has one sergeant (also with other duties) and six officers.

Houston Police Department Operational Staffing Model

May 2014

Frequency	Type of Report	2013 Activity Reports
Weekly	Number of Schools Assigned	6
Weekly	Number of Students Taught	Est. 1600+
Semester	Number of Classes Taught	Est. 500+
Semester	Outside Presentations	25
Semester	Speaking Engagements	12
Semester	Arrests	4
Semester	Reports	11
Semester	Gang Tracker Entries	4
Semester	Referrals to Anti-Gang Office	8
Semester	Citations Issued	9
Semester	Meetings to discuss G.R.E.A.T.	8

The department's participation in the G.R.E.A.T. program, although at a relatively low level, helps build positive relationships between the department and participating schools. It also helps the Gang Unit keep abreast of emerging gang issues, and these outputs justify the department's allocation.

Crime Reduction Unit (CRU)

The mission of the Crime Reduction Unit is to target criminal activity proactively throughout the city, focusing on hot spot areas and on targeting wanted fugitives and repeat offenders. The CRU deploys enforcement and investigative resources to address crime in specific areas experiencing high rate of narcotics activity, violent crime, and gang activity using saturation strategies. Its actions also communicate to the community the Police Department's intent to reduce crime and to lessen citizens' fear of crime. CRU administrative personnel include one lieutenant (who also has other duties), one administrative sergeant, two administrative officers and one administrative PSO. Field work is performed by a lieutenant, six sergeants, and 67 officers, averaging about 11 officers per sergeant.

The unit's 2013 work included:

Activity Type 2013	
Charges Filed – Felony	1830
Charges Filed – Misdemeanor	663
Warrants Executed - Felony	573
Warrants Executed - Misdemeanor	2298
Guns	245
Gang Cards	1508
Jailed Suspects	2847

The productivity of this unit justifies its staffing. In 2013, the number of suspects jailed averaged 43 per officer.

Technical Surveillance Unit (TS)

The Technical Surveillance Unit provides assistance in achieving some of the goals of the Gang Division through the use of technologies, including mobile surveillance cameras, street light cameras, and GPS tracking devices placed on suspects' vehicles. Unit members also monitor the cameras, and maintain the equipment. To assist with the division's goals, the TSU provides all technical support that includes programming the investigators' smart phones and desktops to allow access to security camera feeds.

Management is provided by the lieutenant from the Administrative Unit. One sergeant and two officers make up the remaining staff of the unit.

Below is statistical information from January 2013 through December 2013.

Frequency	Type of Report	2013 Activity Reports
As Needed	Installations	68
As Needed	Removals	67
As Needed	Car Trackers (Installed/Removed)	4
Daily	Monitor Street Light Cameras	13
Daily	Monitor Pole Cameras	22

This is a technical support unit that assists the gang unit is carrying out its mission.

Recommendation: *Consideration should be given to whether the operations of the unit could be conducted by appropriately trained civilian personnel.*

MAJOR OFFENDERS DIVISION

The Major Offenders Division is comprised of three major groupings: Special Thefts, Targeted Offenders and Inter-Agency Task Forces. The units in this division conduct a variety of specialized, proactive investigations summarized below.

Special Thefts

There are five squads or units in the Special Thefts group.

- The Cargo Theft/Fence Squad investigates cargo thefts, fencing operations, heavy equipment thefts and salvage yards.
- The Swindle Squad investigates cases involving street-level confidence crimes perpetrated by con men.
- The Police Impersonation Squad investigates cases in which the suspect pretends to be a police officer. Incidents of this type are typically high-profile type cases and attract media and public attention.
- The Livestock/Animal Cruelty Squad investigates livestock thefts and cruelty-to-animal related crimes. A concern exists in regards to any future retirement or transfer that may impact the squad. According to division supervisors, finding suitable replacements with the necessary experience is problematic.
- The Environmental Investigations Unit investigates cases involving illegal dumping or disposal of waste and hazardous materials.

The following table shows 2013 staffing and workload for these five specialized squads.

Workload for Special Thefts Squads - 2013

Squad	Cargo / Fence Squad	Swindle Squad	Police Impersonation Squad	Livestock/Animal Cruelty Squad	Environmental Unit Squad	
Sergeants	1	1	1	0	2	
Officers	5	3	3	2	3 officers	6 civilian inspectors
Cased Assigned	199	214	197	161	1,969	
Arrests	59	11	67	33	134	
Charges	68	18	59	61	248	
Reports / Supplements	392	524	747	601	2,424	
Property Recovered	\$5.16 million	\$322,000	\$58,500	\$21,650	N/A	
% Arrests per Case	30%	5%	34%	20%	7%	
Cases per Investigator	40	71	66	81	219	

The squads that make up Special Thefts have diverse missions. There is substantial variation in the percent of arrests per case, ranging from a high of 34% for the Police Impersonation Squad to lows of 5% and 7% for the Swindle Squad and Environmental Squad, respectively. The Environmental Squad has a substantially higher case load per investigator at 219, more than five times the 40 cases per Cargo/Fence investigator.

Other than environmental cases, the number of these special theft cases is not high annually. And, investigating them does require specialized skill. Disbanding the squads and assigning the cases to generalized theft investigation would most likely decrease the arrest ratio and remove any deterrent for these specialized offenders. Even in those areas hardest to solve—swindles and environmental offenses—some specialized attention is warranted and provides a valuable service to the community. No change in the number of personnel assigned to these units is recommended.

Although the ratio of sergeants to officers is low—overall one sergeant per 4.4 investigators—the specialized focus of each squad justifies assigning a sergeant. Consideration should be given

to moving the Livestock/Animal Cruelty Squad under the supervision of the Environmental Investigations Unit.

Targeted Offenders Unit

The next table shows the squad that make up the Targeted Offenders Unit and the sworn allocation for each squad.

	Lts	Sgts	Officers
Targeted Offenders	1		
Career Criminals Squad		1	6
Fugitive Squad		2	6
Parole Violator Squad		1	6
Gulf Coast Violent Offenders Task Force		0	4
Totals	1	4	22

- The Career Criminals Squad conducts proactive covert investigations into criminal activity and ongoing criminal enterprises, seeking serial offenders such as persons accused of multiple robberies. The caseload per officer ranges from 45-50 cases. The squad participates in the FBI Houston Violent Crime Task Force investigating violent crimes and organized criminal enterprises.
- The Fugitive Squad processes fugitives captured in Houston on outside warrants as well as searches for local fugitives wanted on multiple Houston arrest warrants. The squad supports both the Career Criminal and Parole Violator Squads. Currently, Department-wide there are approximately 10,000 active warrants on file. Caseload per officer ranges from 45-50 cases.
- The Parole Violator Squad conducts investigations to locate and apprehend parole violators.
- The Gulf Coast Violent Offenders Task Force is a multi-agency task force targeting violent fugitives.

The next table shows 2013 workload for the Targeted Offenders Unit.

Targeted Offenders Unit - 2013	
Cases Assigned	4909
Cases Cleared	4897
Arrests	928
Directed Arrests	83
Total Arrests	1011
Charges	438
Reports	386
Supplements	4818
Interviews	608
Fugitives Arrested	845
Fugitives Processed	4937
Fugitives Extradited	260
Recovered Property	\$8,252,446

Officers assigned to the Targeted Offenders Unit average 223 cases per officer per year. Overall, officers make an arrest in 21% of the cases assigned. The average number of fugitive arrests per officer is 39. The officers assigned to the squads that make up the unit accounted for \$8.3 million in recovered property and seized assets.

Officers assigned to some of the squads operate as elements of larger, multi-agency task forces, so the ratio of sergeants to officers varies depending on task force organization. Officers may have reporting arrangements to supervisors from other agencies.

Because some of the officers work with tasks forces and because departmental data does not provide breakdowns by squad it is difficult to determine the productivity of each squad. Without such data an assessment cannot be made whether adding officers would have a sufficient impact to be worthwhile.

Recommendation: *The department should develop measures for each squad to determine its effectiveness. Data should include the number of offenders arrested, summaries of the offenses they committed, the number of Houston crimes cleared by those arrests, and the nature of the property recovered.*

NARCOTICS DIVISION

Criminal activity involving the use and trafficking of narcotics, along with the related person and property crimes that occur as a result, continues to be a major concern for the HPD. Numerous drug trafficking organizations operate in and around the Houston region distributing a wide variety of controlled dangerous substances including cocaine, marijuana, methamphetamine, heroin, and pharmaceutical drugs.

The Narcotics Division is the primary component of the HPD tasked with investigating and disrupting drug trafficking organizations. The division is part of the Special Investigations Command within Investigative Operations. Additional smaller scale drug investigations are conducted by specialized components in the Field Operations patrol divisions.

The Narcotics Division utilizes many of its resources as part of a multi-jurisdictional endeavor that conducts proactive, undercover investigations of criminal activity involving controlled substances. Investigators respond to citizen-driven complaints and investigations resulting from arrests, criminal intelligence, and confidential informants. The various narcotics enforcement units that make up the division are staffed on a discretionary basis. Workload is predominantly self-initiated in nature. The HPD plays a significant role in the Houston High Intensity Drug Trafficking Area (HIDTA) task force, comprised of federal, state and local law enforcement partners. The Houston HIDTA task force was established in 1990.²³ It was one of the original five HIDTA task force groups established to help combat drug trafficking organizations that were using the Houston area as a hub for criminal activity.

The division is currently staffed with a total of 209 positions. Authorized staffing for each position is described below.

Narcotics Division Staffing

Position Description	Authorized Positions
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²³ <https://www.ncjrs.gov/ondcppubs/publications/enforce/hidta2001/hous-fs.html>

Captain	1
Lieutenant	7
Sergeant	28
Officer	160
Civilian Admin Support	7
Criminal Intel Analyst	6
Total Authorized	209

Division personnel are divided into seven sections, each under the command of a lieutenant. Within each section are several squads, staffed with one sergeant and a team of roughly four to twelve officers. The division has a total of 25 squads.

HIDTA Task Force

Four of the seven sections and roughly 117 sworn personnel, are assigned to HIDTA operations. This includes the following initiatives:

- Major Drug Squad (MDS)
- Truck, Air, Rail and Port (TARP)
- Targeted Narcotics Enforcement Team (TNET)
- Forfeiture Abatement Support Team (FAST)
- Houston Money Laundering Initiative (HMLI)
- Houston Support Center (HISC)
- Narcotics Operations Control Center (NOCC)
- Pharmaceutical Diversion Squad (PDS)
- Heroin Squad

The Major Drug Squads conduct complex investigations of drug trafficking organizations operating at regional, national, and international levels. The Houston Intelligence Support Center is a multi-jurisdictional operation tasked with organizing the delivery of intelligence on drug-related activity within the Houston HIDTA. The Houston Money Laundering Initiative investigates money laundering organizations and participates in the Truck, Air, Rail, and Port Task Force, which investigates organizations trafficking illegal drugs and currency through transportation hubs (e.g., airports, seaports, rail stations, bus stations, and express mail couriers). The Pharmaceutical Diversion Squad investigates organizations engaged in the diversion of

pharmaceutical controlled substances. The Narcotics Operations Control Center manages a 24-hour per day de-confliction information center. The Heroin Squad conducts complex investigations of organizations specializing in the trafficking of heroin at the regional, national, and international levels. And the Targeted Narcotics Enforcement Team investigates mid-level drug trafficking organizations.

The sworn staffing an agency commits to such a task force operation is essentially a policy decision. The number of officers assigned to the elements of this operation will depend on the extent to which HPD senior management is satisfied with the operations and outcomes of the efforts. All HIDTA-related workload is combination of multiple agencies and not just HPD personnel, creating a challenge to effectively analyze HPD's portion of the HIDTA work. Due to the extent of drug-related activity in the area, the number of drug trafficking organizations, and the relationship between drug-related activity and the person and property crimes being committed in the Houston-area, **the project team would not recommend a reduction in staffing or commitment to HIDTA operations.** The department's commitment to this multi-agency approach, and the federal, state and local partnerships that have been established as a result, provide benefits to the city that cannot be measured simply by looking at arrests and drug seizures. However, in the section on Inter-Agency Task Forces recommends additional data that should be collected to allow the department to better assess the local impact the HIDTA task force makes in the city

Administration

Although administration units were not part of the overall review and assessment of HPD, the Narcotics Division's large administrative unit is worth discussion. The unit is comprised of three squads and a total of 17 sworn personnel. In addition to sworn personnel, two of the squads have civilian personnel assigned to assist with administrative or technical assistance. One division sergeant is assigned to handle division-related citizen or department complaints against personnel. Due to the nature of narcotic investigations and the potential for complaints against police personnel, one sergeant is assigned strictly to handle those complaints, which would be expected for a specialized division of this size.

The three Administration Units include one unit to solely handle division administrative matters. It contains one sergeant, four officers, and three civilian support personnel. The second unit performs support services to track the use of funds from diverse sources, manages the use of informants and seized assets used for or obtained through criminal activity. The unit consists of

one sergeant and five officers. The third unit provides division training and computer support and assistance. It is staffed with one sergeant, three officers and two civilian specialists.

Staffing of the Administrative and Training Units of the Narcotics Division is based on management discretion. With a division staff of over 200 members, this small number of sworn and civilian positions dedicated to support daily operations can be essential for success. **No reductions in staffing are recommended for the Administrative and Training Units. Should HPD consider increasing the number of personnel within the units, careful consideration should be given to filling any new positions with civilian personnel.**

General Enforcement

General enforcement activities are the responsibility of two entities: General Narcotics North and General Narcotics South. Each section has one lieutenant and four squads. Each squad has one sergeant and between six and seven officers. These squads are not part of the HIDTA task force and solely work at the discretion of the department. The squads are assigned to cover day, evening and night shifts. The general enforcement operation is primarily responsible for handling citizen complaints regarding open air drug markets, drug houses, and following up on the high volume of anonymous tips and leads.

Interviews and observations indicate these squads are highly-effective at producing large numbers of arrests and drug seizures. The project team agrees with the division's philosophy of dividing the general enforcement sections into two areas, north and south, to better understand the community's drug-related issues, to learn who are the offenders and trafficking organizations involved, and to concentrate often-limited investigative efforts on significant targets.

Although cases may be assigned to one officer as the lead investigator, almost all narcotic investigations require a team approach. Conducting surveillance, undercover operations, search warrants and buy/bust operations, and utilizing informants all require numerous officers and adequate supervision. Narcotic investigations can range in time from hours to months to years. By the very nature of these high-risk investigations, supervisors must closely monitor personnel, especially to guard against the potential for police misconduct.

Findings

In 2013, the General Enforcement North and South squads captured 1,934 cases in their case management system. This equates to roughly 37 cases per investigator. The eight squads seized over \$1.9 million in currency and narcotics with a street value of almost \$29 million. The eight squads arrested 2,121 suspects, which equates to roughly 41 suspects per officer per year. In addition, the squads executed a 2013 year-end total of 277 search warrants and conducted 531 buy/bust operations. Although the combination of this workload reveals the division's aggressive and productive enforcement strategy with regards to these squads, the actual outcome of their efforts is not easily observed. When one dealer or drug house is removed, often another takes its place creating a seemingly endless cycle of targets.

The impact from drug use and trafficking is significant to a community's quality of life. It affects a number of other crimes including homicide, robbery, assault, burglary, and theft. Based on the project team's experience in narcotics investigations, **the squads seem to be appropriately staffed and have an adequate supervisor span of control with one sergeant per six to seven officers.** Based on the city's current rates of violent and property crime, the project team would not recommend any reduction in staffing to the General Enforcement squads. These officers are the primary component, operating strictly within the city, to address citizen-related narcotics complaints.

Future Considerations

Interviews with division command identified two issues for future consideration regarding division staffing and training. The first issue involves the anticipated turnover of division supervisors due to upcoming retirements. First-line supervisors in any high-risk police function are essential to ensuring the safety of officers, the quality of work product, and the integrity of division personnel and their actions. Division command must ensure supervisor vacancies are monitored and addressed immediately to maintain the overall quality of work and integrity of the division. The second issue is to consider is that new supervisors and officers who come into the unit are trained appropriately. Commanders must ensure newly assigned officers and supervisors are provided a basic level of training to perform their job function including report writing, the preparation of search warrants and operational plans, surveillance techniques, and undercover operations. In addition, and as experience is gained through division training and mentoring, advanced narcotic training must be provided to stay current with investigative trends and practices.

CIVILIANIZATION

The term “civilianization” in law enforcement refers to efforts to fill jobs currently held by sworn personnel with non-sworn personnel. Civilianization generally is undertaken for several reasons:

- To achieve a reduction in cost if a civilian, at a lower salary rate, can perform functions that were being carried out by a sworn officer.
- To obtain expertise in specific competencies. When a civilian is hired to carry out a specific task, the skills, knowledge and abilities required for the position can be specific to that job, rather than applying the more generalist capabilities of a police officer.
- To move sworn officers from administrative/clerical responsibilities to enforcement activities where their skill set and training can be applied more effectively.

In practice, these benefits of civilianization are not always achieved. For example, civilian salaries in the marketplace may be more competitive than those of police officers, so it may not be less expensive to hire a civilian to do work previously done by a sworn officer.

Furthermore, police leaders who have pursued civilianization have sometimes encountered obstacles, especially during times of economic downturns. When a police department must cut its budget, sworn officers often are considered more “essential,” so civilians are usually the first employee to be laid off. Elected officials and the public often say that their top priority is to avoid reducing the number of officers on the street, in order to maintain a level of public safety. **However, when civilians are cut from essential positions in the police department, those positions usually end up being “back-filled” with sworn officers. Thus, the outcome of cutting civilian personnel in non-discretionary positions is the same: fewer officers on the street.**

This phenomenon was extensively documented by PERF during the national economic crisis that began in 2008. Surveys of police executives revealed that when they must make budget cuts, their top priority is to maintain sworn officer positions. But when budget cuts are significant, laying off civilians does not generally protect sworn officers’ jobs.²⁴

24 See, for example, “Violent Crime and the Economic Crisis: Police Chiefs Face a New Challenge, Part II.” Page 3.

http://www.policeforum.org/assets/docs/Critical_Issues_Series/violent%20crime%20and%20the%20economic%20crisis%20part%20ii%202009.pdf

Potential Civilianization within HPD

The HPD has a variety of civilian staff members assigned throughout the agency. **PERF has identified several areas as a result of its review of proactive units that could be considered for civilianization.** Those specific units are identified and discussed below. In general, each division within the commands has several officers assigned to perform routine administrative work or manage the division's information systems. Interviews conducted with division commanders indicate that many of these positions could be performed by better-trained or lower-cost civilian employees. **Officers are currently performing those duties because the duties are critical to the division's operations, and the department lacks the necessary civilian staffing to perform them.** Specific areas identified by PERF that should be reviewed for civilianization are below.

Auto Theft Division, Auto Dealers Detail Unit

The Auto Dealers Detail is a component of the Auto Theft Division. The detail is self-funded through fees paid by automotive-related businesses that wish to do business in the City of Houston. There are roughly 8,000 of these registered businesses in the city.

The Auto Dealers Detail currently has 16 police officers, five sergeants, one lieutenant, and eight civilian personnel assigned. Like all HPD divisions, the Auto Theft Division and the Auto Dealers Detail are subject to "proportional staffing" fluctuations that are implemented department-wide in order to spread the impact of staffing shortages fairly. However, interviews indicate that the detail has its own funding stream based on regulatory fees, and that in the past, some of this funding has actually gone unspent due to a lack of personnel.

Due to the nature of the detail's regulatory function and the availability of consistent funding, the HPD should consider converting all sworn positions to civilian personnel. The detail could call out patrol officers to handle businesses where history or criminal intelligence indicates a potential threat or criminal nexus.

Recommendation: *Civilianizing the positions within the detail will stabilize the staffing and funding for the detail.* Civilian inspectors will not be subject to "proportional staffing" cutbacks that occurs with sworn staffing. Civilian inspectors can be used to conduct on-site investigations and handle the auction process. And unlike sworn officers

who can be reassigned within the agency, civilian personnel could be hired and trained particularly for the inspection position.

Vice Division

The Vice Division currently has one sergeant and four officers assisting in computer-related investigations and handling administrative tasks. Interviews with division command and staff indicate these positions could be converted to civilian personnel. These officers, as with other HPD components that have been reviewed, are in those positions due to a lack of civilian personnel available.

Recommendation: *The Vice Division, already minimally staffed, should convert these information management and administrative support positions to civilian personnel and return the officers to full time investigative duties.*

Special Operations Division, Bicycle Administration and Training Unit (BATU)

The Bicycle Administration and Training Unit (BATU) serves in the Special Operations Division of the Homeland Security Command. The unit has one sergeant and five officers for the bicycle patrol program. **The BATU trains bicycle patrol officers and provides maintenance and repair for its equipment.**

A review of the unit's work in November and December 2013 indicates that the BATU responded to an average of 14 primary calls for service, four secondary calls for service, and 26 other calls per month. Reports written averaged two per month and citations less than one per month. Eight training days were recorded in November and five in December.

Recommendation: *The Special Operations Division should consider, based on the limited patrol and enforcement activity of the unit, consider replacing sworn staff with trained civilian employees to train bike riders and maintain and repair equipment.*

Special Operations Division, Special Events Group

The Special Events Group has four sworn staff. The unit supports all special events within the city, including parades, "fun runs," street functions/festivals, dignitary visits, and all other major events for the police department and the city.

Recommendation: *The Special Operations Division should consider staffing the Special Events Group with civilian planners.* The group could then work with other components of the division to ensure events are well planned, staffed, and coordinated. The group would work under the supervision of sworn personnel.

Gang Division, Technical Surveillance Unit

The Technical Surveillance Unit, staffed with one sergeant and two officers, provides assistance to the division through the use of technologies, including mobile surveillance cameras, street light cameras, and GPS tracking devices placed on suspects' vehicles. This support includes programming the investigators' smart phones and desktops to allow access to security camera feeds.

Recommendation: *The Gang Division should consider transitioning this unit to civilian personnel appropriately trained to handle the technical support needs of the division.* Replacing sworn officers through attrition with appropriately trained personnel should provide a seamless transition.

Narcotics Division

The Administration Unit of the Narcotics Division has three sergeants and approximately 12 officers assigned in a division support function. These officers and sergeants handle routine administrative work, process asset forfeitures, conduct unit training, and assist with information system management and maintenance. Although some of these positions may require a sworn officer, many are simply handling administrative tasks that could be transitioned to civilian personnel.

Recommendation: *The division should consider each of the sergeant and officer positions and determine which would better be served with civilian staffing.* One method to assist in the transition process is to convert the positions from sworn to civilian as vacancies occur.

Department-Wide Review

In addition to the divisions described above, the HPD has administrative and support units in many more of the agency's 40 separate divisions, including those in Field Operations. Police agencies will always have a small percentage of officers at any given time that cannot perform at full duty status due to injury, illness, or administrative causes. In an agency as large as HPD, this could be several hundred officers. Although many sworn personnel can be used in limited duty status to assist the agency in a variety of administrative roles, the agency cannot rely on these positions, because it cannot predict the number of personnel who will be on limited duty status at any given time.

Recommendation: *The HPD should review all division sworn administrative positions with the division captain and develop a civilianization plan for future budget discussions.* Prior to requesting additional officers for necessary patrol and investigative functions, the department should first identify those administrative positions staffed by sworn officers that could be civilianized with better-trained or lower-cost civilian staff. This should specifically include areas where officers are performing information system management. As with any law enforcement agency, sworn officers can be transferred, promoted, or reassigned at any time. By contrast, civilian staff members could be either hired or trained with specific skills and abilities for certain positions, resulting in greater stability and expertise in the position and tasks.

CONCLUSION

PERF and JUSTEX teamed up to develop an operational staffing model for the Houston Police Department. The model was to cover operational elements of the department, predominantly those in the patrol and investigation divisions. The study covered reactive, proactive and regulatory operations. Administrative and support functions were not part of the scope of the study.

JUSTEX used computer models to assess the number of reactive and proactive patrol officers that would be needed to staff each of Houston's 13 geographic patrol divisions, the airports and special operations under a variety of scenarios. For example, JUSTEX determined that 365 additional officers will need to be hired if Houston officials decide to ensure that two officers will be dispatched to all types of calls that are serious enough to merit a two-officer response. (HPD already has a policy calling for second, back-up officers in these cases, but in practice, back-up officers are not always available.)

Other Justex models varied proactive time, visibility and response time. Increasing Priority 1 response time, not a recommended alternative would allow a decrease of 81 patrol positions. The largest increase, 1,383 positions, is in a scenario that adds officers to fully implement the back-up requirement, to increase proactive time to 20 minutes per hour (and administrative time to five minutes per hour), and to increase visibility on arterial streets to once per hour while holding residential street visibility to once every 24 hours.

A number of options for increased investigator time were presented. The first option projected increased staffing to achieve an across-the-board 10% increase in time spent for all offenses—Persons/Property/Public-Order – and indicates that an additional 45 investigators would be required. A second option shows the cost of the same 10% percent increase separately for persons' offenses requires 27 additional investigators; a 10% percent increase for only property offenses results in 15 additional investigators.

To increase the average time spent on robberies with possible suspect ID from 12 hours to 20 hours would require 12 additional robbery investigators. To increase the average time spent on forcible rape from 22 hours to 40 hours would require 9 additional investigators. The values of 20 hours and 40 hours are premised upon professional judgment informed by the Activity Logs of 19 investigative activities. Taken together increases in effort for robbery and rape

investigative time to bring them more in line with homicide and aggravated assault time would require 21 additional investigators.

Next Justex calculated the staffing increase necessary to increase post-custody investigations for robbery. To increase the average hours spent from 19 to 30, bringing robbery closer in line with the other three violent Part I offenses, would require 8 more investigators. Then, a calculation was made to determine the number of additional investigators required to pursue a larger percentage of Burglary and Theft cases with leads. Increasing by 25% the number of Burglary and Theft cases with leads that are investigated would require an additional 27 investigators.

Justex's review of reactive investigations identified four targeted areas for increases—cases with leads for (1) robbery and (2) rape, (3) post-custody investigation for robbery, and (4) higher percent of follow-up for cases with leads for burglary and theft. Increasing staffing in these areas would require a total of 56 additional investigative positions, a 12% increase.

PERF's portion of the staffing model involved assessing the department's proactive investigative functions and regulatory functions. This included officers assigned to proactive or regulatory activities in the following divisions: Traffic, Airport, Special Operations, Vehicular Crimes, Auto Theft, Gangs, Major Offenders, Narcotics and Vice.

By their very nature, the need for such police operations is much harder to measure, and indicators of "success" that justify the resources provided to these units are more difficult to define. Calls for police service from the public and crimes reported to the police form the essence of patrol and the "reactive investigations" workload. By contrast, proactive units seek out the types of crime that are seldom specifically reported to the police. Complaints may come to police attention about these crimes in the form of neighborhood nuisances – increased traffic, noise and disorder. The numbers of narcotics officers, gang unit officers, and vice officers are essentially policy decisions made by the executive staff in a police department. Such decisions are driven in part by the public's desire for a police response to these types of crime, and in part by the department's estimate of the impact of these crimes on other offenses. For example, robberies and thefts are often committed to support offenders' drug habits, and murders and assaults often reflect feuds among gang organizations and efforts by illegal drug sellers to gain and maintain "territory."

Part of PERF's analysis was informed by the collective wisdom of a group of veteran subject matter experts (six former police executives from medium-size and large agencies, who have experience running police departments in four of the nation's nine largest cities, and a former federal prosecutor). Several key lessons learned from their experiences are described below.

- The technology and sophistication now involved in fatal motor vehicle crash investigations requires specialized training and knowledge. But all patrol officers should be able to play a generalist role in traffic issues, including purposeful enforcement and minor crash investigations. Police departments should consider using civilians as the primary investigators of crashes.
- Analysis of traffic crashes and congestion patterns should be part of the agency's CompStat process. The primary objective of traffic enforcement should be crash reduction.
- Specialized functions such as vice, narcotics, and gang investigations are essential to a law enforcement agency. But they must be weighed against patrol staffing levels and should never jeopardize a proper patrol deployment. Vice, narcotics, and gang activity are often interconnected. Agencies must focus on criminal enterprises and their leadership to have significant impact.
- An agency's commitment to multi-agency task forces must provide a significant benefit to the department and the local community. Benefits can include gaining additional expertise for participating officers, leveraging additional resources to target an agency problem, improving working relations, and receiving outside funding (including shares of asset forfeitures). But task force objectives often are not determined by local law enforcement agencies priorities. Proper supervision and frequent task force activity updates can help to ensure that partnerships are productive for all involved.

PERF has analyzed HPD's proactive and regulatory operations by taking a broad view of the rationales behind the operations.

The analysis of traffic enforcement, and recommendations for improvement, are based on a conception of the function as being driven by the twin goals of **crash reduction and decreasing congestion**.

Vice enforcement is viewed as primarily a regulatory function that needs sufficient police personnel to **respond promptly to neighborhood complaints, conduct proactive**

investigations, and perform a sufficient volume of inspections to ensure that potential violators are deterred.

Because the crimes targeted through proactive investigations in a large jurisdiction like Houston have impacts outside the city itself, inter-agency task forces combining federal, state and multiple local police agencies are formed. Inter-agency task forces seldom report the impact of an individual member agency's contribution to the overall impact of the task force's operations. This makes it difficult for each participating agency to judge the value returned on its investment of officers and other resources in the task force. **Houston's participation in some 13 task forces – including those devoted to narcotics, gangs, violent crime, property crime, human trafficking and cyber crime – is described, and recommendations are offered to help the department develop measures to determine the return the department gets on its investment. Analysis of the new measures proposed might be revealing.** Careful assessment of each task force may discover duplication and/or little return on the department's investment of personnel. Officers currently committed to task forces might be better utilized in other areas of the department.

In the meantime, PERF examined each operational proactive unit and reviewed the limited available data on its operations. Many such units are small, and the impact of their operations is difficult to determine. The resources committed depend primarily on the judgments and experience of local subject matter experts – the HPD command staff.

PERF's analysis of HPD's airport operations also presents choices. **To support new TSA recommendations regarding additional officer presence at peak travel times, the Airport Division will have to add officers.** Still more officers will be needed to address an increase in workload that will result from the planned expansion at Hobby airport.

On the other hand, by reorganizing its approach to traffic crash reduction and congestion abatement, HPD can gain 38 sworn positions that can be reassigned to patrol functions. And by considering civilianization opportunities that are identified in the report, especially the officers in nearly every division providing computer and information management support, further operational efficiencies may be gained.

The City of Houston is diverse and large in population and land area. Its police department is continually evolving to respond to the city's crime and disorder problems. This study illustrates the complex nature of the agency and the challenges it faces in ensuring that it has the right

number of personnel to serve its community. The report is designed to provide guidance to the department as it strives to meet those staffing challenges.

BENCHMARKING

In order to make broad comparisons against other major Texas jurisdictions, PERF compared 2012 FBI UCR crime and employee data against the following four cities in order to make baseline crime comparisons:

- San Antonio
- Dallas
- Austin
- Fort Worth

The tables below illustrate how Houston compares with other major Texas jurisdictions in terms of violent crime, property crime and police staffing levels.

Violent crime rates are shown in the table below.

Comparison of Violent Crime Rates of Major Texas Jurisdictions

City (2012 UCR)	Population	Violent crime	Violent crime per 1,000	Murder and nonnegligent manslaughter	Forcible rape	Robbery	Aggravated assault
Houston	2,177,273	21,610	9.9	217	665	9,385	11,343
San Antonio	1,380,123	6,943	5.0	89	549	1,864	4,441
Dallas	1,241,549	8,380	6.7	154	486	4,093	3,647
Austin	832,901	3,405	4.1	31	209	978	2,187
Fort Worth	770,101	4,524	5.9	44	391	1,280	2,809

In terms of violent crime, Houston ranked the highest among all five Texas comparison jurisdictions in terms of total violent crime, violent crime per thousand, and homicides, rapes, robberies and aggravated assaults.

Property crimes are examined in the table below.

Comparison of Property Crime Rates of Major Texas Cities

City (2012 UCR)	Population	Property crime	Property crime per 1,000	Burglary	Larceny-theft	Motor vehicle theft	Arson
Houston	2,177,273	107,678	49.5	26,630	67,978	13,070	754
San Antonio	1,380,123	82,668	59.9	15,668	60,633	6,367	245
Dallas	1,241,549	54,300	43.7	16,090	31,148	7,062	581
Austin	832,901	43,472	52.2	7,244	33,913	2,315	121
Fort Worth	770,101	32,514	42.2	8,442	21,648	2,424	118

With regard to property crime, while Houston had the highest total amount of property crimes, in terms of property crimes *per thousand*, Houston's property crime rate was in the middle of the Texas comparison jurisdictions, with San Antonio and Austin witnessing higher property crime rates.

Next, staffing comparisons were made against the police departments of each of the four jurisdictions. PERF compared overall staffing levels, sworn staffing, civilian staffing and the percentage of each department's sworn and civilian personnel. Results are shown in the table below.

Comparison of Staffing Levels, Major Texas Police Departments

City (2012)*	Population	Total law enforcement employees	Total officers	Percent of force (sworn)	Total civilians	Percent of force (civilian)
Houston	2,177,273	6,663	5,318	79.8%	1,345	20.2%
San Antonio	1,380,123	2,883	2,276	78.9%	607	21.1%
Dallas	1,223,021	4,052	3,511	86.6%	541	13.4%
Austin	832,901	2,252	1,628	72.3%	624	27.7%
Fort Worth	770,101	1,940	1,536	79.2%	404	20.8%

*Dallas data is for 2011 as 2012 data was not available through UCR

Houston has the largest overall staffing of each of the comparison agencies, and the highest total number of both sworn and civilian personnel, though it should be noted that at least one agency, Dallas, has a higher percentage of sworn personnel. Houston also has the second lowest percent of civilian employees, with only Dallas having fewer.

PERF then compared crime and staffing levels against those of five major jurisdictions in the United States, again using FBI UCR 2012 data:

- Philadelphia, PA
- Phoenix, AZ
- Memphis, TN
- Washington, DC
- Baltimore, MD

Comparisons of Houston's violent crime rate to those of the comparison jurisdictions are shown below.

Comparison of Violent Crime Rates of Major US Jurisdictions

City (2012 UCR)	Population	Violent crime	Violent crime per 1,000	Murder and nonnegligent manslaughter	Forcible rape	Robbery	Aggravated assault
Houston	2,177,273	21,610	9.9	217	665	9,385	11,343
Philadelphia	1,538,957	17,853	11.6	331	880	7,984	8,658
Phoenix	1,485,509	9,458	6.4	123	556	3,516	5,263
Memphis	657,436	11,507	17.5	133	420	3,382	7,572
Washington, DC	632,323	7,448	11.8	88	236	3,725	3,399
Baltimore	625,474	8,789	14.1	218	315	3,605	4,651

While Houston's total violent crime rate for 2012 was higher than each of the comparison jurisdictions, when calculating violent crimes *per thousand*, Houston was the second lowest, with only Phoenix reporting less violent crimes. Houston also has the highest rates of robberies and aggravated assaults.

PERF then examined property crime rates. Results are shown below.

Comparison of Property Crime Rates of Major US Jurisdictions

City (2012 UCR)	Population	Property crime	Property crime per 1,000	Burglary	Larceny-theft	Motor vehicle theft	Arson
Houston	2,177,273	107,678	49.5	26,630	67,978	13,070	754
Philadelphia	1,538,957	56,997	37.0	12,004	38,592	6,401	
Phoenix	1,485,509	60,777	40.9	17,912	35,678	7,187	306
Memphis	657,436	41,503	63.1	12,575	25,959	2,969	407
Washington, DC	632,323	29,264	46.3	3,519	22,196	3,549	50
Baltimore	625,474	29,149	46.6	7,770	17,397	3,982	242

Houston has the highest property crime rate of the comparison jurisdictions, but only the second-highest property crime rate per thousand. Houston's levels of burglary, larceny-theft, motor vehicle theft and arson are higher than each of the comparison jurisdictions.

Staffing data for sworn and civilian employees for each jurisdiction was then compared. Results are shown in the table below.

Comparison of Staffing Levels, Major US Police Departments

City (2012)	Population	Total law enforcement employees	Total officers	Percent of force (officers)	Total civilians	Percent of force (civilian)
Houston	2,177,273	6,663	5,318	79.8%	1,345	20.2%
Philadelphia	1,538,957	7,360	6,526	88.7%	834	11.3%
Phoenix	1,485,509	3,986	2,979	74.7%	1,007	25.3%
Memphis	657,436	2,826	2,416	85.5%	410	14.5%
Washington	632,323	4,332	3,867	89.3%	465	10.7%
Baltimore	625,474	3,342	2,962	88.6%	380	11.4%

Houston has the second highest number of total law enforcement employees among the comparison agencies, as well as the second highest number of sworn personnel, with Philadelphia having the highest levels of overall staffing and sworn staffing. Regarding the *percentage* of sworn officers comprising each agency, Houston has the second lowest percentage of sworn employees to overall department staffing. Houston's civilian staffing is higher than all

of the other agencies and has the second highest percentage of its workforce civilianized compared to the other agencies.

ANALYSIS OF HOUSTON CRIME TRENDS

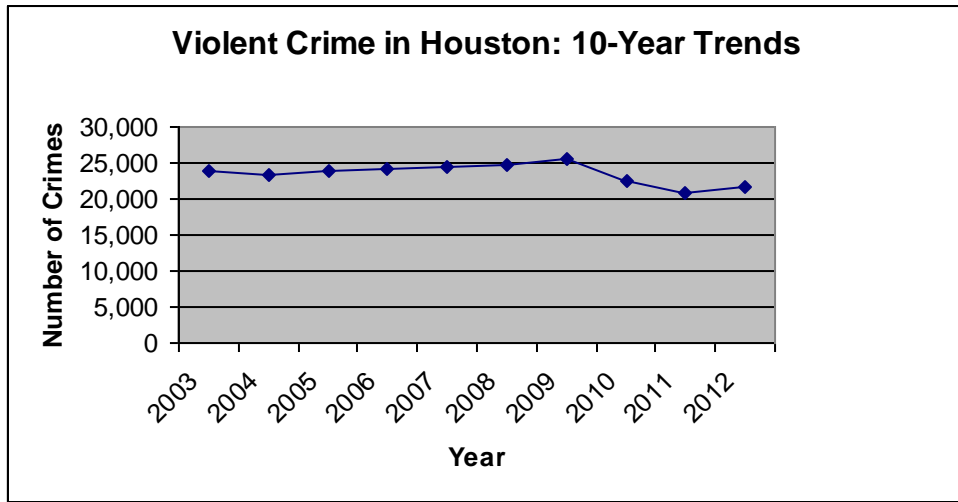
The project team examined 10 years worth of violent crime and property crime rates based off of FBI UCR statistics.

Violent crime information is presented in the following table.

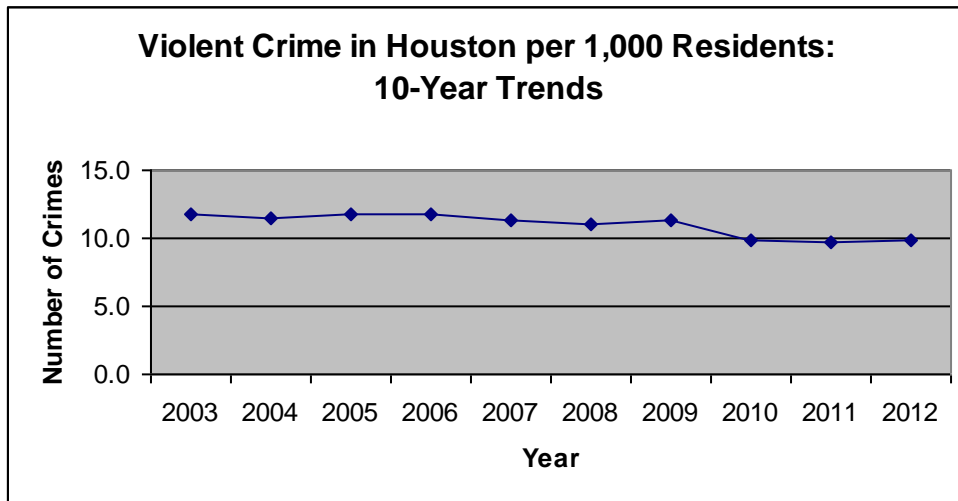
Violent Crime in Houston: 10-Year Trends

Year	Population	Violent crime	Violent crime per 1,000	Murder and nonnegligent manslaughter	Forcible rape	Robbery	Aggravated assault
2003	2,041,081	23,988	11.8	278	768	10,985	11,957
2004	2,043,446	23,427	11.5	272	908	10,182	12,065
2005	2,045,732	23,987	11.7	334	872	11,128	11,653
2006	2,073,729	24,250	11.7	377	854	11,371	11,648
2007	2,169,544	24,564	11.3	351	694	11,479	12,040
2008	2,238,895	24,779	11.1	294	750	10,603	13,132
2009	2,273,771	25,593	11.3	287	823	11,367	13,116
2010	2,280,859	22,491	9.9	269	712	9,449	12,061
2011	2,143,628	20,892	9.7	198	771	8,054	11,869
2012	2,177,273	21,610	9.9	217	665	9,385	11,343

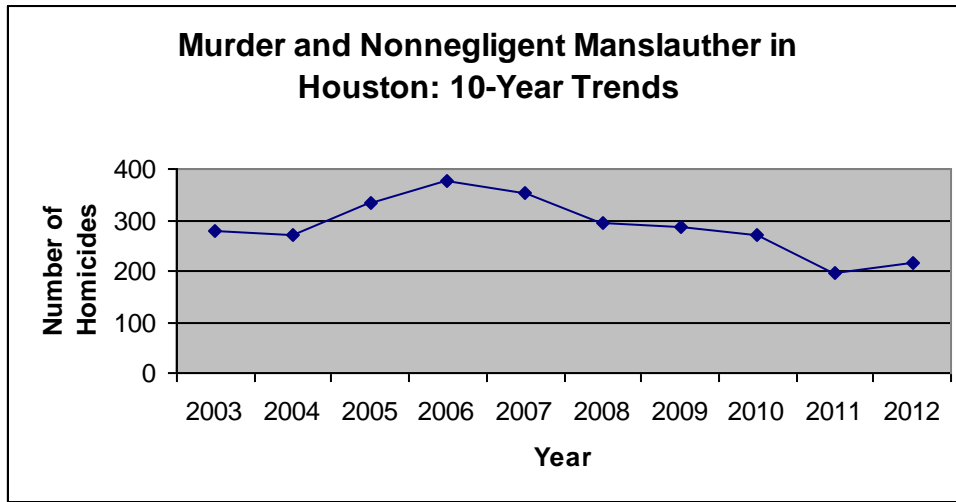
Discussion of each violent category appears after each chart below.



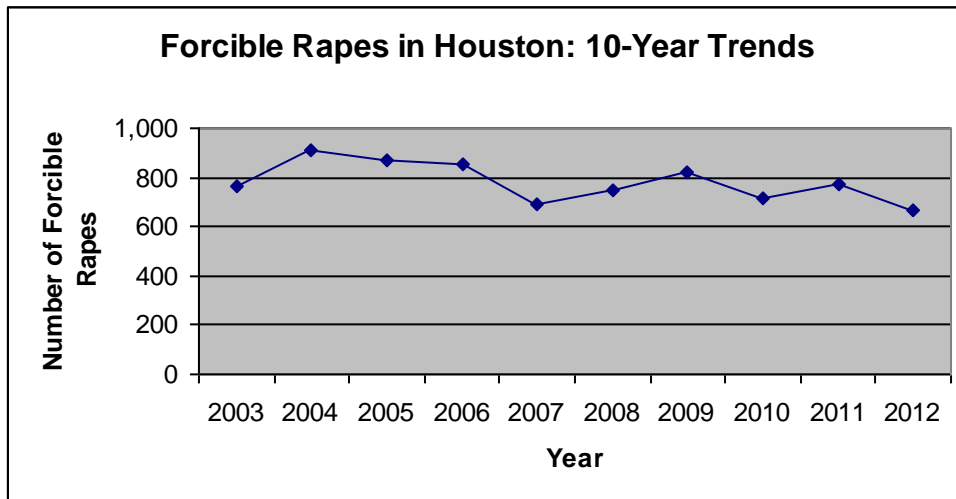
Overall, violent crime rates in Houston have remained somewhat stable over the 10 year period, with a slight increase from last year. The overall rate in 2012 is lower than the violent crime rate in 2003.



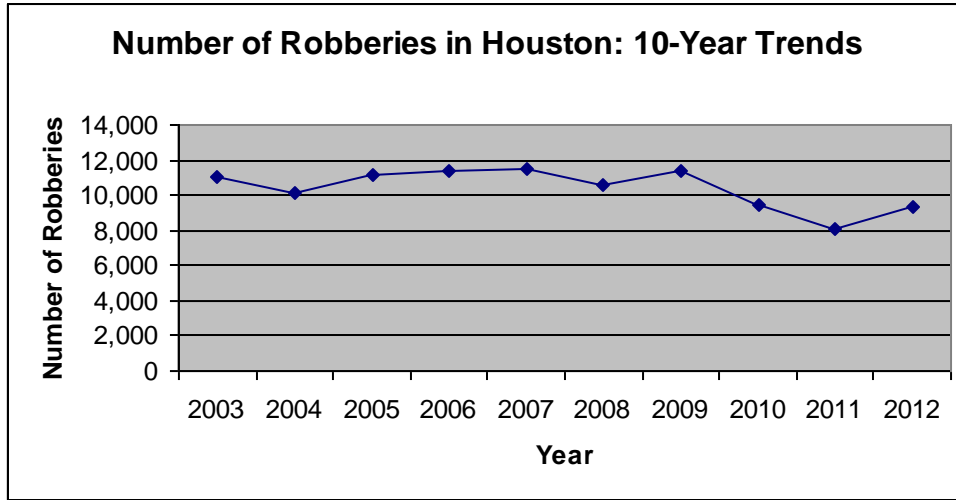
Similarly, violent crimes per 1,000 residents remained relatively flat, with a noticeable decrease in 2010.



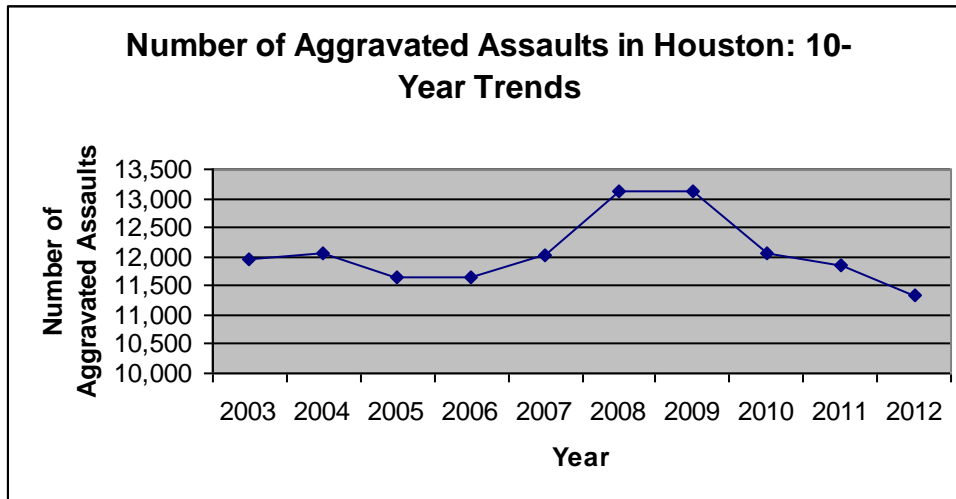
Homicides rose considerably between 2004 and 2006, with a gradual decline through 2011 and rising slightly in 2012.



Forcible rapes showed more variance over the 10 year period, reaching a high in 2004, and then decreasing until 2007.



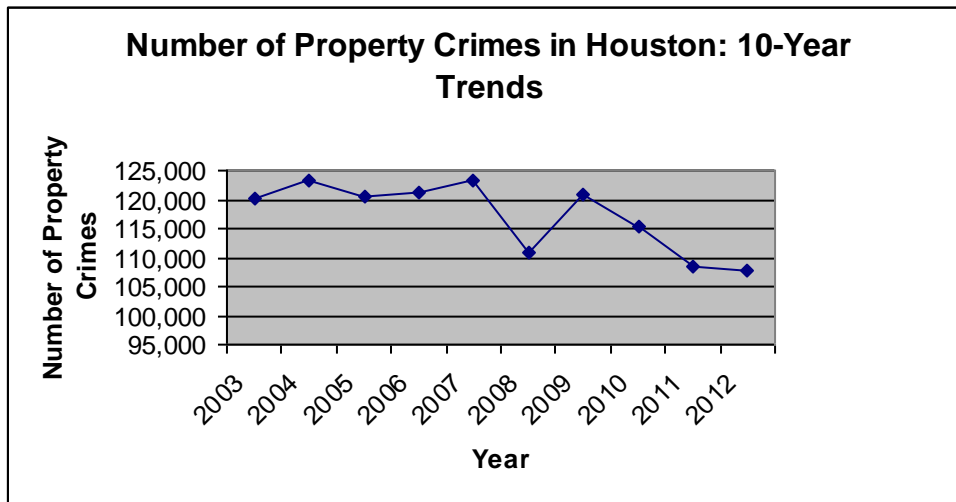
Robbery rates remained relatively stable, with a noticeable decrease from 2009 through 2011.



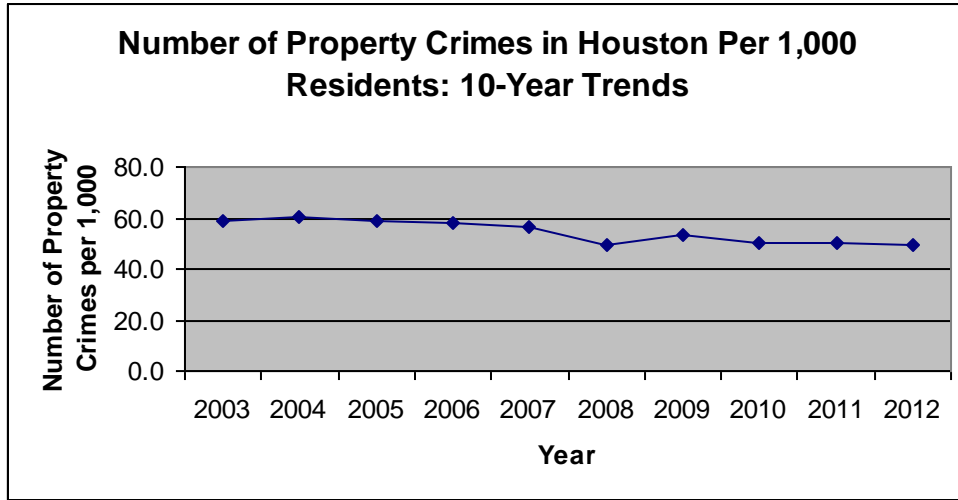
Aggravated assaults were on a gradual decline until 2006, when they sharply rose through 2009. Since 2009, aggravated assaults are on the decline.

Property Crime in Houston: 10-Year Trends

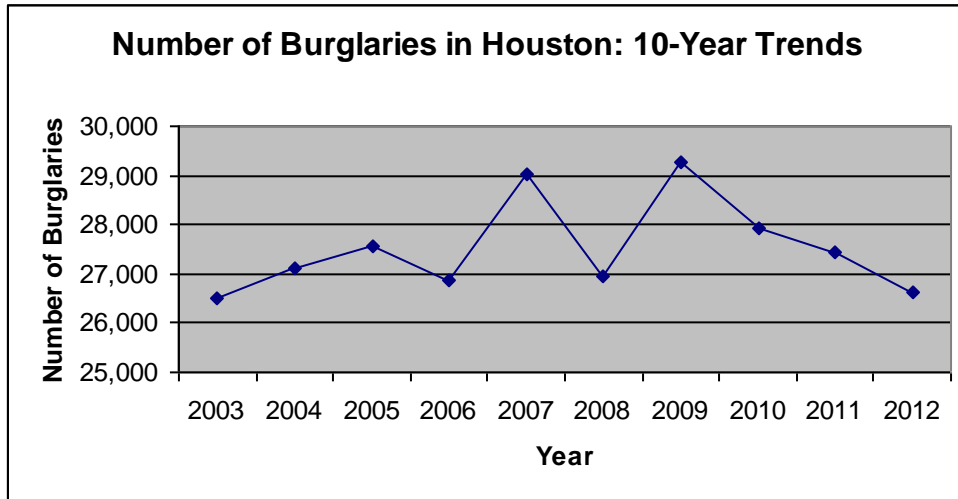
Year	Population	Property crime	Property crime per 1,000	Burglary	Larceny-theft	Motor vehicle theft
2003	2,041,081	120,005	58.8	26,522	72,032	21,451
2004	2,043,446	123,425	60.4	27,110	74,752	21,563
2005	2,045,732	120,425	58.9	27,541	72,476	20,408
2006	2,073,729	121,053	58.4	26,869	73,091	21,093
2007	2,169,544	123,326	56.8	29,044	74,817	19,465
2008	2,238,895	110,759	49.5	26,947	68,598	15,214
2009	2,273,771	120,933	53.2	29,279	77,058	14,596
2010	2,280,859	115,323	50.6	27,924	74,582	12,817
2011	2,143,628	108,336	50.5	27,459	68,596	12,281
2012	2,177,273	107,678	49.5	26,630	67,978	13,070



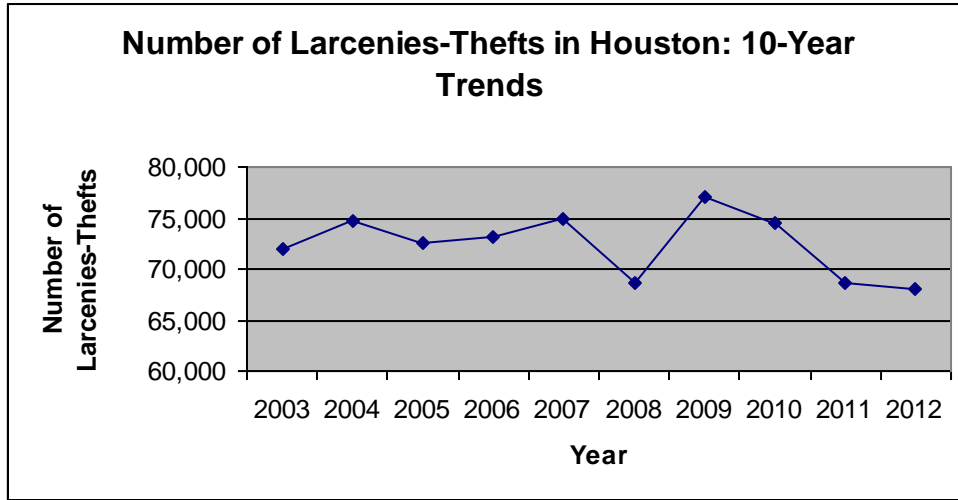
Unlike violent crimes, property crimes showed much more variance over the 10 year period. Property crime rates remained relatively stable until a sharp decrease from 2007 to 2008, a similar increase from 2008 to 2009, and then a sharp decrease since then.



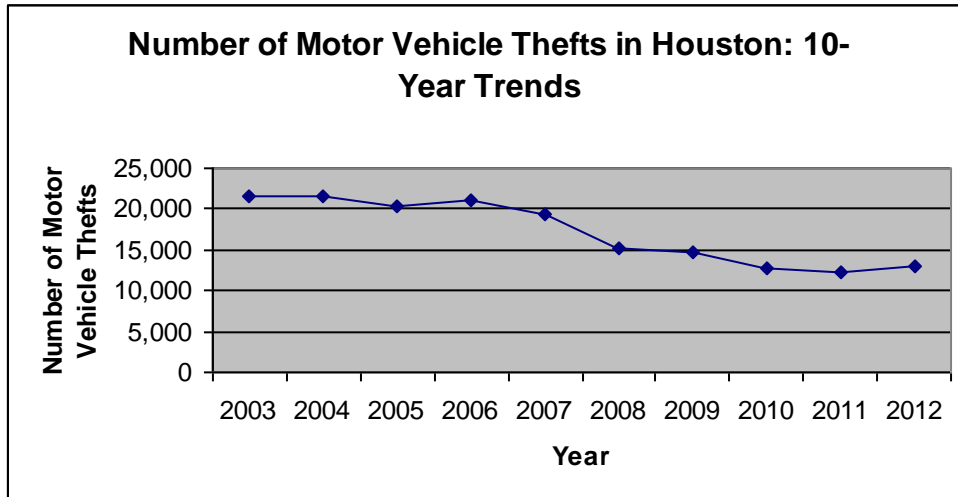
Property crime rates per 1,000 residents, however, show less fluctuation, with an overall gradual decrease since 2003.



The rate of burglaries was inconsistent, with multiple spikes and declines during this period, with rates currently on the decrease.



The number of larcenies-thefts has been in flux, with a significant decrease in 2008 and a significant increase in 2009, with a steady decrease from there on.



Motor vehicle thefts have generally been on the decrease since 2003.

APPENDIX A—AMP SCENARIOS

(NOTE, for convenience: Appendix A is a replication of Table 2, Appendix C is a replication of Table 5)

Table 2. AMP Models Employed

<u>Version</u>	<u>Variable Changes</u>	<u>Officers</u>		<u>Sergeants</u>		<u>Positions</u>	
		<u>Required</u>	<u>Change</u>	<u>Required</u>	<u>Change</u>	<u>Required</u>	<u>Change</u>
A. Benchmark	Estimated Performance Standards Given Current Staffing Excludes Airports & Special Ops. Self-Initiated patrol @ 10 min/hr. Visibility Arterial @ every 4 hrs. Visibility Residential @ every 24 hrs.	2,174	0	338	0	2512	0
B. Adding Two-Officer Calls	Adds Current Number of Calls that Should Have Two Officers Dispatched, But Do Not	2,493	319	384	46	3242	365
C. Self-Initiated Patrol from 10 to 15 minutes - Visibility @ 4-24	Self-Initiated patrol from 10 to 15 min. per hr. Visibility Arterial @ every 4 hrs. Visibility Residential @ every 24 hrs.	2785	611	426	88	3211	699

Houston Police Department Operational Staffing Model
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D. Self-Initiated @ 15 min hr.; Visibility, @ 1-12	Patrol Interval Arterial from every 4 to 1/hr. 3016 Interval Residential from once every 24 hours To Once Every 12 hours	842	459	121	3475	963
E. Self-Initiated Patrol to 20 Min-Hr. - Visibility @ 4-24	Self-Initiated patrol increased from 15 min/hr.3152 to 20 min/hr., Visibility reset to 4 -24	978	478	140	3630	1118
F. Self-Initiated 15 Min Hr.; Visibility @ 8-12	Self-Initiated patrol @ 15 min/hr. 2783 Visibility every 8 hrs. Arterial And every 12 hrs. Residential	609	425	87	3208	696
G. Self-Initiated 20 Min Hr.; Visibility @ 8-12	Self-Initiated patrol @ 20 min/hr. 3148 Visibility every 8 hrs. Arterial And every 12 hrs. Residential	974	478	140	3626	1114
H. Self-Initiated 20 Min Hr.; Visibility @ 1-24	Self-Initiated patrol @ 20 min/hr. 3384 Visibility increased on arterial to once /hr. 1210	511	173	3895	1383	
I. Self-Initiated 20 Min Hr.; Visibility Reduced to 8-72	Self-Initiated patrol @ 20 min/hr. 3089 Visibility Reduced to 8-72 915	469	131	3558	1046	

Houston Police Department Operational Staffing Model

May 2014

<u>Version</u>	<u>Variable Changes</u>	<u>Officers</u>		<u>Sergeants</u>		<u>Positions</u>	
		<u>Required</u>	<u>Change</u>	<u>Required</u>	<u>Change</u>	<u>Required</u>	<u>Change</u>
J. Response Time for Priority 2	Priority 2 response time <u>increased</u> from 10 minutes to 15 Benchmark values Self-Initiated patrol @ 10 min/hr. Visibility Arterial @ every 4 hrs. Visibility Residential @ every 24 hrs.	2139	-35	333	-5	2472	-40
K. Response Time for Priority 1	Priority 1 response time <u>increased</u> from 5 minutes to 10 Priority 2 left at increase to 15 Self-Initiated patrol @ 10 min/hr. Visibility Arterial @ every 4 hrs. Visibility Residential @ every 24 hrs.	2103	-71	328	-10	2431	-81
L. Variables at Chicago Level	Estimate of Chicago's Performance Variables With Chicago Police/Citizen Ratio at 4.41/1000 Houston's Police/Citizen Ratio is 2.45/1000 For Chicago Staffing Houston Would Require 9,602 officers; Regular Patrol Staffing = 40% of Total = ~3,850 Provides Self-Initiated Patrol @ 24 minutes/hr.	3850	1676	583	245	4433	1921

NOTE: Each scenario following “*B. Adding Two Officer Calls*”, incorporates B. Numbers reported as “Change” is the difference between each scenario including B and the Benchmark (current). Screen images are provided below for each scenario.

Houston Police Department Operational Staffing Model

May 2014

Benchmark Variables & Data (Current Staffing Level)																
** ENTER ALL VARIABLES AND AGENCY DATA IN THIS SECTION **																
Base Data																
Area	Apriort	Central	Clear Lake	Eastside	Kingwood	Midwest	North	Northwest	Northwest	South Central	South-Clearwater	Southwest	Southwest	Special Ops	Westside	Totals
Area (square miles)	19.09	32.27	46.79	20.35	54.75	18.88	51.32	89.15	57.38	18.27	15.78	50.53	52.36	1.75	68.15	606.63
Annual Number of Priority-1 Dispatched Calls	80	3136	1795	1004	552	2400	4832	3635	2305	1774	2190	3834	2405	290	4535	34779
Annual Number of Priority-2 Dispatched Calls	1089	21166	8620	6770	2454	13851	26311	22166	10223	10505	8599	19571	10941	4428	21580	184372
Annual Number of Other Dispatched Calls	4961	112538	40682	31878	13971	62855	121001	109718	56878	80213	60237	81051	57329	21208	104961	939107
Annual Number of Two-Officer Calls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Annual Number of Special Events	9	60	6	14	24	30	60	87	140	28	150	4	62	646	2	1339
Annual Calls-For-Service	8118	128958	61083	39864	17001	79158	161204	136806	68778	72818	71168	10480	70737	28473	131128	1168687
Number of miles, arterial roadways	2983	274.94	209.1	121.67	77.21	160.29	349.08	524.29	255.59	160.51	78.18	247.7	281.62	35.74	326.04527	3111.5953
Number of miles, residential/service roadways	36.44	497.43	351.92	206.15	355.88	183.28	576.65	750.97	298.48	289.93	170.95	512.3	484.75	37.25	463.98239	5194.9724
Foot Patrol distance in feet (1 city block = approx. 300 ft.)	35370	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35370
Specialists Positions (e.g. traffic)																
Posts Staffed 24-hours / 7-days per week	0	3	2	2	3	0	18	3	0	2	4	5	0	0	0	42
Posts Staffed 24-hours / 5-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Posts Staffed 12-hours / 7-days per week	0	1	0	0	0	0	0	3	0	0	0	0	0	0	0	4
Posts Staffed 12-hours / 5-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Posts Staffed 10-hours / 7-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Posts Staffed 10-hours / 5-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Posts Staffed 8-hours / 7-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Posts Staffed 8-hours / 5-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Posts Staffed 8-hours / 5-days per week	0	29	15	21	16	24	20	3	9	24	17	36	27	0	42	263
Specialists Positions (Non-Response)																
Posts Staffed 8-hours / 7-days per week	0	0	0	0	0	16	0	0	7	0	0	0	0	0	0	23
Posts Staffed 8-hours / 5-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Posts Staffed 8-hours / 5-days per week	0	10	6	9	4	2	7	1	19	5	14	10	12	0	22	121
Activity Statistics																
Avg. person-hours per Priority-1 Calls	5.16	2.85	2.83	4.49	2.33	2.82	3.80	4.09	2.99	3.84	3.66	3.90	3.52	4.72	3.23	3.80
Avg. person-hours per Priority-2 Calls	1.93	2.09	2.26	2.52	2.18	2.13	2.33	2.26	2.27	2.31	2.63	2.43	2.65	2.17	2.45	2.31
Avg. person-hours for Other Calls	1.82	1.07	1.23	1.31	1.10	1.17	1.12	1.21	1.18	1.25	1.12	1.15	1.26	2.07	1.26	1.29
Avg. person-hours for Two-Officer Calls	1.82	1.07	1.23	1.31	1.10	1.17	1.12	1.21	1.18	1.25	1.12	1.15	1.26	2.07	1.26	1.29
Avg. person-hours for Special Events	37.00	6.00	80.00	201.00	20.00	122.00	10.00	16.00	22.00	4.00	24.00	8.00	13.10	2.46	42.25	40.52
Avg. person-hours per call (including back-up units)	1.82	1.27	1.47	1.67	1.32	1.43	1.41	1.47	1.44	1.47	1.43	1.48	1.66	2.18	1.63	1.63
Avgs of calls handled by Specialists	0%	5%	0%	2%	2%	1%	1%	1%	5%	2%	5%	2%	15%	1%	4%	3%
Avg. of Time On Leave (vacation, holiday, sick, training, suspension)	25%	20%	21%	21%	24%	22%	21%	19%	21%	24%	21%	19%	20%	25%	20%	22%
Shift Length																
Average Work Week (hours)	0	40	40	40	40	40	40	40	40	40	40	40	40	0	40	34.686667
Total number of days in the workload sample period (year)	0	366	366	366	366	366	366	366	366	366	366	366	366	0	366	317.2
Scheduled Overtime (Avg. hours per week / per officer)	0	2	2.18	0.8	3.21	10	6	0.2	4	2.4	1.2	3	3.25	0	1.49	2.648667
Agency Norms																
Self-initiated preventive patrol (min. per hr. / per officer)	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Administrative time (min. per hr. / per officer)	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Unrecoverable patrol time (min. per hr. / per officer)	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Percentage of time patrol units are staffed by two officers	0%	12%	7%	15%	0%	14%	10%	6%	12%	11%	10%	19%	10%	2%	15%	10%
Average number of officers to be supervised by each field supervisor	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Percentage of field supervisor on-duty time spent on patrol activities	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
Performance Objectives (Policy Decision)																
Patrol Interval (hours), for arterial roadways (visibility)	40	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Patrol Interval (hours), for residential/service roadways (visibility)	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Patrol Interval (hours), for Foot Patrol Beats (visibility)	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0
Average Number of Directed Patrols per day	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Average Time for each Directed Patrol (in min.)	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
Response time to Priority 1 calls (in minutes)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Response time to Priority 2 calls (in minutes)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Percent of time that there will be at least one officer available	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%
Immediate Availability Variables (Policy Decision)																
Percentage of calls for service that cannot be preempted	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Percentage of administrative activities that cannot be preempted	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Percentage of self-initiated patrol activities that cannot be preempted	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
Additional Variables (Policy Decision)																
Weights: Total of all four weights must equal 100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Weight for patrol visibility objective	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Weight for response time to priority 1 calls objective	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Weight for response time to priority 2 calls objective	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Weight for immediate availability to priority 1 calls objective	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Patrol Variables (Predetermined Avg of Nat'l Demo Cities)																
Average patrol speed (mph), arterial roadways	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85
Average patrol speed (mph), residential/service roadways	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55
Average walking speed for foot patrol in mph	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10
Average response speed (mph) for emergency activities	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13
Average response speed (mph) for non-emergency activities	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90
Total Number of Field Supervisors Needed:	0	32	17	17	10	22	48	35	21	22	22	33	20	0	39	337
Total Number of Designated Specialist Patrol Officers:	0	12	8	11	5	31	9	1	37	7	18	12	15	0	28	194
Total Number of Officers Needed:	0	213	109	107	63	120	324	241	109	147	134	217	128	0	248	2,165
Current	0	199	108	110	60	135	263	282	148	143	136	193	147	0	250	2,174

Houston Police Department Operational Staffing Model

May 2014

Benchmark with Potential Two-Officer Calls Added (311 More Officers Required)

** ENTER ALL VARIABLES AND AGENCY DATA IN THIS SECTION **																
Base Data	Airport	Central	Clear Lake	Eastside	Kingwood	Midwest	North	Northwest	Northwest	South Central	South-Corridor	Southwest	Southwest	Special Ops	Westside	Totals
Area (square miles)	19.09	32.27	48.79	20.35	64.76	18.88	51.32	89.15	57.38	18.27	15.76	50.53	52.36	1.75	68.15	606.63
Annual Number of Priority-1 Dispatched Calls	50	3136	1795	1004	552	2400	4832	3635	2305	1774	2150	3834	2405	292	4835	34779
Annual Number of Priority-2 Dispatched Calls	108	21166	8620	6770	2454	13651	25311	22165	10223	10605	8589	16571	10941	4428	21580	184372
Annual Number of Other Dispatched Calls	4961	112538	40582	31876	13971	62855	121001	109718	66978	80213	60287	81051	57329	21008	104961	939107
Annual Number of Two-Officer Calls	0	12197	7804	8214	2308	10351	22206	22230	10608	10581	11170	17921	11230	0	20624	166064
Annual Number of Special Events	9	90	6	14	24	30	50	87	140	28	150	4	62	648	2	1339
Annual Calls-For-Service	8118	149136	63837	46878	18009	89487	178410	167896	79804	88579	82329	118631	81987	28373	181962	1826881
Number of miles, arterial roadways	2983	274.94	209.1	121.87	77.21	160.29	349.03	524.29	255.59	160.51	78.16	247.7	261.52	35.74	205.04527	3111.8958
Number of miles, residential/service roadways	36.44	497.43	351.32	206.15	355.86	183.23	576.86	750.97	298.48	269.98	170.56	512.6	484.75	37.28	483.98239	5194.9724
Foot Patrol distance in feet (1 city block = approx. 300 ft)	38370	0	0	0	0	0	0	0	0	0	0	0	0	0	0	38370
Specialists Positions (e.g. Traffic)																
Posts staffed 24-hours / 7-days per week	0	3	2	2	3	0	18	3	0	2	4	5	0	0	0	42
" " 24-hours / 6 days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
" " 24-hours / 5 days per week	0	1	0	0	0	0	0	3	0	0	0	0	0	0	0	4
" " 12-hours / 7 days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
" " 12-hours / 6 days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
" " 12-hours / 5 days per week	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	3
" " 10-hours / 7 days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
" " 10-hours / 6 days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
" " 10-hours / 5 days per week	0	0	0	0	0	0	20	1	0	0	0	0	0	0	0	21
" " 8-hours / 7 days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
" " 8-hours / 6 days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
" " 8-hours / 5 days per week	0	29	15	21	16	24	20	3	9	24	17	36	27	0	42	283
Specialists Positions (Non-Response)																
Posts staffed 9-hours / 7-days per week	0	0	0	0	0	16	0	0	7	0	0	0	0	0	0	23
" " 8-hours / 6-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
" " 8-hours / 5-days per week	0	10	6	9	4	2	7	1	19	5	14	10	12	0	22	121
Activity Statistics																
Avg. person-hours per Priority-1 Calls	516	2.65	2.83	4.49	2.33	2.82	3.80	4.09	2.99	3.84	3.66	3.90	3.52	4.72	3.23	3.60
Avg. person-hours per Priority-2 Calls	1.93	2.09	2.26	2.52	2.18	2.13	2.33	2.26	2.27	2.31	2.63	2.43	2.65	2.17	2.45	2.31
Avg. person-hours per Other Calls	1.82	1.07	1.23	1.31	1.10	1.17	1.12	1.21	1.18	1.25	1.12	1.15	1.28	2.07	1.26	1.29
Avg. person-hours for Two-Officer Calls	1.93	2.09	2.26	2.52	2.18	2.13	2.33	2.26	2.27	2.31	2.63	2.43	2.65	2.17	2.45	2.31
Avg. person-hours for Special Events	37.00	6.00	80.00	201.00	20.00	122.00	10.00	16.00	22.00	4.00	24.00	8.00	13.10	2.46	42.25	40.52
Avg. person-hours per call (including back-up units)	1.82	1.33	1.67	1.78	1.43	1.61	1.63	1.68	1.66	1.68	1.68	1.81	1.71	2.18	1.86	1.83
Avg % of calls handled by Specialists	0%	5%	0%	2%	2%	1%	1%	1%	5%	2%	9%	2%	15%	1%	4%	3%
Avg % of Time On Leave (vacation, holiday, sick, training, suspension)	25%	20%	21%	21%	24%	22%	21%	19%	21%	24%	21%	19%	20%	25%	20%	22%
Shift Length																
Average Work Week (hours)	0	40	40	40	40	40	40	40	40	40	40	40	40	0	40	34.886667
Total number of days in the workload sample period (year)	0	368	366	368	366	366	368	366	366	368	366	366	368	0	368	317.2
Scheduled Overtime (Avg hours per week / per officer)	0	2	2.18	0.8	3.21	10	6	0.2	4	2.4	1.2	3	3.25	0	1.48	2.6436667
Agency Norms																
Self-initiated preventive patrol (min. per hr. / per officer)	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Administrative time (min. per hr. / per officer)	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Unrecoverable patrol time (min. per hr. / per officer)	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Percentage of time patrol units are staffed by two officers	0%	12%	7%	15%	0%	14%	10%	6%	12%	11%	10%	19%	10%	2%	15%	10%
Average number of officers to be supervised by each field supervisor	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Percentage of field supervisor on-duty time spent on patrol activities	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
Performance Objectives (Policy Decision)																
Patrol Interval (hours), for arterial roadways (visibility)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Patrol Interval (hours), for residential/service roadways (visibility)	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Patrol Interval (hours), for Foot Patrol Beats (visibility)	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0
Average Number of Directed Patrols per day	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Average Time for each Directed Patrol (min.)	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
Response time to Priority 1 calls (in minutes)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Response time to Priority 2 calls (in minutes)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Percent of time that there will be at least one officer available	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%
Immediate Availability Variables (Policy Decision)																
Percentage of calls for service that cannot be preempted	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Percentage of administrative activities that cannot be preempted	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Percentage of self-initiated patrol activities that cannot be preempted	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
Additional Variables (Policy Decision)																
Weights: (Total of all four weights must equal 100%)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Weight for patrol visibility objective	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Weight for response time to priority 1 calls objective	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Weight for response time to priority 2 calls objective	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Weight for immediate availability to priority 1 calls objective	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Patrol Variables (Predetermined Avg of Nat'l Demo Cities)																
Average patrol speed (mph), arterial roadways	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85
Average patrol speed (mph), residential/service roadways	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55
Average walking speed for footpatrol in mph	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10
Average response speed (mph) for emergency activities	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13
Average response speed (mph) for non-emergency activities	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90
Total Number of Field Supervisors Needed:	0	35	19	19	11	24	53	41	24	25	25	38	24	0	46	384
Total Number of Designated Specialist Patrol Officers:	0	12	8	11	5	31	9	1	37	7	18	12	15	0	28	194
Total Number of Officers Needed:	0	234	124	122	72	136	363	285	129	169	160	256	150	0	293	2,493
Current:	0	199	108	110	60	135	263	282	148	143	136	193	147	0	250	2,174

Houston Police Department Operational Staffing Model

May 2014

Self-Initiated Patrol Increased from 10 to 15 Minutes hr- Visibitly @ 4-24																
** ENTER ALL VARIABLES AND AGENCY DATA IN THIS SECTION **																
Base Data	Airport	Central	Clear Lake	Eastside	Kingswood	Midwest	North	Northwest	Northwest	South Central	South Central	Southwest	Southwest	Special Ops	Westside	Totals
Area (square miles)	19.09	32.27	48.79	20.35	64.78	18.88	51.32	89.15	57.38	18.27	15.78	50.53	52.38	1.75	88.15	606.83
Annual Number of Priority-1 Dispatched Calls	50	3136	1796	1004	582	2400	4832	3835	2336	1774	2150	3834	2405	292	4595	34779
Annual Number of Priority-2 Dispatched Calls	1036	21186	8620	6770	2454	13851	25311	22165	10223	10605	3969	16871	10941	4428	21580	184372
Annual Number of Other Dispatched Calls	4961	112536	40862	31976	13971	62858	121001	109718	56876	80213	80237	31061	57329	21008	104961	899107
Annual Number of Two-Officer Calls	0	12197	7304	6214	2308	10331	22205	22290	10608	10961	11170	17921	11230	0	20824	168084
Annual Number of Special Events	9	30	6	14	24	30	50	67	140	25	150	4	62	645	2	1339
Annual Calls-For-Service	8118	149116	68837	46373	19309	89467	173410	167896	79984	88679	82828	119881	81887	28878	161962	1326691
Number of miles, arterial roadways	29.83	274.94	209.1	121.67	77.21	160.29	348.03	524.29	255.59	180.51	78.18	261.52	35.74	328.04572	3111.6953	
Number of miles, residential/service roadways	38.44	487.43	351.52	205.15	355.88	183.28	576.96	750.97	288.43	289.98	170.88	512.8	484.75	37.28	483.86239	5194.9724
Foot Patrol Distance In feet (1 city block = approx. 300 ft.)	35370	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35370
Specialist's Positions (e.g. traffic)																
Rosters staffed 24-hours / 7-days per week	0	3	2	2	3	0	18	3	0	2	4	5	0	0	0	42
" " " " 24-hours / 5-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
" " " " 12-hours / 7-days per week	0	1	0	0	0	0	0	3	0	0	0	0	0	0	0	4
" " " " 12-hours / 5-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
" " " " 12-hours / 5-days per week	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	3
" " " " 10-hours / 7-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
" " " " 10-hours / 5-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
" " " " 8-hours / 7-days per week	0	0	0	0	0	0	20	1	0	0	0	0	0	0	0	21
" " " " 8-hours / 5-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
" " " " 8-hours / 5-days per week	0	29	15	21	16	24	20	3	9	24	17	36	27	0	42	233
Specialist's Positions (No-Response)																
Rosters staffed 8-hours / 7-days per week	0	0	0	0	0	16	0	0	7	0	0	0	0	0	0	23
" " " " 8-hours / 5-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
" " " " 8-hours / 5-days per week	0	10	6	9	4	2	7	1	19	5	14	10	12	0	22	121
Activity statistics																Averages
Avg. person-hours per Priority-1 Calls	5.16	2.65	2.83	4.49	2.33	2.82	3.80	4.09	2.99	3.84	3.65	3.90	3.52	4.72	3.23	3.60
Avg. person-hours per Priority-2 Calls	1.93	2.09	2.25	2.52	2.18	2.13	2.33	2.28	2.27	2.31	2.63	2.43	2.65	2.17	2.45	2.31
Avg. person-hours for Other Calls	1.82	1.07	1.23	1.31	1.10	1.17	1.12	1.21	1.18	1.25	1.12	1.15	1.26	2.07	1.26	1.29
Avg. person-hours for Two-Officer Calls	1.93	2.09	2.25	2.52	2.18	2.13	2.33	2.28	2.27	2.31	2.63	2.43	2.65	2.17	2.45	
Avg. person-hours for Special Events	37.00	6.00	30.00	201.00	20.00	122.00	10.00	16.00	22.00	4.00	24.00	8.00	13.10	2.45	42.25	40.52
Avg. person-hours per call (including back-up units)	1.82	1.83	1.67	1.78	1.43	1.81	1.63	1.68	1.66	1.68	1.68	1.81	1.71	2.18	1.86	1.83
Avg% of calls handled by Specialists	0%	5%	0%	2%	2%	1%	1%	5%	2%	5%	2%	1%	15%	1%	4%	3%
Avg% of Time On Leave (vacation, holiday, sick, training, suspension)	25%	20%	21%	21%	24%	22%	21%	19%	21%	24%	21%	19%	20%	25%	20%	22%
Shift Length																Averages
Average Work Week (hours)	0	40	40	40	40	40	40	40	40	40	40	40	40	0	40	34.686667
Total number of days in the workload sample period (year)	0	366	366	366	366	366	366	366	366	366	366	366	366	0	366	317.2
Scheduled Overtime (Avg. hours per week / per officer)	0	2.68	2.16	0.8	3.21	1.0	6	0.2	4	2.4	1.2	3	3.25	0	1.49	2.848667
Agency Norms																Averages
Self-initiated preventive patrol (min. per hr. / per officer)	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
Administrative time (min. per hr. / per officer)	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Unrecoverable patrol time (min. per hr. / per officer)	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Percentage of time patrol units are staffed by two officers	0%	12%	7%	15%	0%	14%	10%	6%	12%	11%	10%	19%	10%	2%	15%	10%
Average number of officers to be supervised by each field supervisor	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Percentage of field supervisor on-duty time spent on patrol activities	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
Performance Objectives (Policy Decision)																Averages
Patrol Interval (hours), for arterial roadways (visibitly)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Patrol Interval (hours), for residential/service roadways (visibitly)	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Patrol Interval (hours), for Foot Patrol Beats (visibitly)	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0
Average Number of Directed Patrols per day	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Average Time for each Directed Patrol (min.)	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
Response time to Priority 1 calls (minutes)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Response time to Priority 2 calls (minutes)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Percent of time that there will be at least one officer available	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%
Immediate Availability Variables (Policy Decision)																Averages
Percentage of calls for service that cannot be preempted	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Percentage of administrative activities that cannot be preempted	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Percentage of self-initiated patrol activities that cannot be preempted	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
Additional Variables (Policy Decision)																Averages
Weights: (Total of all four weights must equal 100%)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Weight for patrol visibitly objective	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Weight for response time to priority 1 calls objective	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Weight for response time to priority 2 calls objective	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Weight for immediate availability to priority 1 calls objective	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Patrol Variables (Preetermined Avg of Not Demo Calls)																Averages
Average patrol speed (mph), arterial roadways	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85
Average patrol speed (mph), residential/service roadways	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55
Average walking speed for foot patrol in mph	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10
Average response speed (mph) for emergency activities	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13
Average response speed (mph) for non-emergency activities	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90
Total Number of Field Supervisors Needed:	0	39	21	21	12	26	58	46	26	28	28	42	26	0	51	426
Total Number of Designated Specialist Patrol Officers:	0	12	8	11	5	31	9	1	37	7	18	12	15	0	28	194
Total Number of Officers Needed:	0	262	140	137	79	153	338	322	147	188	178	285	168	0	329	2,785
Current:	0	199	108	110	60	135	263	282	148	143	136	193	147	0	250	2,174

Houston Police Department Operational Staffing Model

May 2014

Licensed To The Houston Police Department

POLICE PATROL ALLOCATION

Self-Initiated @ 15 minutes per hour; Visibility @ 8 Hours Arterial, 12 Hours Residential

** ENTER ALL VARIABLES AND AGENCY DATA IN THIS SECTION **																
Base Data	Arport	Central	Clear Lake	Eastside	Kingwood	Midwest	North	Northwest	Northwest	South Central	South Central	Southwest	Southwest	Special Ops	Westside	Totals
Area (square miles)	19.09	32.27	46.79	20.35	64.76	18.69	51.32	39.15	57.38	18.27	15.78	50.53	52.36	1.75	66.15	606.63
Annual Number of Priority-1 Dispatched Calls	50	3196	1796	1004	562	2400	4832	3635	2336	1774	2180	3834	2405	292	468.5	34779
Annual Number of Priority-2 Dispatched Calls	109.9	21166	9620	6770	2454	13851	25311	22165	10223	10605	8569	16971	10941	4428	2159.0	184372
Annual Number of Other Dispatched Calls	496.1	11236	40662	31676	13971	62355	121001	109716	69678	80513	80457	81051	57329	21008	1049.61	939107
Annual Number of Two-Officer Calls	0	12197	7804	5214	2308	10331	22206	2229.0	10809	10961	11170	17921	11200	0	2024.4	169264
Annual Number of Special Events	9	30	6	14	24	30	60	37	140	26	190	4	62	645	5	1338
Annual Calls-For-Service	811.8	148136	68887	46678	18309	88487	178410	167896	78694	83679	82828	118381	81887	28373	1619.62	1326881
Number of miles, arterial roadways	29.83	274.94	209.1	121.67	77.21	160.29	349.08	524.29	255.59	180.51	78.18	247.7	261.52	35.74	326.04527	3111.6953
Number of miles, residential/service roadways	36.44	497.48	351.52	205.15	355.68	183.28	876.66	750.97	296.48	289.98	170.56	512.8	484.76	37.25	463.98239	5194.9724
Foot Patrol Distance in Feet (1 city block = approx. 300 ft.)	35370	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35370
Specialists Positions (e.g. traffic)																
Poss staffed 24-hours / 7-days per week	0	3	2	2	3	0	18	3	0	2	4	5	0	0	0	42
- 24-hours / 6-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
- 24-hours / 5-days per week	0	1	0	0	0	0	0	3	0	0	0	0	0	0	0	4
- 12-hours / 7-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
- 12-hours / 6-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
- 12-hours / 5-days per week	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	3
- 10-hours / 7-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
- 10-hours / 6-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
- 10-hours / 5-days per week	0	0	0	0	0	0	20	1	0	0	0	0	0	0	0	21
- 8-hours / 7-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
- 8-hours / 6-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
- 8-hours / 5-days per week	0	29	15	21	16	24	20	3	7	24	17	36	27	0	42	283
Specialists Positions (Non-Response)																
Poss staffed 8-hours / 7-days per week	0	0	0	0	0	16	0	0	9	0	0	0	0	0	0	23
- 8-hours / 6-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
- 8-hours / 5-days per week	0	10	6	9	4	2	7	1	19	5	14	10	12	0	22	121
Activity Statistics																
Aug. person-hours per Priority-1 Calls	5.16	2.68	2.83	4.48	2.33	2.82	3.80	4.09	2.99	3.84	3.65	3.90	3.52	4.72	3.23	3.80
Aug. person-hours per Priority-2 Calls	1.93	2.09	2.25	2.82	2.18	2.13	2.33	2.28	2.27	2.31	2.63	2.43	2.65	2.17	2.45	2.31
Aug. person-hours for Other Calls	1.82	1.07	1.23	1.31	1.10	1.17	1.12	1.21	1.18	1.25	1.12	1.15	1.28	2.07	1.26	1.29
Aug. person-hours for Two-Officer Calls	1.93	2.09	2.25	2.82	2.18	2.13	2.33	2.28	2.27	2.31	2.63	2.43	2.65	2.17	2.45	2.31
Aug. person-hours for Special Events	37.00	6.00	30.00	201.00	20.00	122.00	10.00	16.00	22.00	4.00	24.00	8.00	13.10	2.45	42.25	40.52
Aug. person-hours per call (including back-up units)	1.92	1.83	1.67	1.78	1.48	1.61	1.63	1.68	1.66	1.68	1.69	1.81	1.71	2.18	1.86	1.83
% of calls handled by Specialists	0%	5%	0%	2%	2%	1%	1%	5%	2%	5%	2%	15%	1%	4%	3%	0%
% of Time On Leave (vacation, holiday, sick, training, suspension)	25%	20%	21%	21%	24%	22%	21%	19%	21%	24%	21%	19%	20%	25%	20%	22%
Shift Length																
Average Work Week (hours)	0	40	40	40	40	40	40	40	40	40	40	40	40	0	40	34.666667
Total number of days in the work load sample period (year)	0	366	366	366	366	366	366	366	366	366	366	366	366	0	366	317.2
Scheduled Overtime (Avg hours per week / per officer)	0	2	2.18	0.8	3.21	10	6	0.2	4	2.4	1.2	3	3.25	0	1.49	2.646667
Agency Norms																
Self-initiated/priority patrol (min. per hr. / per officer)	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
Administrative time (min. per hr. / per officer)	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Unrecoverable patrol time (min. per hr. / per officer)	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Percentage of time patrol units are staffed by two officers	0%	12%	7%	15%	0%	14%	10%	6%	12%	11%	10%	19%	10%	2%	15%	10%
Average number of officers to be supervised by each field supervisor	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Percentage of field supervisor on-duty time spent on patrol activities	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
Performance Objectives (Policy Decision)																
Patrol interval (hours), for arterial roadways (visibility)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Patrol interval (hours), for residential/service roadways (visibility)	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Patrol interval (hours), for Foot Patrol Beats (visibility)	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0
Average Number of Directed Patrols per day	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Average Time for each Directed Patrol (min.)	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
Response time to Priority 1 calls (minutes)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Response time to Priority 2 calls (minutes)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Percent of time that there will be at least one officer available	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%
Immediate Availability Variables (Policy Decision)																
Percentage of calls for services that cannot be pre-empted	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Percentage of administrative activities that cannot be pre-empted	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Percentage of self-initiated patrol activities that cannot be pre-empted	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
Additional Variables (Policy Decision)																
Weights (Total of all four weights must equal 100%)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Weight for patrol visibility objective	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Weight for response time to priority 1 calls objective	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Weight for response time to priority 2 calls objective	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Weight for immediate availability to priority 1 calls objective	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Patrol Variables (Predetermined Avg of Narr Demo Cities)																
Average patrol speed (mph), arterial roadways	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85
Average patrol speed (mph), residential/service roadways	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55
Average walking speed for foot patrol in mph	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10
Average response speed (mph) for emergency activities	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13
Average response speed (mph) for non-emergency activities	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90
Total Number of Field Supervisors Needed:	0	39	21	21	12	26	56	46	26	28	43	26	0	51	425	
Total Number of Designated Specialist Patrol Officers:	0	12	8	11	5	31	9	1	37	7	48	12	15	0	28	194
Total Number of Officers Needed:	0	262	139	137	80	153	397	320	146	188	179	285	168	0	328	2,783
Current:	0	199	108	110	60	135	263	282	148	143	136	193	147	0	250	2,174

Houston Police Department Operational Staffing Model

May 2014

Licensed To The Houston Police Department

POLICE PATROL ALLOCATION

Self-Initiated @ 20 minutes per hour; Visibility @ 8 Hours Arterial, 12 Hours Residential

** ENTER ALL VARIABLES AND AGENCY DATA IN THIS SECTION **																
Base Data	Aarport	Central	Clear Lake	Eastside	Kingwood	Midwest	North	Northwest	Northwest	South Central	South	Southwest	Southwest	Special Ops	Westside	Totals
Area / square miles	19.09	32.27	46.79	20.25	64.78	18.68	51.32	89.15	57.38	18.27	15.73	50.53	52.36	1.75	55.15	606.83
Annual Number of Priority-1 Dispatched Calls	50	3135	1795	1004	562	2400	4932	3635	2335	1774	2150	3834	2405	292	458.5	34779
Annual Number of Priority-2 Dispatched Calls	1098	21186	3820	6770	2454	13551	25311	22165	10223	10805	8589	16571	10941	4428	2158.0	184372
Annual Number of Other Dispatched Calls	4961	112538	40682	31878	19711	62355	121001	109718	58678	60213	60287	81051	57329	21008	104981	939107
Annual Number of Two-Officer Calls	0	12197	7804	6214	2308	10331	22208	22200	10608	10961	11170	17921	11230	0	2032.4	168054
Annual Number of Special Events	9	30	6	14	24	30	60	37	140	26	150	4	62	645	2	1339
Annual Calls-For-Service	6118	148136	68887	46878	19309	89497	173410	167896	79884	83679	82328	118381	81987	28373	161962	1326981
Number of miles, arterial roadways	29.83	274.94	209.1	121.67	77.21	190.29	349.08	524.29	235.59	160.51	78.18	247.7	261.52	35.74	328.04527	3111.6953
Number of miles, residential/service roadways	36.44	497.48	351.52	205.15	355.63	183.28	576.66	750.97	296.48	269.98	170.55	512.8	484.75	37.25	483.98239	5194.9724
Foot Patrol Distance, in feet (1 city block = approx. 300 ft.)	35370	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35370
Specialists Positions (e.g. traffic)																
* 24-hours / 7-days per week	0	3	2	2	3	0	18	3	0	2	4	5	0	0	0	42
* 24-hours / 6-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
* 24-hours / 5-days per week	0	1	0	0	0	0	0	3	0	0	0	0	0	0	0	4
* 12-hours / 7-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
* 12-hours / 6-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
* 12-hours / 5-days per week	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	3
* 10-hours / 7-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
* 10-hours / 6-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
* 10-hours / 5-days per week	0	0	0	0	0	0	20	1	0	0	0	0	0	0	0	21
* 8-hours / 7-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
* 8-hours / 6-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
* 8-hours / 5-days per week	0	29	15	21	16	24	20	3	9	24	17	36	27	0	42	283
Specialists Positions (Non-Response)																
* 8-hours / 7-days per week	0	0	0	0	0	16	0	0	7	0	0	0	0	0	0	23
* 8-hours / 6-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
* 8-hours / 5-days per week	0	10	6	9	4	2	7	1	19	5	14	10	12	0	22	121
Activity Statistics																Averages
Avg. person-hours per Priority-1 Calls	5.16	2.65	2.83	4.49	2.33	2.82	3.80	4.09	2.99	3.84	3.65	3.90	3.52	4.72	3.23	3.60
Avg. person-hours per Priority-2 Calls	1.93	2.09	2.25	2.52	2.18	2.13	2.33	2.28	2.27	2.31	2.63	2.43	2.65	2.17	2.45	2.31
Avg. person-hours for Other Calls	1.82	1.07	1.23	1.31	1.10	1.17	1.12	1.21	1.18	1.25	1.12	1.15	1.28	2.07	1.26	1.29
Avg. person-hours for Two-Officer Calls	1.93	2.09	2.25	2.52	2.18	2.13	2.33	2.28	2.27	2.31	2.63	2.43	2.65	2.17	2.45	
Avg. person-hours for Special Events	37.00	6.00	80.00	201.00	20.00	122.00	10.00	16.00	22.00	4.00	24.00	8.00	13.10	2.45	42.25	40.52
Avg. person-hours per call (including back-up units)	1.82	1.33	1.67	1.78	1.43	1.61	1.63	1.68	1.68	1.68	1.69	1.81	1.71	2.13	1.86	1.83
% of calls handled by Specialists	0%	5%	0%	2%	0%	1%	1%	1%	5%	2%	5%	2%	1%	1%	4%	3%
% of Time On Leave (vacation, holiday, sick, training, suspension)	25%	20%	21%	21%	24%	22%	21%	19%	21%	24%	21%	19%	20%	25%	20%	22%
Shift Length																Averages
Average Work Week (hours)	0	40	40	40	40	40	40	40	40	40	40	40	40	0	40	34.666667
Total number of days in the work back sample period (year)	0	366	366	366	366	366	366	366	366	366	366	366	366	0	366	317.2
Scheduled Overtime (Avg. hours per week / per officer)	0	2	2.18	0.8	3.21	1.0	6	0.2	4	2.4	1.2	3	3.25	0	1.49	2.6486667
Agency Norms																Averages
Self-initiated/preventive patrol (min. per hr. / per officer)	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
Administrative time (min. per hr. / per officer)	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Unrecoverable patrol time (min. per hr. / per officer)	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Percentage of time patrol units are staffed by two officers	0%	12%	7%	15%	0%	14%	10%	6%	12%	11%	10%	19%	10%	2%	15%	10%
Average number of officers to be supervised by each field supervisor	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Percentage of field supervisor (on-duty) time spent on patrol activities	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
Performance Objectives (Policy Decision)																Averages
Patrol Interval (hours), for arterial roadways (visibility)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Patrol Interval (hours), for residential/service roadways (visibility)	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Patrol Interval (hours), for Foot Patrol Beats (visibility)	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0
Average Number of Directed Patrols per day	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Average Time for each Directed Patrol (min.)	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
Response time to Priority 1 calls (minutes)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Response time to Priority 2 calls (minutes)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Percentage of time that there will be at least one officer available	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%
Immediate Availability Variables (Policy Decision)																Averages
Percentage of calls for service that cannot be pre-empted	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Percentage of administrative activities that cannot be pre-empted	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Percentage of self-initiated patrol activities that cannot be pre-empted	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
Additional Variables (Policy Decision)																Averages
Weights (Total of all four weights must equal 100%)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Weight for patrol visibility objective	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Weight for response time to priority 1 calls objective	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Weight for response time to priority 2 calls objective	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Weight for immediate availability to priority 1 calls objective	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Patrol Variables (Predetermined Avg of Next Days Calls)																Averages
Average patrol speed (mph), arterial roadways	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85
Average patrol speed (mph), residential/service roadways	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55
Average walking speed for foot patrol in mph	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10
Average response speed (mp/h) for emergency activities	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13
Average response speed (mp/h) for non-emergency activities	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90
Total Number of Field Supervisors Needed:	0	44	24	24	13	29	64	33	29	32	32	48	29	0	57	478
Total Number of Designated Specialist Patrol Officers:	0	12	8	11	5	31	9	1	37	7	18	12	15	0	28	194
Total Number of Officers Needed:	0	297	158	154	87	173	440	369	168	214	203	322	190	0	374	3,148
Current:	0	199	108	110	60	135	263	282	148	143	136	193	147	0	250	2,174

Houston Police Department Operational Staffing Model

May 2014

Self-Initiated Patrol @ 15 min/hr; Visibility Arterial Once an Hour; Residential Every 12 hrs.																
** ENTER ALL VARIABLES AND AGENCY DATA IN THIS SECTION **																
Base Data	Apport	Central	Clear Lake	Eastside	Kingwood	Midwest	North	Northwest	Northwest	South Central	South Central	Southwest	Southwest	Special Ops	Westside	Totals
Area (square miles)	1909	32.27	46.79	20.35	64.76	18.66	51.32	39.15	57.38	18.27	15.73	50.53	52.36	1.75	68.15	805.63
Annual Number of Priority-1 Dispatched Calls	80	3195	1795	1004	552	2400	4832	3635	2335	1774	2150	3834	2405	292	4565	34779
Annual Number of Priority-2 Dispatched Calls	1036	21166	3620	6770	2454	13851	25311	22165	10223	10605	8569	16571	10941	4428	21560	184372
Annual Number of Other Dispatched Calls	4961	112538	40682	31878	13971	62855	121001	109718	55676	80213	80287	81051	57329	21008	104951	939107
Annual Number of Two-Officer Calls	0	12197	7804	624	2308	10331	22026	22290	10608	10561	11170	17921	11230	0	20824	166064
Annual Number of Special Events	9	80	6	14	24	30	50	37	140	25	150	4	62	648	2	1339
Annual Calls-For-Service	8118	149105	68887	46878	18909	88487	173410	167386	78994	88679	82328	118381	81987	28373	161962	1426981
Number of miles, arterial roadways	29.83	274.94	209.1	121.57	77.21	180.29	348.08	524.29	255.59	190.51	78.18	247.7	281.52	36.74	326.04527	3111.6995
Number of miles, residential/service roadways	36.44	497.48	351.82	205.15	355.63	183.28	578.66	790.97	298.48	289.98	170.85	512.8	484.75	37.26	463.86235	5194.9754
Foot Patrol distance in feet (1 city block = approx. 300 ft.)	35370	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35370
Specialists Positions (e.g. traffic)																
Posts staffed 24-hours / 7-days per week	0	3	2	2	3	0	18	3	0	2	4	5	0	0	0	42
Posts staffed 24-hours / 5-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Posts staffed 12-hours / 5-days per week	0	1	0	0	0	0	0	3	0	0	0	0	0	0	0	4
Posts staffed 12-hours / 7-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Posts staffed 12-hours / 6-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Posts staffed 10-hours / 7-days per week	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	3
Posts staffed 10-hours / 6-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Posts staffed 10-hours / 5-days per week	0	0	0	0	0	0	20	1	0	0	0	0	0	0	0	21
Posts staffed 8-hours / 7-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Posts staffed 8-hours / 6-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Posts staffed 8-hours / 5-days per week	0	29	15	21	16	24	20	3	9	24	17	36	27	0	42	283
Specialists Positions (Non-Response)																
Posts staffed 8-hours / 7-days per week	0	0	0	0	0	16	0	0	7	0	0	0	0	0	0	23
Posts staffed 8-hours / 6-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Posts staffed 8-hours / 5-days per week	0	10	6	9	4	2	7	1	19	5	14	10	12	0	22	121
Activity Statistics																
Avg. person-hours per Priority-1 Call	5.16	2.65	2.35	4.49	2.33	2.82	3.80	4.09	2.99	3.84	3.65	3.90	3.52	4.72	3.23	Averages
Avg. person-hours per Priority-2 Call	1.93	2.09	2.25	2.52	2.18	2.13	2.33	2.28	2.27	2.31	2.63	2.43	2.85	2.17	2.45	2.31
Avg. person-hours for Other Calls	1.82	1.07	1.23	1.31	1.10	1.17	1.12	1.21	1.18	1.25	1.12	1.15	1.26	2.07	1.26	1.29
Avg. person-hours for Two-Officer Calls	1.93	2.09	2.25	2.52	2.18	2.13	2.33	2.28	2.27	2.31	2.63	2.43	2.85	2.17	2.45	
Avg. person-hours for Special Events	37.00	6.00	30.00	201.00	20.00	122.00	10.00	16.00	22.00	4.00	24.00	8.00	13.10	2.45	42.25	40.52
Avg. person-hours per call (including back-up units)	1.82	1.33	1.67	1.78	1.43	1.61	1.63	1.63	1.66	1.68	1.69	1.81	1.71	2.13	1.86	1.83
% of calls handled by Specialists	0%	5%	0%	2%	2%	1%	1%	1%	5%	2%	5%	2%	15%	1%	4%	3%
% of Time On Leave (vacation, holiday, sick training, suspension)	25%	20%	21%	21%	24%	22%	21%	19%	21%	24%	21%	19%	20%	25%	20%	22%
Shift Length																
Average Work Week (hours)	0	40	40	40	40	40	40	40	40	40	40	40	40	0	40	Averages
Total number of days in the workload sample period (year)	0	366	366	366	366	366	366	366	366	366	366	366	366	0	366	317.2
Scheduled Overtime (Avg. hours per week / per officer)	0	2	2.18	0.8	3.21	10	6	0.2	4	2.4	1.2	3	3.25	0	1.49	2.6486667
Agency Norms																
Self-initiated/preventive patrol (min. per hr. / per officer)	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	Averages
Administrative time (min. per hr. / per officer)	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	15
Unrecoverable patrol time (min. per hr. / per officer)	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Percentage of time patrol units are staffed by two officers	0%	12%	7%	15%	0%	14%	10%	6%	12%	11%	10%	19%	10%	2%	15%	10%
Average number of officers to be supervised by each field supervisor	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Percentage of field supervisor on-duty time spent on patrol activities	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
Performance Objectives (Policy Declared)																
Patrol Interval (hours), for arterial roadways (visibility)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	Averages
Patrol Interval (hours), for residential/service roadways (visibility)	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Patrol Interval (hours), for Foot Patrol Beats (visibility)	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0
Average Number of Directed Patrols per day	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Average Time for each Directed Patrol (min.)	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
Response time to Priority 1 calls (minutes)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Response time to Priority 2 calls (minutes)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Percent of time that there will be at least one officer available	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%
Immediate Availability Variables (Policy Declared)																
Percentage of calls for service that cannot be preempted	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Percentage of administrative activities that cannot be preempted	5%	5%	9%	5%	5%	9%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Percentage of self-initiated directed patrol activities that cannot be preempted	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
Additional Variables (Policy Declared)																
Weights: (Total of all four weights must equal 100%)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Weight for patrol visibility objective	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Weight for response time to priority 1 calls objective	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Weight for response time to priority 2 calls objective	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Weight for immediate availability to priority 1 calls objective	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Patrol Variables (Predetermined Avg of Nat'l Demo Cities)																
Average patrol speed (mph), arterial roadways	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85
Average patrol speed (mph), residential/service roadways	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55
Average walking speed for foot patrol in mph	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10
Average response speed (mph) for emergency activities	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13
Average response speed (mph) for non-emergency activities	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90
Total Number of Field Supervisors Needed:	0	42	23	23	13	28	62	52	29	30	29	45	29	0	55	459
Total Number of Designated Specialist Patrol Officers:	0	12	8	11	5	31	9	1	37	7	18	12	15	0	28	194
Total Number of Officers Needed:	0	284	155	147	85	163	422	361	165	201	185	305	187	0	355	3,016
Current:	0	199	108	110	60	135	263	282	148	143	136	193	147	0	250	2,174

Houston Police Department Operational Staffing Model

May 2014

Increase Preventive Patrol from 10 to 20 Minutes Per Hr; Visibility Art. at 4, Res. at 24 Hrs.																
** ENTER ALL VARIABLES AND AGENCY DATA IN THIS SECTION **																
Base Data	Airport	Central	Clear Lake	Eastside	Kingsroad	Midwest	North	Northwest	Northwest	South Central	South Galleria	Southwest	Southwest	Special Ops	Westside	T Totals
Area (square miles)	19.09	32.27	46.79	20.35	64.76	18.68	51.32	39.15	57.38	18.27	15.75	50.83	82.36	1.75	68.15	806.63
Annual Number of Priority-1 Dispatched Calls	30	3196	1795	1004	552	2400	4832	3635	2335	1774	2150	3834	2405	292	4585	34779
Annual Number of Priority-2 Dispatched Calls	1036	21166	8520	8770	2454	13851	25211	22165	10223	10505	8569	16571	10941	4428	21580	184372
Annual Number of Other Dispatched Calls	4961	112538	40582	31878	13971	62355	121001	109718	56676	60213	60267	81061	57329	21028	104861	893107
Annual Number of Two-Officer Calls	0	12197	7804	6214	2308	10331	22206	22290	10808	10951	11170	17921	11230	0	20224	166054
Annual Number of Special Bents	9	30	6	14	24	20	60	87	140	25	150	4	52	645	2	1339
Annual Calls-For-Service	8118	149106	68887	46878	18809	88487	173410	167896	78994	88678	82328	118881	81687	28378	151962	1826881
Number of miles - arterial roadways	298.3	274.94	209.1	121.67	77.21	180.29	348.08	524.23	255.59	180.51	78.18	247.7	261.52	35.74	326.04527	3111.6953
Number of miles - residential/service roadways	36.44	487.48	351.82	205.15	355.63	183.28	578.66	750.97	298.48	289.98	170.56	512.8	484.75	37.25	463.86259	5194.9724
Foot Patrol/Station in feet (1 city block = approx. 300 ft.)	35370	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35370
Specialists Positions (e.g. Traffic)																
Roads staffed 24-hours / 7-days per week	0	3	2	2	3	0	18	3	0	2	4	5	0	0	0	42
" " 24-hours / 6-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
" " 24-hours / 5-days per week	0	1	0	0	0	0	0	3	0	0	0	0	0	0	0	4
" " 12-hours / 7-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
" " 12-hours / 6-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
" " 12-hours / 5-days per week	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	3
" " 10-hours / 7-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
" " 10-hours / 6-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
" " 10-hours / 5-days per week	0	0	0	0	0	0	20	1	0	0	0	0	0	0	0	21
" " 8-hours / 7-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
" " 8-hours / 6-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
" " 8-hours / 5-days per week	0	29	15	21	16	24	20	3	9	24	17	26	27	0	42	283
Specialists Positions (Non-Response)																
Roads staffed 3-hours / 7-days per week	0	0	0	0	0	16	0	0	7	0	0	0	0	0	0	23
" " 3-hours / 6-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
" " 3-hours / 5-days per week	0	10	6	9	4	2	7	1	19	5	14	10	12	0	22	121
Activity Statistics																Averages
Avg. person-hours per Priority-1 Calls	5.16	2.85	2.83	4.49	2.33	2.82	3.80	4.09	2.99	3.84	3.65	3.90	3.52	4.72	3.23	3.60
Avg. person-hours per Priority-2 Calls	1.92	2.09	2.28	2.52	2.18	2.13	2.33	2.28	2.27	2.31	2.63	2.48	2.65	2.17	2.45	2.31
Avg. person-hours for Other Calls	1.82	1.07	1.23	1.31	1.10	1.17	1.12	1.21	1.18	1.25	1.12	1.15	1.26	2.07	1.28	1.29
Avg. person-hours for Two-Officer Calls	1.93	2.09	2.25	2.52	2.18	2.13	2.33	2.28	2.27	2.31	2.63	2.43	2.65	2.17	2.45	
Avg. person-hours for Special Bents	37.00	6.00	80.00	201.00	20.00	122.00	10.00	16.00	22.00	4.00	24.00	3.00	13.10	2.45	42.25	40.52
Avg. person-hours per call (including back-up units)	1.82	1.33	1.67	1.78	1.43	1.61	1.63	1.68	1.66	1.68	1.69	1.81	1.71	2.13	1.88	1.83
Avg % of calls handled by Specialists	0%	5%	0%	2%	1%	1%	1%	5%	2%	5%	2%	15%	1%	4%	3%	
Avg % of Time On Leave (vacation, holiday, sick, training, suspension)	25%	20%	21%	21%	24%	22%	21%	19%	21%	24%	21%	19%	20%	29%	20%	22%
Shift Length																Averages
Average Work Week (hours)	0	40	40	40	40	40	40	40	40	40	40	40	40	0	40	34.696687
Total number of days in the workweek sample period (year)	0	366	366	366	366	366	366	366	366	366	366	366	366	0	366	317.2
Scheduled Overtime (Avg. hours per week / per officer)	0	2	2.18	0.8	3.21	10	6	0.2	4	2.4	1.2	3	3.25	0	1.49	2.9496687
Agency Norms																Averages
Self-initiated preventive patrol (min. per hr. / per officer)	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
Administrative time (min. per hr. / per officer)	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Unrecoverable patrol time (min. per hr. / per officer)	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Percentage of time patrol units are staffed by two officers	0%	12%	7%	15%	0%	14%	10%	6%	12%	11%	10%	19%	10%	2%	15%	10%
Average number of officers to be supervised by each field supervisor	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Percentage of field supervisor on-duty time spent on patrol activities	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
Performance Objectives (Policy Decision)																Averages
Patrol Interval (hours) - for arterial roadways (visibility)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Patrol Interval (hours) - for residential/service roadways (visibility)	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Patrol Interval (hours) - for Foot Patrol Beats (visibility)	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0
Average Number of Directed Patrols per day	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Average Time for each Directed Patrol (min.)	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
Response time to Priority 1 calls (minutes)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Response time to Priority 2 calls (minutes)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Percent of time that there will be at least one officer available	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%
Immediate Availability Variables (Policy Decision)																Averages
Percentage of calls for service that cannot be preempted	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Percentage of administrative activities that cannot be preempted	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Percentage of self-initiated patrol activities that cannot be preempted	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
Additional Variables (Policy Decision)																Averages
Weights: (Total of all four weights must equal 100%)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Weight for patrol visibility objective	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Weight for response time to priority 1 calls objective	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Weight for response time to priority 2 calls objective	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Weight for immediate availability to priority 1 calls objective	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Patrol Variables (Predetermined Avg. of Nat'l Demo Cities)																Averages
Average patrol speed (mph) - arterial roadways	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85
Average patrol speed (mph) - residential/service roadways	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55
Average walking speed for foot patrol in mph	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10
Average response speed (mph) for emergency activities	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13
Average response speed (mph) for non-emergency activities	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90
Total Number of Field Supervisors Needed:	0	44	24	24	13	29	64	53	29	32	48	29	0	58	478	
Total Number of Designated Specialist Patrol Officers:	0	12	8	11	5	31	5	1	37	7	18	12	15	0	28	194
Total Number of Officers Needed:	0	297	158	154	86	174	440	370	169	214	203	321	190	0	375	3,152
Current:	0	199	108	110	60	135	263	282	148	143	136	193	147	0	250	2,174

Houston Police Department Operational Staffing Model

May 2014

Self-Initiated Patrol 20 Minutes Per Hr, Visibility on Arterial at 1 /hr, Res. at 24 hrs.																
** ENTER ALL VARIABLES AND AGENCY DATA IN THIS SECTION **																
Base Data	Appt	Central	Clear Lake	Eastside	Kingsroad	Midwest	North	Northwest	Northwest	South Central	South Galleria	Southwest	Southwest	Special Ops	Westside	Totals
Area (square miles)	19.09	32.27	46.79	20.38	64.76	18.68	51.32	39.15	57.38	18.27	15.73	50.53	52.36	1.75	68.18	605.63
Annual Number of Priority-1 Dispatched Calls	30	2196	1795	1004	552	2400	4832	3635	2335	1774	2150	3834	2405	292	4885	34779
Annual Number of Priority-2 Dispatched Calls	1036	21185	3620	6770	2454	13581	25311	22165	10223	10805	8589	16671	10941	4423	21500	184372
Annual Number of Other Dispatched Calls	4991	112536	40962	31878	13971	62336	121001	109718	56678	80213	60297	81051	87329	21008	104961	899107
Annual Number of Two-Officer Calls	0	12197	7804	6214	2308	10331	22208	22290	10608	10961	11170	17921	11230	0	20824	166084
Annual Number of Special Birets	9	80	6	14	24	30	60	37	140	26	150	4	62	645	2	1339
Annual Calls-For-Service	8118	149135	68887	46878	19499	88487	173410	167395	78984	88679	82328	118381	81987	28378	161662	1226981
Number of miles, arterial roadways	29.83	274.94	209.1	121.67	77.21	180.29	348.08	524.29	255.59	190.51	78.18	247.7	261.52	35.74	326.04527	3111.6985
Number of miles, residential/service roadways	36.44	487.48	351.82	205.15	355.68	133.28	578.86	750.97	298.48	289.98	170.85	512.8	484.75	37.26	483.96239	5194.9724
Foot Patrol distance in feet (1 city block = approx. 300 ft.)	35370	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35370
Specialists Positions (e.g. Traffic)																
Roadstafes 24-hours / 7-days per week	0	3	2	2	3	0	18	3	0	2	4	5	0	0	0	42
" " 24-hours / 6-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
" " 24-hours / 5-days per week	0	1	0	0	0	0	0	3	0	0	0	0	0	0	0	4
" " 12-hours / 7-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
" " 12-hours / 6-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
" " 10-hours / 7-days per week	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	3
" " 10-hours / 6-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
" " 10-hours / 5-days per week	0	0	0	0	0	0	20	1	0	0	0	0	0	0	0	21
" " 8-hours / 7-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
" " 8-hours / 6-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
" " 8-hours / 5-days per week	0	29	15	21	16	24	20	3	9	24	17	36	27	0	42	283
Specialists Positions (No-Response)																
Roadstafes 8-hours / 7-days per week	0	0	0	0	0	16	0	0	7	0	0	0	0	0	0	23
" " 8-hours / 6-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
" " 8-hours / 5-days per week	0	10	6	9	4	2	7	1	19	5	14	10	12	0	22	121
Activity Statistics																Averages
Avg. person-hours per Priority-1 Calls	5.16	2.65	2.83	4.49	2.33	2.82	3.80	4.09	2.99	3.84	3.65	3.90	3.52	4.72	3.23	3.80
Avg. person-hours per Priority-2 Calls	1.93	2.09	2.28	2.52	2.18	2.13	2.33	2.28	2.27	2.31	2.83	2.43	2.65	2.17	2.45	2.31
Avg. person-hours for Other Calls	1.82	1.07	1.23	1.31	1.10	1.17	1.12	1.21	1.18	1.25	1.12	1.15	1.26	2.07	1.26	1.29
Avg. person-hours for Two-Officer Calls	1.93	2.09	2.28	2.52	2.18	2.13	2.33	2.28	2.27	2.31	2.83	2.43	2.65	2.17	2.45	2.31
Avg. person-hours for Special Birets	37.00	6.00	80.00	201.00	20.00	122.00	10.00	16.00	22.00	4.00	24.00	8.00	13.10	2.45	42.25	40.52
Avg. person-hours per call (including back-up units)	1.82	1.33	1.67	1.78	1.43	1.61	1.63	1.68	1.66	1.68	1.68	1.81	1.71	2.13	1.86	1.83
% of calls handled by Specialists	0%	5%	0%	2%	1%	1%	1%	5%	2%	5%	2%	15%	1%	4%	3%	
% of Time On Leave (vacation, holiday, sick, training, suspension)	25%	20%	21%	21%	24%	22%	21%	19%	21%	24%	21%	19%	20%	29%	20%	22%
Shift Length																Averages
Average Work Week (hours)	0	40	40	40	40	40	40	40	40	40	40	40	40	0	40	34.666667
Total number of days in the workload sample period (year)	0	366	366	366	366	366	366	366	366	366	366	366	366	0	366	317.2
Scheduled Overtime (Avg. hours per week / per officer)	0	2	2.18	0.8	3.21	10	6	0.2	4	2.4	1.2	3	3.25	0	1.49	2.6466667
Agency Norms																Averages
Self-initiated preventive patrol (min. per hr. / per officer)	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
Administrative time (min. per hr. / per officer)	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Unrecoverable patrol time (min. per hr. / per officer)	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Percentage of time patrol units are staffed by two officers	0%	12%	7%	15%	0%	14%	10%	6%	12%	11%	10%	15%	10%	2%	15%	10%
Average number of officers to be supervised by each field supervisor	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Percentage of field supervisor on-duty time spent on patrol activities	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
Performance Objectives (Policy Decision)																Averages
Patrol Interval (hours), for arterial roadways (visibility)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Patrol Interval (hours), for residential/service roadways (visibility)	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Patrol Interval (hours), for Foot Patrol Beats (visibility)	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0
Average Number of Directed Patrols per day	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Average Time for each Directed Patrol (min.)	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
Response time to Priority 1 calls (minutes)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Response time to Priority 2 calls (minutes)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Percent of time that there will be at least one officer available	93%	93%	93%	93%	93%	93%	93%	93%	93%	93%	93%	93%	93%	93%	93%	93%
Immediate Availability Variables (Policy Decision)																Averages
Percentage of calls for service that cannot be preempted	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Percentage of administrative activities that cannot be preempted	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Percentage of self-initiated patrol activities that cannot be preempted	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
Additional Variables (Policy Decision)																Averages
Weights (Total of all four weights must equal 100%)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Weight for patrol visibility objective	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Weight for response time to priority 1 calls objective	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Weight for response time to priority 2 calls objective	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Weight for immediate availability to priority 1 calls objective	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Patrol Variables (Predetermined Avg of Nat'l Demo Cities)																Averages
Average patrol speed (mph), arterial roadways	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85
Average patrol speed (mph), residential/service roadways	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55
Average walking speed for foot patrol in mph	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10
Average response speed (mph) for emergency activities	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13
Average response speed (mph) for non-emergency activities	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90
Total Number of Field Supervisors Needed:	0	47	26	25	14	31	68	59	32	33	32	50	32	0	61	511
Total Number of Designated Specialist Patrol Officers:	0	12	8	11	5	31	9	1	37	7	18	12	15	0	28	194
Total Number of Officers Needed:	0	318	174	164	91	184	464	411	189	227	209	341	210	0	402	3,384
Current:	0	199	108	110	60	135	283	282	148	143	136	193	147	0	250	2,174

Houston Police Department Operational Staffing Model

May 2014

Self-Initiated Patrol 20 Minutes Per Hr; Visibility on Arterial at 8 hrs, Res. at 72 hrs.

** ENTER ALL VARIABLES AND AGENCY DATA IN THE SECTION **																
Base Data	Appt	Central	Clear Lake	Eastside	Kingswood	Midwest	North	Northwest	Northwest	South Central	South Central	Southwest	Southwest	Special Ops	Westside	Totals
Area (square miles)	19.09	32.27	46.79	20.35	64.76	18.68	51.32	89.15	57.38	15.27	15.75	50.83	52.36	1.75	68.15	806.63
Annual Number of Priority-1 Dispatched Calls	90	3195	1795	1004	552	2400	4832	3635	2335	1774	2150	3834	2405	292	4585	24779
Annual Number of Priority-2 Dispatched Calls	1036	21166	8620	6770	2454	13351	25111	22165	10220	10505	3569	16571	10941	4423	21580	164372
Annual Number of Other Dispatched Calls	4981	112538	40892	31876	13971	62355	121001	109718	56678	60213	80287	81051	57329	21008	104951	839107
Annual Number of Two-Officer Calls	0	12197	7804	6214	2308	10331	22205	22290	10508	10951	11170	17921	11230	0	20324	165054
Annual Number of Special Birets	9	80	6	14	24	30	87	140	25	150	4	52	645	2	1339	
Annual Calls-For-Service	8118	149105	68887	46878	19809	86487	179410	167886	79884	88678	82328	119381	81987	26373	151962	1826881
Number of miles: arterial roadways	29.63	274.94	209.1	121.87	77.21	160.29	348.03	524.29	255.89	180.51	78.18	247.7	261.52	35.74	326.04527	3111.6383
Number of miles: residential/service roadways	36.44	487.48	351.52	205.15	355.68	183.28	576.66	750.97	298.48	288.58	170.55	512.8	484.75	37.25	483.96239	5194.9724
Foot Patrol distance in feet (1 city block = approx. 300 ft.)	35370	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35370
Specialist Positions (e.g. traffic)																
Posts staffed 24-hours / 7-days per week	0	3	2	2	3	0	18	3	0	2	4	5	0	0	0	42
" " 24-hours / 6-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
" " 24-hours / 5-days per week	0	1	0	0	0	0	0	3	0	0	0	0	0	0	0	4
" " 12-hours / 7-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
" " 12-hours / 6-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
" " 12-hours / 5-days per week	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	3
" " 10-hours / 7-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
" " 10-hours / 6-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
" " 10-hours / 5-days per week	0	0	0	0	0	0	20	1	0	0	0	0	0	0	0	21
" " 8-hours / 7-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
" " 8-hours / 6-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
" " 8-hours / 5-days per week	0	29	15	21	16	24	20	3	9	24	17	36	27	0	42	283
Specialist Positions (Non-Response)																
Posts staffed 8-hours / 7-days per week	0	0	0	0	0	16	0	0	7	0	0	0	0	0	0	23
" " 8-hours / 6-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
" " 8-hours / 5-days per week	0	10	6	9	4	2	7	1	19	5	14	10	12	0	22	121
Activity Statistics																Averages
Avg. person-hours per Priority-1 Calls	5.16	2.65	2.83	4.49	2.33	2.82	3.80	4.09	2.99	3.84	3.65	3.90	3.52	4.72	3.23	3.60
Avg. person-hours per Priority-2 Calls	1.90	2.09	2.25	2.52	2.18	2.13	2.33	2.26	2.27	2.31	2.63	2.43	2.65	2.17	2.45	2.31
Avg. person-hours for Other Calls	1.82	1.07	1.23	1.31	1.10	1.17	1.12	1.21	1.13	1.25	1.12	1.15	1.26	2.07	1.28	1.29
Avg. person-hours for Two-Officer Calls	1.93	2.09	2.25	2.52	2.18	2.13	2.33	2.26	2.27	2.31	2.63	2.43	2.65	2.17	2.45	
Avg. person-hours for Special Birets	37.00	6.00	80.00	201.00	20.00	122.00	10.00	16.00	22.00	4.00	24.00	3.00	13.10	2.45	42.25	40.52
Avg. person-hours per call (including back-up units)	1.82	1.33	1.67	1.73	1.43	1.61	1.63	1.68	1.66	1.68	1.69	1.81	1.71	2.18	1.86	1.83
Avg% of calls handled by Specialists	0%	5%	0%	2%	1%	1%	1%	5%	2%	5%	2%	15%	1%	4%	3%	
Avg% of Time On Leave (vacation, holiday, sick, training, suspension)	25%	20%	21%	21%	24%	22%	21%	19%	21%	24%	21%	19%	20%	25%	20%	22%
Shift Length																Averages
Average Work Week (hours)	0	40	40	40	40	40	40	40	40	40	40	40	40	0	40	34.66667
Total number of days in the workload sample period (year)	0	366	366	366	366	366	366	366	366	366	366	366	366	0	366	317.2
Scheduled Overtime (Avg. hours per week / per officer)	0	2	2.18	0.8	3.21	1.0	6	0.2	4	2.4	1.2	3	3.25	0	1.49	2.846667
Agency Norms																Averages
Self-initiated/preventive patrol (min. per hr. / per officer)	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
Administrative time (min. per hr. / per officer)	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Unrecoverable patrol time (min. per hr. / per officer)	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Percentage of time patrol units are staffed by two officers	0%	12%	7%	15%	0%	14%	10%	6%	12%	11%	10%	19%	10%	2%	15%	10%
Average number of officers to be supervised by each field supervisor	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Percentage of field supervisor on-duty time spent on patrol activities	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
Performance Objectives (Policy Declared)																Averages
Patrol Interval (hours) for arterial roadways (visibility)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Patrol Interval (hours) for residential/service roadways (visibility)	72.0	72.0	72.0	72.0	72.0	72.0	72.0	72.0	72.0	72.0	72.0	72.0	72.0	72.0	72.0	72.0
Patrol Interval (hours) for Foot Patrol Beats (visibility)	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0
Average Number of Directed Patrols per day	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Average Time for each Directed Patrol (min.)	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
Response time to Priority 1 calls (minutes)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Response time to Priority 2 calls (minutes)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Percent of time that there will be at least one officer available	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%
Immediate Availability Variables (Policy Declared)																Averages
Percentage of calls for service that cannot be preempted	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Percentage of administrative activities that cannot be preempted	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Percentage of self-initiated patrol activities that cannot be preempted	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
Additional Variables (Policy Declared)																Averages
Weights: (Total of all four weights must equal 100%)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Weight for patrol visibility objective	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Weight for response time to priority 1 calls objective	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Weight for response time to priority 2 calls objective	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Weight for immediate availability to priority 1 calls objective	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Patrol Variables (Predetermined Avg of Net1 Demo Cities)																Averages
Average patrol speed (mph) - arterial roadways	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85
Average patrol speed (mph) - residential/service roadways	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55
Average walking speed for foot patrol in mph	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10
Average response speed (mph) for emergency activities	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13
Average response speed (mph) for non-emergency activities	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90
Total Number of Field Supervisors Needed:	0	43	23	23	13	29	63	52	29	31	47	29	0	57	469	
Total Number of Designated Specialist Patrol Officers:	0	12	8	11	5	31	5	1	37	7	18	12	15	0	28	194
Total Number of Officers Needed:	0	291	154	151	84	171	434	360	165	211	201	315	185	0	368	3,089
Current:	0	199	108	110	60	135	263	282	148	143	136	193	147	0	250	2,174

Houston Police Department Operational Staffing Model

May 2014

Increase Response Time to Priority 2 Calls-for-Service from 10 to 15 Minutes																
** ENTER ALL VARIABLES AND AGENCY DATA IN THIS SECTION **																
Base Data	Airport	Central	Clear Lake	Eastside	Kingswood	Midwest	North	Northwest	Northwest	South Central	South Clearwater	Southwest	Southwest	Special Ops	Westside	T Totals
Area (square miles)	19.09	32.27	46.79	20.35	64.76	18.68	51.32	39.15	57.38	18.27	15.78	50.53	52.38	1.75	68.15	906.63
Annual Number of Priority-1 Dispatched Calls	80	3136	1795	1004	552	2400	4832	3635	2336	1774	2150	3834	2405	292	4865	34779
Annual Number of Priority-2 Dispatched Calls	1098	21186	3620	6770	2454	13881	25311	22165	10223	10505	8569	16571	10941	4428	21580	184372
Annual Number of Other Dispatched Calls	4961	112336	40662	31976	13971	62355	121001	109718	56676	60213	60287	81051	87329	21008	104961	939107
Annual Number of Two-Officer Calls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Annual Number of Special Events	9	80	6	14	24	30	60	87	140	36	150	4	62	645	2	1339
Annual Calls-For-Service	8118	188938	61030	38964	17001	78138	161204	136906	88678	72818	71168	101480	70737	28578	131128	1168697
Number of miles, arterial roadways	23.83	274.94	209.1	121.67	77.21	160.29	348.08	524.29	255.59	180.51	78.15	247.7	261.52	35.74	326.04627	3111.6963
Number of miles, residential/service roadways	36.44	497.43	351.92	205.15	355.83	183.26	578.66	790.97	298.48	289.98	170.55	512.8	484.75	37.25	483.96239	5194.9724
Foot Patrol distance in feet (1 city block = approx. 500 ft.)	35370	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35370
Specialists Positions (e.g. traffic)																
Poses staffed 24-hours / 7-days per week	0	3	2	2	3	0	18	3	0	2	4	5	0	0	0	42
" " 24-hours / 6-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
" " 24-hours / 5-days per week	0	1	0	0	0	0	0	3	0	0	0	0	0	0	0	4
" " 12-hours / 7-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
" " 12-hours / 6-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
" " 12-hours / 5-days per week	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	3
" " 10-hours / 7-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
" " 10-hours / 6-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
" " 10-hours / 5-days per week	0	0	0	0	0	0	20	1	0	0	0	0	0	0	0	21
" " 8-hours / 7-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
" " 8-hours / 6-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
" " 8-hours / 5-days per week	0	29	15	21	16	24	20	3	9	24	17	36	27	0	42	283
Specialists Positions (Non-Response)																
Poses staffed 8-hours / 7-days per week	0	0	0	0	0	16	0	0	7	0	0	0	0	0	0	23
" " 8-hours / 6-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
" " 8-hours / 5-days per week	0	10	6	9	4	2	7	1	19	5	14	10	12	0	22	121
Activity Statistics																Averages
Avg. person-hours per Priority-1 Calls	5.16	2.85	2.83	4.49	2.33	2.82	3.80	4.09	2.99	3.84	3.85	3.90	3.52	4.72	3.23	3.80
Avg. person-hours per Priority-2 Calls	1.95	2.09	2.25	2.82	2.18	2.13	2.33	2.26	2.27	2.31	2.63	2.43	2.65	2.17	2.45	2.31
Avg. person-hours for Other Calls	1.82	1.07	1.23	1.31	1.10	1.17	1.12	1.21	1.18	1.25	1.12	1.15	1.26	2.07	1.28	1.29
Avg. person-hours for Two-Officer Calls	1.95	2.09	2.25	2.82	2.18	2.13	2.33	2.26	2.27	2.31	2.63	2.43	2.65	2.17	2.45	
Avg. person-hours for Special Events	37.00	6.00	80.00	201.00	20.00	122.00	10.00	16.00	22.00	4.00	24.00	8.00	13.10	2.45	42.25	40.52
Avg. person-hours per call (including back-up units)	1.82	1.27	1.47	1.87	1.32	1.48	1.41	1.47	1.44	1.47	1.43	1.46	1.68	2.13	1.63	1.63
Avg% of calls handled by Specialists	0%	5%	0%	2%	2%	1%	1%	1%	5%	2%	5%	2%	15%	1%	4%	3%
Avg% of Time On Leave (vacation, holiday, sick, training, suspension)	25%	20%	21%	21%	24%	22%	21%	19%	21%	24%	21%	19%	20%	25%	20%	22%
Shift Length																Averages
Average Work Week (hours)	0	40	40	40	40	40	40	40	40	40	40	40	40	0	40	3466667
Total number of days in the workload sample period (year)	0	366	366	366	366	366	366	366	366	366	366	366	366	0	366	317.2
Scheduled Overtime (Avg. hours per week / per officer)	0	2	2.18	0.8	3.21	10	6	0.2	4	2.4	1.2	3	3.25	0	1.49	2.646667
Agency Norms																Averages
Self-initiated/preemptive patrol (min. per hr. / per officer)	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Administrative time (min. per hr. / per officer)	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Unrecoverable patrol time (min. per hr. / per officer)	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Percentage of time patrol units are staffed by two officers	0%	12%	7%	15%	0%	14%	10%	6%	12%	11%	10%	19%	10%	2%	15%	10%
Average number of officers to be supervised by each field supervisor	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Percentage of field supervisor on-duty time spent on patrol activities	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
Performance Objectives (Policy Decision)																Averages
Patrol Interval (hours), for arterial roadways (visibility)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Patrol Interval (hours), for residential/service roadways (visibility)	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Patrol Interval (hours), for Foot Patrol Beats (visibility)	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0
Average Number of Directed Patrols per day	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Average Time for each Directed Patrol (min.)	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
Response time to Priority 1 calls (minutes)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Response time to Priority 2 calls (minutes)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Percent of time that there will be at least one officer available	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%
Immediate Availability Variables (Policy Decision)																Averages
Percentage of calls for service that cannot be preempted	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Percentage of administrative activities that cannot be preempted	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Percentage of self-initiated patrol activities that cannot be preempted	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
Additional Variables (Policy Decision)																Averages
Weights: (Total of all four weights must equal 100%)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Weight for patrol visibility objective	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Weight for response time to priority 1 calls objective	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Weight for response time to priority 2 calls objective	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Weight for immediate availability to priority 1 calls objective	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Patrol Variables (Predetermined Avg of Nat'l Demo Cities)																Averages
Average patrol speed (mph), arterial roadways	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85
Average patrol speed (mph), residential/service roadways	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55
Average walking speed for foot patrol in mph	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10
Average response speed (mph) for emergency activities	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13
Average response speed (mph) for non-emergency activities	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90
Total Number of Field Supervisors Needed:	0	32	16	17	10	21	47	34	20	22	32	20	0	39	333	
Total Number of Designated Specialist Patrol Officers:	0	12	8	11	5	31	9	1	37	7	13	15	0	28	194	
Total Number of Officers Needed:	0	211	107	106	65	119	322	237	106	146	134	215	126	0	244	2,139
Current:	0	199	108	110	60	135	263	282	148	143	136	193	147	0	250	2,174

Houston Police Department Operational Staffing Model

May 2014

Increase Response Time to Priority 1 Calls-for-Service from 5 to 10 Minutes																
** ENTER ALL VARIABLES AND AGENCY DATA IN THIS SECTION **																
Base Data	Airport	Central	Clear Lake	Eastside	Kingwood	Midwest	North	Northwest	Northwest	South Central	South Galleria	Southwest	Southwest	Special Ops	Westside	Totals
Area (square miles)	1909	32.27	46.79	20.35	64.75	18.86	51.32	39.15	57.38	18.27	15.75	50.53	52.36	1.75	68.15	805.83
Annual Number of Priority-1 Dispatched Calls	80	3195	1795	1004	552	2400	4832	3635	2335	1774	2150	3834	2405	292	4585	34779
Annual Number of Priority-2 Dispatched Calls	1038	21185	8520	6770	2454	13581	25311	22165	10223	10505	8559	16571	10941	4423	21580	184372
Annual Number of Other Dispatched Calls	4961	112538	40592	31876	13971	62355	121001	109718	55675	80213	80287	81051	87329	21008	104951	959107
Annual Number of Two-Officer Calls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Annual Number of Special Events	9	80	6	14	24	30	60	37	140	25	150	4	62	645	2	1339
Annual Calls-For-Service	8118	188958	61088	38984	17001	78138	161204	135905	89378	72818	71168	101480	70737	28373	131128	1168697
Number of miles, arterial roadways	29.83	274.94	209.1	121.57	77.21	160.29	348.03	524.29	255.59	190.51	78.18	247.7	251.52	35.74	326.04527	3111.6953
Number of miles, residential/service roadways	36.44	487.48	351.82	205.15	355.83	133.28	578.66	750.97	298.48	289.98	170.35	512.8	484.75	37.25	483.98239	5194.9754
Foot Patrol distance in feet (1 city block = approx. 300 ft.)	35370	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35370
Specialist Positions (e.g. traffic)																
Post-staffed 24-hours / 7-days per week	0	3	2	2	3	0	18	3	0	2	4	5	0	0	0	42
Post-staffed 24-hours / 5-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Post-staffed 12-hours / 5-days per week	0	1	0	0	0	0	0	3	0	0	0	0	0	0	0	4
Post-staffed 12-hours / 7-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Post-staffed 12-hours / 5-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Post-staffed 10-hours / 7-days per week	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	3
Post-staffed 10-hours / 5-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Post-staffed 10-hours / 5-days per week	0	0	0	0	0	0	20	1	0	0	0	0	0	0	0	21
Post-staffed 8-hours / 7-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Post-staffed 8-hours / 5-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Post-staffed 8-hours / 5-days per week	0	29	15	21	16	24	20	3	9	24	17	36	27	0	42	283
Specialist Positions (Non-Response)																
Post-staffed 8-hours / 7-days per week	0	0	0	0	0	16	0	0	7	0	0	0	0	0	0	23
Post-staffed 8-hours / 5-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Post-staffed 8-hours / 5-days per week	0	10	6	9	4	2	7	1	19	5	14	10	12	0	22	121
Activity Statistics																
Avg. person-hours per Priority-1 Call	5.16	2.65	2.35	4.49	2.33	2.82	3.80	4.09	2.99	3.84	3.65	3.90	3.52	4.72	3.23	Averages 3.60
Avg. person-hours per Priority-2 Call	1.99	2.09	2.25	2.52	2.18	2.15	2.33	2.25	2.27	2.31	2.63	2.43	2.65	2.17	2.45	2.31
Avg. person-hours for Other Calls	1.82	1.07	1.23	1.31	1.10	1.17	1.12	1.21	1.18	1.25	1.12	1.15	1.26	2.07	1.26	1.29
Avg. person-hours for Two-Officer Calls	1.99	2.09	2.25	2.52	2.18	2.15	2.33	2.25	2.27	2.31	2.63	2.43	2.65	2.17	2.45	2.31
Avg. person-hours for Special Events	37.00	6.00	30.00	201.00	20.00	122.00	10.00	16.00	22.00	4.00	24.00	8.00	13.10	2.45	42.25	40.52
Avg. person-hours per call (including back-up units)	1.82	1.27	1.47	1.87	1.32	1.45	1.41	1.47	1.44	1.47	1.43	1.48	1.68	2.13	1.63	1.63
% of calls handled by Specialists	0%	0%	0%	2%	2%	1%	1%	1%	5%	2%	5%	2%	15%	1%	4%	3%
Avg % of Time On Leave (vacation, holiday, sick training, suspension)	25%	20%	21%	21%	24%	22%	21%	19%	21%	24%	21%	19%	20%	25%	20%	22%
Shift Length																
Average Work Week (hours)	0	40	40	40	40	40	40	40	40	40	40	40	40	0	40	34.666667
Total number of days in the workload sample period (year)	0	366	366	366	366	366	366	366	366	366	366	366	366	0	366	317.2
Scheduled Overtime (Avg. hours per week / per officer)	0	2	2.18	0.8	3.21	10	6	0.2	4	2.4	1.2	3	3.25	0	1.49	2.6486667
Agency Norms																
BEF initiated/preventive patrol (min. per hr. / per officer)	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Administrative time (min. per hr. / per officer)	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Unrecoverable patrol time (min. per hr. / per officer)	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Percentage of time patrol units are staffed by two officers	0%	12%	7%	15%	0%	14%	10%	6%	12%	11%	10%	19%	10%	2%	15%	10%
Average number of officers to be supervised by each field supervisor	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Percentage of field supervisor on-duty time spent on patrol activities	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
Performance Objectives (Policy Decision)																
Patrol interval (hours) for arterial roadways (visibility)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Patrol interval (hours) for residential/service roadways (visibility)	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
Patrol interval (hours) for Foot Patrol Beats (visibility)	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0
Average Number of Directed Patrols per day	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Average Time for each Directed Patrol (min.)	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
Response time to Priority 1 calls (minutes)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Response time to Priority 2 calls (minutes)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Percent of time that there will be at least one officer available	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%	95%
Immediate Availability Variables (Policy Decision)																
Percentage of calls for service that cannot be preempted	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Percentage of administrative activities that cannot be preempted	5%	5%	9%	5%	5%	9%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Percentage of self-initiated/directed patrol activities that cannot be preempted	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
Additional Variables (Policy Decision)																
Weights: (Total of all four weights must equal 100%)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Weight for patrol visibility objective	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Weight for response time to priority 1 calls objective	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Weight for response time to priority 2 calls objective	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Weight for immediate availability to priority 1 calls objective	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Patrol Variables (Predetermined Avg of Nat'l Demo Cities)																
Average patrol speed (mph), arterial roadways	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85
Average patrol speed (mph), residential/service roadways	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55
Average walking speed for foot patrol in mph	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10
Average response speed (mph) for emergency activities	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13
Average response speed (mph) for non-emergency activities	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90
Total Number of Field Supervisors Needed:	0	32	16	17	10	21	47	33	20	22	21	32	20	0	38	328
Total Number of Designated Specialist Patrol Officers:	0	12	8	11	5	31	9	1	37	7	13	12	15	0	28	194
Total Number of Officers Needed:	0	205	104	105	61	118	319	232	103	145	133	212	123	0	240	2,103
Current:	0	199	108	110	60	135	263	282	148	143	136	193	127	0	250	2,174

Houston Police Department Operational Staffing Model

May 2014

Department Variables & Data at "Chicago" Levels																
** ENTER ALL VARIABLES AND AGENCY DATA IN THIS SECTION **																
Base Data	Airport	Central	Clear Lake	Innsbruck	Kingswood	Midwest	North	Northwest	Northwest	South Central	South Central	Southwest	Southwest	Special Ops	Westside	Totals
Area (square miles)	1909	32.27	46.79	20.35	64.76	18.68	51.32	39.15	57.38	18.27	15.75	50.53	52.36	1.75	68.15	805.63
Annual Number of Priority-1 Dispatched Calls	80	2196	1795	1004	552	2400	4832	3635	2335	1774	2150	3834	2405	292	4855	34779
Annual Number of Priority-2 Dispatched Calls	1036	21186	3620	6770	2454	13561	25311	22165	10223	10505	8559	16571	10941	4428	21580	184372
Annual Number of Other Dispatched Calls	4961	112538	40682	31876	13971	62356	121001	109713	56678	80213	50287	81051	87329	21008	104861	899107
Annual Number of Two-Officer Calls	0	12197	7804	6214	2308	10331	22026	22290	10608	10961	11170	17921	11230	0	20324	185054
Annual Number of Special Bents	9	80	6	14	24	30	50	37	140	25	150	4	62	645	2	1339
Annual Calls-For-Service	8118	149105	68887	46878	18909	89487	173410	167396	78994	88679	82329	118381	81987	28378	161662	1326981
Number of miles, arterial roadways	2983	27494	2091	12157	7721	18029	34903	52429	25559	19051	7818	2477	26152	3574	32604527	31116955
Number of miles, residential/service roadways	3644	49748	35182	20515	35588	13328	57886	75097	29848	28998	17066	5128	48475	3725	46386239	51949724
Foot Patrol distance in feet (1 city block = approx. 300 ft.)	35370	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35370
Specialist Positions (e.g. Traffic)																
Roadstaff: 24-hours / 7-days per week	2	3	2	2	3	0	18	3	0	2	4	5	0	4	0	48
" " 24-hours / 6-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
" " 24-hours / 5-days per week	0	1	0	0	0	0	0	3	0	0	0	0	0	0	0	4
" " 12-hours / 7-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
" " 12-hours / 6-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
" " 12-hours / 5-days per week	0	0	0	0	0	0	0	3	0	0	0	0	0	1	0	4
" " 10-hours / 7-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
" " 10-hours / 6-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
" " 10-hours / 5-days per week	0	0	0	0	0	0	20	1	0	0	0	0	0	0	0	21
" " 8-hours / 7-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
" " 8-hours / 6-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
" " 8-hours / 5-days per week	27	29	15	21	16	24	20	3	9	24	17	36	27	46	40	356
Specialist Positions (Non-Response)																
Roadstaff: 8-hours / 7-days per week	0	0	0	0	0	16	0	0	7	0	0	0	0	0	0	23
" " 8-hours / 6-days per week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
" " 8-hours / 5-days per week	10	10	6	9	4	2	7	1	19	5	14	10	12	20	22	151
Activity Statistics																Averages
Avg. person-hours per Priority-1 Call	5.16	2.65	2.83	4.49	2.33	2.82	3.80	4.09	2.99	3.84	3.65	3.90	3.52	4.72	3.23	3.80
Avg. person-hours per Priority-2 Call	1.93	2.09	2.26	2.52	2.18	2.15	2.33	2.26	2.27	2.31	2.63	2.43	2.65	2.17	2.45	2.31
Avg. person-hours for Other Calls	1.82	1.07	1.23	1.31	1.10	1.17	1.12	1.21	1.18	1.25	1.12	1.15	1.26	2.07	1.26	1.29
Avg. person-hours for Two-Officer Calls	1.82	1.07	1.23	1.31	1.10	1.17	1.12	1.21	1.18	1.25	1.12	1.15	1.26	2.07	1.26	1.29
Avg. person-hours for Special Bents	37.00	6.00	80.00	201.00	20.00	122.00	10.00	16.00	22.00	4.00	24.00	8.00	13.10	2.45	42.25	40.52
Avg. person-hours per call (including back-up units)	1.82	1.26	1.44	1.82	1.30	1.40	1.87	1.43	1.41	1.44	1.38	1.42	1.62	2.13	1.48	1.60
Avg % of calls handled by Specialists	0%	5%	0%	2%	1%	1%	1%	1%	5%	2%	5%	2%	15%	1%	4%	3%
Avg % of Time On Leave (vacation, holiday, sick training, suspension)	25%	20%	21%	21%	24%	22%	21%	19%	21%	24%	21%	19%	20%	29%	20%	22%
Shift Length																Averages
Average Work Week (hours)	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Total number of days in the workload sample period (year)	366	366	366	366	366	366	366	366	366	366	366	366	366	366	366	366
Scheduled Overtime (Avg hours per week / per officer)	10.66	2	2.18	0.8	3.21	10	6	0.2	4	2.4	1.2	3	3.25	4.57	1.49	3.664
Agency Norms																Averages
Self-initiated/preventive patrol (min. per hr. / per officer)	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
Administrative time (min. per hr. / per officer)	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Unrecoverable patrol time (min. per hr. / per officer)	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Percentage of time patrol units are staffed by two officers	0%	12%	7%	15%	0%	14%	10%	6%	12%	11%	10%	19%	10%	2%	15%	10%
Average number of officers to be supervised by each field supervisor	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Percentage of field supervisor on-duty time spent on patrol activities	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
Performance Objectives (Policy Decision)																Averages
Patrol Interval (hours), for arterial roadways (visibility)	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Patrol Interval (hours), for residential/service roadways (visibility)	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Patrol Interval (hours), for Foot Patrol Bees (visibility)	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0	99.0
Average Number of Directed Patrols per day	10	10	10	10	10	10	10	10	10	10	10	10	10	20	20	11
Average Time for each Directed Patrol (min.)	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
Response time to Priority 1 calls (minutes)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Response time to Priority 2 calls (minutes)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Percent of time that there will be at least one officer available	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%
Immediate Availability Variables (Policy Decision)																Averages
Percentage of calls for service that cannot be preempted	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%
Percentage of administrative activities that cannot be preempted	5%	5%	9%	5%	5%	9%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Percentage of self-initiated patrol activities that cannot be preempted	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
Additional Variables (Policy Decision)																Averages
Weights: (Total of all four weights must equal 100%)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Weight for patrol visibility objective	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Weight for response time to priority 1 calls objective	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Weight for response time to priority 2 calls objective	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Weight for immediate availability to priority 1 calls objective	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Patrol Variables (Predetermined Avg of Natl Demo Cities)																Averages
Average patrol speed (mph), arterial roadways	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85	23.85
Average patrol speed (mph), residential/service roadways	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55	14.55
Average walking speed for foot patrol in mph	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10
Average response speed (mph) for emergency activities	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13	38.13
Average response speed (mph) for non-emergency activities	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90	18.90
Total Number of Field Supervisors Needed:	11	52	28	27	15	33	71	64	35	36	33	53	34	26	65	583
Total Number of Designated Specialist Patrol Officers:	13	12	8	11	5	31	9	1	37	7	18	12	15	27	28	234
Total Number of Officers Needed:	67	349	190	177	101	200	488	445	206	244	215	353	225	158	428	3,850
Current:	122	199	108	110	60	135	263	282	148	143	136	193	147	189	250	2,485

**APPENDIX B1—ALLOCATION MODEL FOR INVESTIGATIONS: DATA
DETAIL PART ONE**

A	B	C	D	E	F	G	H	I	J	K	L		
1	Compiled Data	INVESTIGATIONS STATISTICAL DATA											
2		All Cases					Suspect Unknown						
3		Total Cases	%Tot #Inv	Hours Spent	%All Inv.Hr	Avg.Hr / Case	#	%Tot#	Hrs.	%TotHr	Avg.Hr.		
4	Person Crimes	Murder/Criminal Homicide	444	0.1%	118586.48	14.6%	267.09	213	48.0%	88251.09	74.4%	413.78	
5		Robbery	10193	1.6%	111258.75	13.7%	10.92	6496.65	63.7%	64043.17	57.6%	9.86	
6		Aggravated Assault	1752	0.3%	77402.16	9.6%	44.18	338.856	19.3%	16087.01	20.8%	47.47	
7		Other Assaults	118996	18.4%	36141.85	4.5%	0.3	15996.6	13.4%	3938.847	10.9%	0.25	
8		Forcible Rape	1330	0.2%	31701.36	3.9%	23.84	339.114	25.5%	8556.076	27.0%	25.23	
9		Sex Offenses	83367	12.9%	31789.31	3.9%	0.38	27456.7	32.9%	6030.122	19.0%	0.22	
10		Offenses Against Family	124161	19.2%	44210.95	5.5%	0.36	19206.9	15.5%	691.0393	1.6%	0.04	
11	Property Crimes	Burglary	10271	1.6%	49808.03	6.2%	4.85	4841.25	47.1%	22640.41	45.5%	4.68	
12		Larceny-Theft	26126	4.0%	124348.88	15.4%	4.76	14522.1	55.6%	52626.62	42.3%	3.62	
13		Motor Vehicle Theft	5744	0.9%	15955.79	2.0%	2.78	3474.82	60.5%	8281.947	51.9%	2.38	
14		Fraud/Forgery/Counterfeiting	67004	10.4%	41661.2	5.1%	0.62	17662	26.4%	8281.409	19.9%	0.47	
15		Vandalism/Criminal Mischief	13472	2.1%	5300.99	0.7%	0.39	3566.15	26.5%	1185.66	22.4%	0.33	
16		Arson	48	0.0%	347.88	0.0%	7.25	12	25.0%	0	0.0%	0.0	
17	Public Order Inv.	Disorderly Conduct	1181	0.2%	323.93	0.0%	0.27	474.8	40.2%	161.6341	49.9%	0.34	
18		Weapons Offenses	457	0.1%	219.06	0.0%	0.48	0	0.0%	0	0.0%	0.0	
19		Traffic Violation Followup	44264	6.9%	18694.69	2.3%	0.42	29722.7	67.1%	12395.52	66.3%	0.42	
20		Misc. Criminal Investigations	100294	15.5%	42268.68	5.2%	0.42	26435.5	26.4%	10737.96	25.4%	0.41	
21	Non-Criminal Investigations	Death Investigation (Non-Crimin	2180	0.3%	13530.5	1.7%	6.21						
22		Abandoned Vehicle	80	0.0%	123.0	0.0%	1.54						
23		Lost/Found Property	418	0.1%	661.9	0.1%	1.58						
24		Missing Person	30413	4.7%	36556.6	4.5%	1.2						
25		Runaways	187	0.0%	162.05	0.0%	0.87						
26		Other Non-Criminal Inv.	296	0.0%	384.96	0.0%	1.3						
27		0	0.0%	0.0	0.0%	0.0							
28	Proactive Activities	Code Enforcement/Inspections	24	0.0%	66.0	0.0%	2.75						
29		Drug/Narcotics Investigations	268	0.0%	135.1	0.0%	0.5						
30		Prostitution/Vice	2395	0.4%	7987.85	1.0%	3.34						
31		Gambling	0	0.0%	0.0	0.0%	0.0						
32			0	0.0%	0.0	0.0%	0.0						
33		0	0.0%	0.0	0.0%	0.0							
34													
35		Total For All Cases	645366	100.0%	809627.95	100.0%	1.25	170759	26.5%	303908.50	37.5%	1.78	
36													
37		Annual Total For All Cases	645366	100.0%	809627.95	100.0%	1.25	170759	26.5%	303908.50	37.5%	1.78	
38													
39		#Detectives Reporting:	1,003					Suspect Cases:	609104	Hrs:	750019.99	Avg:	1.23
40								Non-Crim./Proactive:	36262	Hrs:	59607.96	Avg:	1.64
41								Per Detective:	36.15	Hrs:	59.43	Avg:	1.64
42													
43		Standard Avg. per Detective											
44													
45		Total Annual Duty Hours	#Cases		#Hours	%Tot.Hrs	Avg.Hr.	#	%Tot#	Hrs.	%TotHr	Avg.Hr.	
46		2085.71	643.44		807.21	38.7%	1.25	170.25	26.5%	303.00	37.5%	1.78	

APPENDIX B2—ALLOCATION MODEL FOR INVESTIGATIONS: DATA DETAIL PART TWO

		M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA		
A	B	Susp. Unk. Pos. ID Info.					Susp. Known At Large					Suspect In-Custody						
Compiled Data		#	%Tot#	Hrs.	%TotHr	Avg.Hr.	#	%Tot#	Hrs.	%TotHr	Avg.Hr.	#	%Tot#	Hrs.	%TotHr	Avg.Hr.		
	Total Cases	100	22.6%	4205.883	3.5%	41.97	79	17.8%	16274.71	13.7%	206.22	52	11.6%	9854.804	8.3%	190.98		
Person Crimes	Murder/Criminal Homicide	444	22.6%	25078.54	22.5%	11.06	432.923	4.2%	6219.548	5.6%	14.37	996.368	9.8%	15917.49	14.3%	15.98		
	Robbery	10193	46.0%	38776.83	50.1%	48.07	499.947	28.5%	15694.41	20.3%	31.39	106.476	6.1%	6843.905	8.8%	64.28		
	Aggravated Assault	1752	63.0%	21598.1	59.8%	0.34	38795.1	32.6%	9898.363	27.4%	0.26	1180.69	1.0%	706.5436	2.0%	0.6		
	Other Assaults	118996	839.367	63.1%	18369.97	57.9%	21.89	113.038	8.5%	2566.823	8.1%	22.71	38.481	2.9%	2208.492	7.0%	57.39	
	Forcible Rape	1330	45546.5	54.6%	22371.81	70.4%	0.49	7656.37	9.2%	2209.236	6.9%	0.29	2707.46	3.2%	1178.146	3.7%	0.44	
Property Crimes	Sex Offenses	83367	36407.1	29.3%	21112.44	47.8%	0.58	65671.4	52.9%	20071.65	45.4%	0.31	2875.7	2.3%	2335.822	5.3%	0.81	
	Offenses Against Family	124161	4069.63	39.6%	17329.19	34.8%	4.26	640.319	6.2%	5931.73	11.9%	9.26	719.801	7.0%	3906.703	7.8%	5.43	
	Burglary	10271	8400.76	32.2%	49009.32	39.4%	5.83	1484.72	5.7%	11985.82	9.6%	8.07	1718.41	6.6%	10727.12	8.6%	6.24	
	Larceny-Theft	26126	1507.16	26.2%	5308.855	33.3%	3.52	234.274	4.1%	1146.719	7.2%	4.89	527.74	9.2%	1218.269	7.6%	2.31	
	Motor Vehicle Theft	5744	39416.7	58.8%	24719.85	59.3%	0.63	2746.33	4.1%	4365.824	10.5%	1.59	7178.94	10.7%	4294.121	10.3%	0.6	
Public Order Inv.	Fraud/Forgery/Counterfeiting	67004	7463.26	55.4%	2644.318	49.9%	0.35	1979.25	14.7%	1205.88	22.7%	0.61	463.345	3.4%	265.1326	5.0%	0.57	
	Vandalism/Criminal Mischief	13472	36	75.0%	347.88	100.0%	9.66	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0.0		
	Arson	48	232.4	19.7%	22.75655	7.0%	0.1	239.4	20.3%	123.911	38.3%	0.52	234.4	19.8%	15.62828	4.8%	0.07	
	Disorderly Conduct	1181	108	23.6%	9.8475	4.5%	0.09	3	0.7%	10	4.6%	3.33	346	75.7%	199.2125	90.9%	0.58	
	Weapons Offenses	457	2896.53	6.5%	1577.011	8.4%	0.54	1059.74	2.4%	671.2248	3.6%	0.63	10585.1	23.9%	4050.932	21.7%	0.38	
Non-Criminal Investigations	Traffic Violation Followup	44264	30326.7	30.2%	22957.47	54.3%	0.76	14107.1	14.1%	4216.206	10.0%	0.3	29424.6	29.3%	4357.05	10.3%	0.15	
	Misc. Criminal Investigations	100294																
	Death Investigation (Non-Crimin)	2180																
	Abandoned Vehicle	80																
	Lost/Found Property	418																
Proactive Activities	Missing Person	30413																
	Runaways	187																
	Other Non-Criminal Inv.	296																
	Code Enforcement/Inspections	24																
	Drug/Narcotics Investigations	268																
Total	Prostitution/Vice	2395																
	Gambling	0																
		0																
		0																
		0																
Total For All Cases		645366	243448	37.7%	275440.06	34.0%	1.13	135742	21.0%	102592.05	12.7%	0.76	59155	9.2%	68079.38	8.4%	1.15	
Annual Total For All Cases		645366	243448	37.7%	275440.06	34.0%	1.13	135742	21.0%	102592.05	12.7%	0.76	59155	9.2%	68079.38	8.4%	1.15	
#Detectives Reporting:		1,003																
Standard																		
Total Annual Duty Hours		#Cases	#	%Tot#	Hrs.	%TotHr	Avg.Hr.	#	%Tot#	Hrs.	%TotHr	Avg.Hr.	#	%Tot#	Hrs.	%TotHr	Avg.Hr.	
		2085.71	643.44	242.72	37.7%	274.62	34.0%	1.13	135.34	21.0%	102.29	12.7%	0.76	58.98	9.2%	67.88	8.4%	1.15

APPENDIX C—SUMMARY OF INVESTIGATIVE STAFFING SCENARIOS

<u>Version</u>	<u>Variable Changes</u>	<u>Investigators</u>	
		<u>Required</u>	<u>Additive</u>
A. Benchmark	Estimated Performance Standards Given Current Staffing AMI Simulation This Version= 480	480	0
B. Increase Persons/Property/Public Order by 10%	Across-the-board 10%; excludes non-criminal and special assignments	45	525
C. Increase Person Crime by 10%	Increase by 10% time spent on investigating Homicide, Aggravated Assault, Robbery, Simple Assault, Rape, Sex Offenses, Offenses Against Family	27	507
D. Increase Property by 10%	Increase by 10% time spent on investigating Burglary, Theft, Fraud, Auto Theft, Vandalism, Arson	15	495
E. Increase Robbery w Leads	Hours spent on Possible Suspect ID Increased from 11.27 to 20.00	12	537*
F. Increase Rape with Leads	Hours spent on Possible Suspect ID Increased from 21.87 to 40.00	9	546**
G. Increase Robbery Prep	Increase hours from 16 to 30 on Suspect in Custody cases to provide depth court preparation	8	554**
H. Increase Burglary & Theft	Increase the percentage investigated with Possible Suspect ID by 25%; for burglary from 2004 to 2505; for theft from 4150 to 5187 Burglary = +8, Theft = +19	27	581**
I. Targeted Increases Total	Increase by stipulations above robbery, rape burglary and theft (E., F., G., H.) = 56 additional positions	56	581*

* Additive to Scenario B, 10% across-the-board

** Additive to immediately preceding

Appendix C (Cont.)—Staffing Change Detail

<u>Version</u>	<u>Current</u>	<u>Enhanced</u>	<u>Change</u>	<u>Rounded</u>
A. Benchmark	480	480	0	480
B. Increase Persons/Property/ Public Order by 10%				

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<u>Version</u>	<u>Current</u>	<u>Enhanced</u>	<u>Change</u>	<u>Rounded</u>
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C: Increase Person Crime by 10%

Homicide	70.84	77.95	7.11	7
Robbery	66.35	73.00	6.65	7
Aggravated				
Assault	46.04	50.66	4.62	4
Simple Assault	21.29	23.42	2.13	2
Rape	18.97	20.87	1.90	2
Sex Offenses	18.77	20.65	1.88	2
Offenses Family	26.40	29.05	2.65	3
Subtotal	268.66	295.60	26.94	28

D: Increase Property by 10%

Burglary	29.33	32.28	2.95	3
Theft	73.51	80.89	7.38	7
Auto Theft	9.36	10.30	0.94	1
Fraud	24.54	27.01	2.47	2
Vandalism	2.99	3.29	0.30	0
Arson	0.21	0.23	0.02	0
Subtotal	139.94	154.00	14.06	14

Targeted StaffingChange Rounded

E. Increase Time on Robbery with Leads 12

Increased from 11.27 to 20.00

F. Increase Time on Forcible Rape with Leads 9

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Increased from 21.87 to 40.00

G. Increase Robbery Case Preparation Time	8
H. Increase Burglary & Theft with Leads Follow-Up %	27
I. Targeted Increases Total	56

APPENDIX D—ALLOCATION MODEL FOR INVESTIGATIONS

Note: Last column in gray represents number of investigators recommended to be allocated to that offense category, not the HPD staffing by unit.

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Offense Categories For Reactive Criminal Investigations		This Agency				
		Total Cases	Hours Spent	Avg.Hr / Case		
Crimes Against Person	Murder/Criminal Homicide	217		65127.41	272.84	77.95
	Suspect Unknown	107		48374.74	412.39	
	Possible Suspect ID	50		2290.87	41.99	
	Known Suspect At Large	36		8858.68	223.95	
	Suspect In-Custody	25		5368.05	196.78	
	Robbery	5053		60993.76	10.97	73.00
	Suspect Unknown	3243		35211.20	9.87	
	Possible Suspect ID	1104		13674.64	11.27	
	Known Suspect At Large	213		3408.84	14.55	
	Suspect In-Custody	494		8685.32	15.99	
	Aggravated Assault	800		42326.98	48.10	50.66
	Suspect Unknown	160		8844.49	50.12	
	Possible Suspect ID	398		21300.88	48.67	
	Known Suspect At Large	215		8503.59	35.96	
	Suspect In-Custody	27		3657.41	124.35	
	Other Assaults	9888		19568.80	1.80	23.42
	Suspect Unknown	1330		2131.54	1.46	

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	Possible Suspect ID	5250		11850.23	2.05	
	Known Suspect At Large	3218		5260.68	1.49	
	Suspect In-Custody	90		325.86	3.30	
	Forcible Rape	665		17435.75	23.84	20.87
	Suspect Unknown	170		4693.54	25.16	
	Possible Suspect ID	420		10095.89	21.87	
	Known Suspect At Large	57		1399.83	22.52	
	Suspect In-Custody	19		1229.99	58.12	
	Sex Offenses	6942		17254.64	2.26	20.65
	Suspect Unknown	2288		3302.77	1.31	
	Possible Suspect ID	3795		12266.41	2.94	
	Known Suspect At Large	635		1067.59	1.53	
	Suspect In-Custody	225		616.08	2.49	
	Offenses Against Family	10344		24272.16	2.13	29.05
	Suspect Unknown	1601		379.95	0.22	
	Possible Suspect ID	3034		11611.52	3.48	
	Known Suspect At Large	5471		11001.64	1.83	
	Suspect In-Custody	239		1277.29	4.86	
Crimes Against Property	Burglary	4908		26966.94	4.99	32.28
	Suspect Unknown	2274		12266.56	4.90	
	Possible Suspect ID	2004		9435.74	4.28	

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	Known Suspect At Large	283		3141.01	10.10	
	Suspect In-Custody	347		2121.40	5.56	
	Larceny-Theft	12528		67583.13	4.90	80.89
	Suspect Unknown	6887		28642.27	3.78	
	Possible Suspect ID	4150		26831.90	5.88	
	Known Suspect At Large	676		6298.86	8.47	
	Suspect In-Custody	815		5811.83	6.49	
	Motor Vehicle Theft	2778		8604.22	2.82	10.30
	Suspect Unknown	1674		4456.75	2.42	
	Possible Suspect ID	752		2915.80	3.53	
	Known Suspect At Large	95		578.77	5.53	
	Suspect In-Custody	257		652.96	2.31	
	Fraud/Forgery/Counterfeiting	5550		22562.10	3.70	27.01
	Suspect Unknown	1452		4383.53	2.74	
	Possible Suspect ID	3281		13553.28	3.76	
	Known Suspect At Large	220		2285.12	9.42	
	Suspect In-Custody	596		2346.71	3.58	
	Vandalism/Criminal Mischief	1098		2749.23	2.28	3.29
	Suspect Unknown	280		593.06	1.92	
	Possible Suspect ID	621		1438.33	2.11	
	Known Suspect At Large	159		577.58	3.30	

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	Suspect In-Custody	38		140.07	3.36	
	Arson	144		191.33	1.21	0.23
	Suspect Unknown	36		0.00	0.00	
	Possible Suspect ID	108		191.29	1.61	
	Known Suspect At Large	0		0.00	0.00	
	Suspect In-Custody	0		0.00	0.00	
Crimes Against Public Order	Disorderly Conduct	96		145.60	1.38	0.17
	Suspect Unknown	38		76.14	1.80	
	Possible Suspect ID	19		10.12	0.48	
	Known Suspect At Large	19		55.80	2.64	
	Suspect In-Custody	19		5.11	0.24	
	Weapons Offenses	36		86.66	2.19	0.10
	Suspect Unknown	0		0.00	0.00	
	Possible Suspect ID	9		5.39	0.54	
	Known Suspect At Large	0		0.00	0.00	
	Suspect In-Custody	27		81.29	2.74	
	Traffic Violation Followup	3672		10112.45	2.50	12.10
	Suspect Unknown	2469		6784.23	2.50	
	Possible Suspect ID	236		790.50	3.04	
	Known Suspect At Large	86		325.53	3.45	
	Suspect In-Custody	880		2214.81	2.29	

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	Misc. Criminal Investigations	8328		22862.66	2.50	27.36
	Suspect Unknown	2200		5877.42	2.43	
	Possible Suspect ID	2525		12576.41	4.53	
	Known Suspect At Large	1167		2150.15	1.68	
	Suspect In-Custody	2436		2258.32	0.84	
Non-Criminal	Death Investigation (Non-Criminal)	1069		6642.00	6.21	7.95
	Abandoned Vehicle	20		50.00	2.50	0.06
	Lost/Found Property	156		280.33	1.80	0.34
	Missing Person	15193		18252.30	1.20	21.84
	Runaways	66		59.40	0.90	0.07
	Other Non-Criminal Inv.	72		121.36	1.69	0.15
Special Asgmt.	Code Enforcement/Inspections	12		33.00	2.75	0.04
	Drug/Narcotics Investigations	133		66.30	0.50	0.08
	Prostitution/Vice	1195		3981.92	3.33	4.76
	Gambling	0		0.00	0.00	0.00

APPENDIX E - SUMMARY OF STAFFING OPTIONS

Patrol Staffing

VERSION	Sergeants and Officers Needed	Increase from Current
<p>A. Benchmark</p> <p>Estimated Performance Standards Given Current Staffing. Excludes Airports & Special Ops.</p> <p>Self-Initiated patrol: 10 minutes per hour.</p> <p>Visibility Arterial Roads, once every 4 hours</p> <p>Visibility Residential Roads, once every 24 hours.</p>	2512	0
<p>B. Adding Two-Officer Calls</p> <p>Adds Current Number of Calls that should have two officers dispatched, but do not</p> <p>Self-Initiated patrol: 10 minutes per</p>	2877	365

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hour. Visibility Arterial Roads, once every 4 hours Visibility Residential Roads, once every 24 hours		
C. Self-Initiated Patrol from 10 to 15 minutes Visibility @ 4-24 Officers for all two officer calls Self-Initiated patrol: 15 minutes per hour. Visibility Arterial Roads, once every 4 hours Visibility Residential Roads, once every 24 hours.	3211	699
D. Self-Initiated @ 15 min hr, Visibility, @ 1-12 Officers for all two officer calls Self-Initiated patrol: 15 minutes per hour. Visibility Arterial Roads, once every hour Visibility Residential Roads, once every 12 hours	3475	963

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<p>E. Self-Initiated Patrol to 20 Min-Hr. - Visibility @ 4-24 Officers for all two officer calls If-Initiated patrol: 20 minutes per hour. Visibility Arterial Roads, once every 4 hours Visibility Residential Roads, once every 24 hours</p>	<p>3630</p>	<p>1118</p>
<p>F. Self-Initiated 15 Min Hr.; Visibility @ 8-12 Officers for all two officer calls Self-Initiated patrol: 15 minutes per hour. Visibility Arterial Roads, once every 8 hours Visibility Residential Roads, once every 12 hours</p>	<p>3208</p>	<p>696</p>
<p>G. Self-Initiated 20 Min Hr.; Visibility @ 8-12 Officers for all two officer calls Self-Initiated patrol: 20 minutes per hour. Visibility Arterial Roads, once every 8 hours Visibility Residential Roads, once</p>	<p>3626</p>	<p>1114</p>

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every12 hours		
H. Self-Initiated 20 Min Hr.; Visibility @ 1-24 Officers for all two officer calls Self-Initiated patrol: 20 minutes per hour. Visibility Arterial Roads, once every hour Visibility Residential Roads, once every24 hours	3895	1383
I. Self-Initiated 20 Min Hr.; Visibility Reduced to 8-72 Officers for all two officer calls Self-Initiated patrol: 20 minutes per hour. Visibility Arterial Roads, once every 8 hours Visibility Residential Roads, once every72 hours	3558	1046

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<p>J. Response Time for Priority 2 Priority 2 response time <u>increased</u> from 10 minutes to 15 Benchmark values Self-Initiated patrol: 10 minutes per hour. Visibility Arterial Roads, once every 4 hours Visibility Residential Roads, once every 24 hours</p>	<p>2474</p>	<p>-40</p>
<p>K. Response Time for Priority 1 Priority 1 response time <u>increased</u> from 5 minutes to 10 Priority 2 left at increase to 15 Benchmark values Self-Initiated patrol: 10 minutes per hour. Visibility Arterial Roads, once every 4 hours Visibility Residential Roads, once every 24 hours</p>	<p>2431</p>	<p>-81</p>

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L. Variables at Chicago Level Estimate of Chicago's Performance Variables With Chicago Police/Citizen Ratio at 4.41/1000 Houston's Police/Citizen Ratio is 2.45/1000 For Chicago Staffing Houston Would Require 9,602 officers; Regular Patrol Staffing = 40% of Total = ~3,850 Provides Self-Initiated Patrol @ 24 minutes/hr.	4433	1921
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Reactive Investigative Staffing

<u>Version/Option</u>	<u>Variable Changes</u>	<u>Investigators</u>	
		<u>Required to match option</u>	<u>Additive</u>
A. Benchmark (Base)	Estimated Performance Standards Given Current Staffing AMI Simulation This Version= 480	480 (Base)	0
Option B. Increase Persons/Property/ Public Order by 10%	Across-the-board 10%; excludes non-criminal and special assignments	45	525 (Base plus Option B)
Option C. Increase Person Crime by 10%	Increase by 10% time spent on investigating Homicide, Aggravated Assault, Robbery, Simple Assault, Rape, Sex Offenses, Offenses Against Family	27	507 (Base plus Option C)
Option D. Increase Property by 10%	Increase by 10% time spent on investigating Burglary, Theft, Fraud, Auto Theft, Vandalism, Arson	15	495 (Base plus Option D)
Option E. Increase Robbery w Leads	Hours spent on Possible Suspect ID Increased from 11.27 to 20.00	12	537 (Base plus Option B and E)
Option F. Increase Rape with Leads	Hours spent on Possible Suspect ID Increased from 21.87 to 40.00	9	546 (Base plus Option B, E and F))
Option G. Increase Robbery Prep	Increase hours from 16 to 30 on Suspect in Custody cases to provide depth court	8	554 (Base plus

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	preparation		Option B, E, F, and G)
Option H. Increase Burglary & Theft	Increase the percentage investigated with Possible Suspect ID by 25%; for burglary from 2004 to 2505; for theft from 4150 to 5187 Burglary = +8, Theft = +19	27	581 (Base plus Option B, E, F, G and H))
Option I. Targeted Increases Total	Increase by stipulations above robbery, rape burglary and theft (E., F., G., H.) = 56 additional positions	56	581 (Base plus Option B, E, F, G, H)

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Proactive Investigative Staffing

Airport Division	Current staffing	Recommended staffing
George Bush Intercontinental Airport	1 captain, 5 lieutenants, 18 sergeants, 94 officers, 20 civilians	Add 20 officers per TSA guidelines
Hobby Airport	3 lieutenants, 10 sergeants, 29 officers, 10 civilians	Add 4 officers per TSA guidelines, plus another 4 when new international terminal is built
Criminal Investigations Unit	1 sergeant, 4 officers	No change
Tactical Unit	1 sergeant, 8 officers	No change
Explosive Detection Canine Unit	2 sergeants, 11 officers	No change
Special Operations Division	1 captain	No change
Special Response Group	1 lieutenant, 2 sergeants, 7 officers	No change
Special Events Group	4 sworn staff	Can all be civilianized
Mounted Patrol Unit	1 lieutenant, 5 sergeants, 26 officers	No change
Bicycle Administration and Training Unit	1 sergeant, 5 officers	Consider civilianization of all positions
Auto Theft Division	1 captain, 6 lieutenants, 22 sergeants, 44 officers, 14 civilians*	No change
Support Services Unit	4 officers, 2 civilians	No change
Proactive Unit	2 sergeants, 8 officers	No change
Gang Division	1 Captain	No change
Gang Resistance Education and Training (GREAT)	1 sergeant, 6 officers	No change
The Crime Reduction Unit (CRU)	1 lieutenant, 6 sergeants, 67 officers	No change
Technical Surveillance Unit (TS)	1 lieutenant (from Administrative Unit), 1 sergeant, 2 officers	Consider civilianization of all positions

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Major Offenders Division	1 Captain	No change
<i>Special Thefts Unit</i>	1 Lieutenant	No change
Cargo Theft/Fence Squad	1 sergeant, 5 officers	No change
Swindle Squad	1 sergeant, 3 officers	No change
Police Impersonation Squad	1 sergeant, 3 officers	No change
Livestock/Animal Cruelty Squad	2 officers	Use Environmental Investigations Unit sergeant for supervisor
Environmental Investigations Unit	2 sergeants, 3 officers, 6 civilian inspectors	No change
<i>Targeted Offenders Unit</i>	1 lieutenant	No change
Career Criminals Squad	1 sergeant, 6 officers	Develop measures to determine effectiveness
Fugitive Squad	2 sergeants, 6 officers	Develop measures to determine effectiveness
Parole Violator Squad	1 sergeant, 6 officers	Develop measures to determine effectiveness
Narcotics Division	1 captain, 7 lieutenants, 28 sergeants, 160 officers, 13 civilians	No changes for Administrative and Training Units. Should staffing be increased, consideration should be given to filling new positions with civilians
General Enforcement North	1 Lieutenant, 4 sergeants, 24 to 28 officers	No change
General Enforcement South	1 Lieutenant, 4 sergeants, 24 to 28 officers	No change
Inter-Agency Task Forces		
Houston Auto Crimes Task Force	Current staffing unavailable	For HPD review
Multi-Agency Gangs Task Force	1 captain, 1 lieutenant, 3 sergeants, 14 officers, 1 civilian	For HPD review
Gulf Coast Violent Offenders Task Force	4 officers	Develop measures to determine effectiveness
ATF Achilles Task Force	5 officers	For HPD review
HIDTA	117 sworn personnel	No change, but additional data

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		should be collected
Houston Joint Terrorism Task Force	8 officers	For HPD review
Houston Field Intelligence Group	Current staffing unavailable	For HPD review
Houston Area Cyber Crime Task Force	2 officers	For HPD review
Human Trafficking Rescue Alliance	2 officers	For HPD review
Houston Innocence Lost Task Force	2 officers	For HPD review
Houston Asian Organized Crime Task Force	4 officers	For HPD review
Major Theft Task Force	3 officers	For HPD review
Houston Violent Crime Task Force	5 officers	For HPD review
Traffic Enforcement Division²⁵	1 Captain	Combine with Vehicular Crimes to create Crash Reduction Division
Administration Unit	1 lieutenant, 3 sergeants, 9 officers	No change, but integrate into CRCAU
DWI Task Force	1 lieutenant, 3 sergeants, 18 officers	No change, but integrate into CRCAU
Truck Enforcement Detail	1 lieutenant, 3 sergeants, 20 officers	No change, but integrate into CRCAU
Motorcycle Detail (SOLOs)	1 lieutenant, 5 sergeants, 39 officers	Integrate into CRCAU
Traffic Enforcement Unit	1 lieutenant, 5 sergeants, 33 officers	Integrate into CRCAU
Highway Interdiction Unit	8 officers	Transfer unit to Narcotics Division
Mobility Response Team	4 sergeants, 29 civilians	No change, but integrate into

²⁵ Changes to this division as recommended will allow 33 police officer positions to be reallocated elsewhere in the department.

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		Crash Reduction Division
Vehicular Crimes Division	1 captain	Combine with Traffic Enforcement to create Crash Reduction Division – This integration will allow redep
Crash Investigation Unit	2 lieutenants, 16 sergeants, 70 officers, 2 civilians	Integrate into CRCAU
Crash Reconstruction Unit	1 sergeant, 5 officers	Civilianize over time
Hit and Run	1 lieutenant, 2 sergeants, 19 officers, 2 civilians	Integrate into CRCAU
Crash Reduction Division (NEW DIVISION)		
Crash Reduction and Congestion Abatement Unit (CRCAU)		Each Area Command (4 total commands) would have 1 lieutenant, four sergeants, 24 officers, 8 SOLOs, 4 traffic crash analysts
Regulatory Functions		
Auto Dealers Detail	1 lieutenant, five sergeants, 16 officers, 8 civilians	Consider civilianization, or if this should even be a departmental function
Vice Division	1 captain, 2 lieutenants, 8 sergeants, 42 officers, 2 civilians	No change

Addendum: Police Citizen Ratios

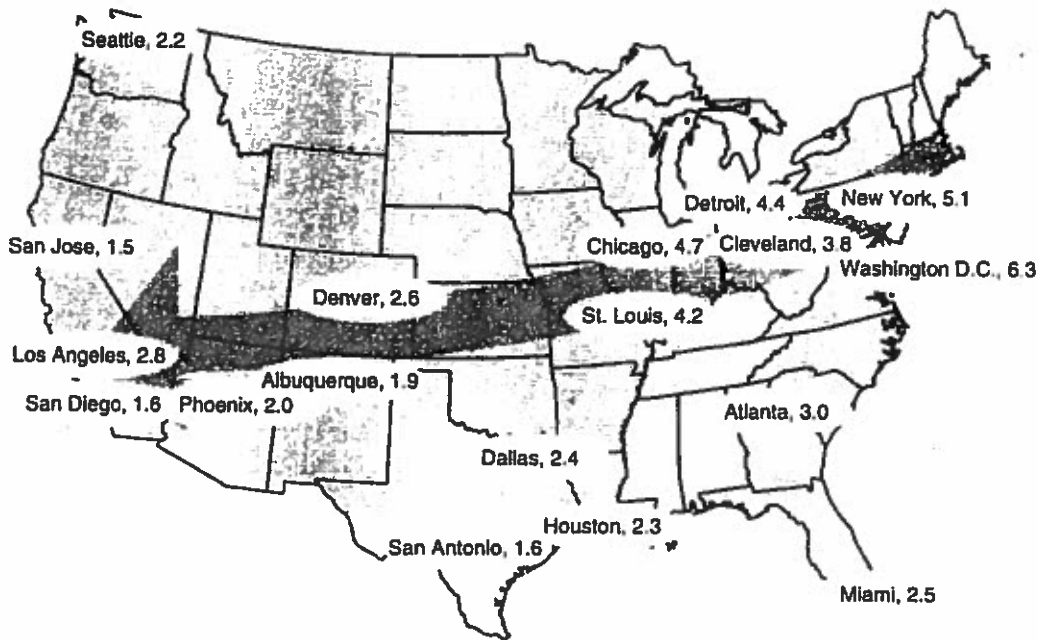
This addendum, while not an official component of the PERF Report, is being provided to you by the Houston Police Department.

The following two pages are an extract from the following text by: Hoover, L.T. (2014) *Police Crime Control Strategies*. Clifton Park, NY: Delmar/Cengage Publishing.

Whenever the issue of police staffing arises, invariably the statistic of “police citizen ratios” becomes a part of the conversation. This statistic is a ratio representing the number of sworn officers (Classified) to the number of citizens, expressed in terms of “officers per 1,000 citizens (i.e., the population of the municipality). This statistic is a simple means of comparing jurisdictions to one another.

The reason for including this information is so the reader is adequately informed as to meaning of this concept.

FIGURE 12.4 National Staffing Patterns in Terms of Police-to-Citizen Ratios



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The Pervasive Comparative Statistic: Police-to-Citizen Ratios

police-to-citizen ratios

Proportion of officers to population; typically expressed as number of officers per 1,000 persons; ranges from 4.0 per 1,000 in large East Coast cities to 1.5 per 1,000 in cities west of the Mississippi.

Figure 12.4 depicts national staffing patterns in terms of **police-to-citizen ratios**. Overall, municipal and township police departments employ an average of 2.3 full-time officers per 1,000 residents (Reaves, 2010). However, there is enormous variation. If one draws a diagonal line from Bangor, Maine, to San Diego, California, one will find increasingly smaller police-to-citizen ratios in moving from the Northeast to the Southwest. Large cities in the Northeast typically have very high ratios. New York City has over five sworn officers per 1,000 residents. Chicago, Detroit, and St. Louis all have over four officers per 1,000 residents. As we move out of the Northeast and upper Midwest, however, the numbers begin to drop. Atlanta has 3.0 officers per 1,000, Miami 2.5, Houston 2.3, and Denver 2.6. By the time we reach the Southwest, the numbers for many jurisdictions drop below 2.0. Albuquerque has only 1.9 officers per 1,000, San Diego 1.6, and San Jose 1.5.

Interestingly, within weeks after William Bratton took the reins of the Los Angeles Police Department, he announced that "there simply are not enough officers to police this city." Los Angeles is now staffed at approximately 2.8 officers per 1,000. Bratton had come, of course, from Boston and New York, where he had over twice the relative number of officers available for deployment as he had in Los Angeles. Los Angeles is the second largest city in the nation; Chicago is the third. If Los Angeles had the same police-to-citizen ratio as Chicago with

a ratio of 4.7 per 1,000, it would have 17,500 sworn officers instead of the approximate 9,700 it does have. If Los Angeles police commanders had twice as many officers as they currently do—that is, if they were staffed at the same ratio as Chicago—they could do a lot more responsiveness policing.

The striking consistency of variation in staffing levels across the United States suggests underlying determinate environmental influences. It is empirically difficult to validate, but three factors are minimally involved:

1. Vertical cities require more officers than horizontal cities. Northwest and north central cities tend to be “vertical”—more densely populated, and containing even more densely built business districts. Cities west of the Mississippi are popularly referred to as horizontal cities—less dense both in population and structure. In a vertical city more regulation may be required as well as more traffic control (both literally and figuratively), and more “in each other’s way” disputes to resolve may thus arise.
2. Jurisdictions in the East ask more of their police departments. This phenomenon relates to number 1, but is distinguishable. Social problems (e.g., “I have nowhere to stay”) are brought to a New York precinct station more frequently than they are to a Los Angeles division station.
3. The use of two-person patrol cars in the East is more prevalent than in the West. Tradition is part of the reason. Additionally, the ability to get a back-up unit to a scene is more difficult in the crowded and narrow streets in eastern vertical cities—arguing for two-officer units.

Other factors likely influence the variation in ratios. Their linkage, however, is more speculative. For example, police agencies in the East have a longer history of unionization, and the unions are more politically influential. Unionization may have some influence on staffing. Another possible influence is that more agencies in the East were created in the political spoils era, and part of that era was the use of police and firefighting positions as political patronage. It is possible that there is yet an enduring effect on “inflated” staffing levels.

IMPLICATIONS FOR STRATEGY

The answer to the question “How many police officers?” is not simple. Although comparable police-to-citizen ratios are relevant, they do not provide a definitive answer. A better approach is the use of performance based allocation tools. Even then, however, questions are left unanswered. Such tools call for the user to specify several “performance variables.” These include the amount of time officers spend on proactive efforts. Proactive efforts include activities ranging from traffic law enforcement to undercover narcotics infiltration. These are policy decisions for which there is no “outside answer.” It depends upon what a given community wants to “purchase” in policing services. Even then, however, police managers have enormous discretion in resource allocation.